

### **3.3. Law Enforcement Facilities and Equipment**

The number of sworn staff and vehicles at the Main Station and Substations is shown in the following table.

**Table 3-5. Humboldt County Sheriff's Office Facilities, Sworn Staff and Vehicles**

<b>Facilities</b>	<b># Sworn Staff</b>	<b># Vehicles</b>
Main Station	65	32
Northern Substation	11	8
Garberville Substation	6	6
Hoopla Substation	6	6
Bridgeville RDP	1	1
Orick RDP	1	
Orleans RDP	0	
Shelter Cove RDP	0	
Storage Yard	1	31
<b>Total</b>	<b>90</b>	<b>84</b>

## **3.4. Condition Assessment**

### **3.4.1. Current Deficiencies in Facilities and Equipment**

Sheriff Department staff note that, except for a shortage of vehicles in McKinleyville, existing equipment is in good condition overall and adequate to meet acceptable (if not desired) levels of service. However, for all locations (Courthouse and patrol substations), acreage, parking, and circulation of vehicle and pedestrian access are considered inadequate. Parking is particularly difficult for both employees (95% of who drive to work) and civilians, and common areas are congested due to departmental overlap. Security considerations limit shared space for such areas as public lobbies and counters, interview and conference rooms, photocopy, file storage, and break rooms, and general storage and warehouse space (County of Humboldt, 2007).<sup>10</sup>

General deficiencies for all office facilities include: 1) within-building space allocation, 2) workstation size and use of space, 3) public area security, accessibility and size, and 4) size of conference rooms relative to number of staff. In addition, staff note a lack of adequate training areas and a need for back-up power and security for all functions. The table below briefly summarizes specific deficiencies by location.

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<sup>10</sup> Humboldt County Facilities Master Plan, 2007.

**Table 3-6. Facility Deficiencies by Location**

Location	Facility Deficiencies
<b>Main Station, Eureka</b>	Poorly designed layout underutilizes current space. More floor space needed to properly house staff and function (property, records storage, briefing rooms, interview rooms, fingerprinting/permits).
<b>Northern Substation, McKinleyville</b>	Poorly designed layout underutilizes current space. More floor space needed to properly house staff and function (property, records storage, briefing rooms, interview rooms, fingerprinting/permits); 12 people are currently working in a space designed for 7 to 8 people. No locker room, inadequate work space/location, no secured parking.
<b>Garberville Substation</b>	Old building, poor ventilation, non-ADA compliant, too small, poor communications/data links.
<b>Hoopa Substation</b>	Old building, poor ventilation, non-ADA compliant, too small, no locker room, inadequate work space/location, no secured parking.
<b>Storage Yard</b>	Old building, poor ventilation, non ADA, too small, poor communications/data links. Inadequate secured and unsecured space.
<b>OES Areas</b>	Small and antiquated.

## 3.5. Proposed Improvements

### 3.5.1. Recruiting and Retaining Personnel

According to the 2004 Department of Justice Study, recruitment and retention of law enforcement personnel can be facilitated by:

- improving officer pay and benefits,
- recruiting officers skilled in community policing,
- changing job roles to enhance officers' satisfaction,
- improving career development opportunities, and
- creating incentives for retirement-eligible officers to remain with the agency.

That study report also noted that departments may need to become more efficient with their existing personnel, working on how officers are used as much as how many are used. Better use of technology and the creative use of civilians were also recommended as ways to free up uniformed officers time.

Innovative ways of providing services have been explored by the Sheriff's Office, with limited implementation. Pay equity has been an issue, with the Sheriff's Office typically within 5 to 10 percent of other allied agencies within the county. Other agencies of comparable size in other counties are anywhere from 10 to 20 percent higher.<sup>11</sup>

<sup>11</sup> Communication with Sheriff's Office, 9/21/07.

### 3.5.2. Facility Upgrades and Expansion

Proposed improvements to the Sheriff's Office facilities and equipment include short- and long-term projects, including:

#### **Shorter-term Projects**

- Create partnership between the Hoopa substation and the Willow Creek CHP.
- Develop an enhanced communication system.
- Pursue other service and facility upgrades and expansions as needed.

#### **Ten- to 20-Year Projects**

- Move or expand Main Office and other facilities (Hoopa, Garberville substations).
- Purchase 15-20 new vehicles to accommodate needs of new staff.
- Develop a dedicated training facility (could regionalize with partners).
- Pursue other service and facility upgrades and expansions as needed.

### 3.5.3. Cost and Schedule of Improvements

The costs of Sheriff's facility improvements at the Main Station, Substations, Resident Posts and ancillary facilities are difficult to estimate owing to the lengthy and uncertain time projections for upgrades, expansion and replacement, which is directly tied to uncertain sources of project funding. Given the general inadequacy of the existing facilities and the anticipated increase in need for personnel and equipment, future costs for upgrades and expansions should be considered as significant.

Based upon technological advances, the Sheriff's Office predicts that its current technology will be outdated within five to 10 years, and upgrades to the communications system, computer system and other relevant technology will thus be required. Estimating costs for such replacements is difficult due to the rate of advance within the technology field, but such costs should be considered significant.

The costs of additional staff and vehicles can be estimated using the following generalized figures:

#### **Average Annual Base Salary Including Benefits**

- Deputy Sheriff: \$69,000
- Sheriff's Sergeant: \$88,000
- Sheriff's Lieutenant: \$99,000
- Captain: \$100,000
- Dispatcher: \$50,000

#### **Average Annual Base Salary including Benefits**

- Senior Legal Office Assistant: \$59,000
- Legal Office Assistant: \$50,000
- Community Services Officer: \$55,500
- Administrative Analyst I: \$55,000
- Fiscal Assistant I: \$48,000

- Evidence Technician: \$64,000
- Property Technician: \$59,000

Each additional Deputy added to the personnel also adds equipment and vehicle costs of approximately \$52,000 to \$56,000, based on:

1. The cost of equipping a Deputy Sheriff for the first year (includes operating cost such as safety equipment (i.e. firearm, vest, duty belt, shotgun, taser, flashlight, portable radio etc.) is \$26,300.
2. The cost for purchase and equipping a patrol vehicle ranges from: \$26,000 to \$30,000.

The Humboldt County Sheriff's Office has projected staffing needs through 2027, as shown in the table below. These estimates form the basis of the cost projections.

**Table 3-7. Sheriff's Office Operations Staff - 2007 and Projected (2027)**

Position	Sworn Staff Numbers		Percentage Increase (2007 to 2027)
	2007	Projected 2027	
<b>Eureka</b>	65	98	51%
<b>McKinleyville</b>	11	29	164%
<b>Hoopa</b>	6	16	167%
<b>Garberville</b>	6	19	217%
<b>Resident Posts</b>	2	9	350%
<b>Total Current</b>	90	---	---
<b>Total Projected</b>	---	150	67%

Given the staffing projections from earlier and average salaries noted above, payroll for the Sheriff's Office can be expected to increase over \$5 million from approximately \$5.7 million in 2007 to almost \$11 million in 2027 (in 2007 dollars), or approximately \$256,000/year (2007 dollars) all other things being equal. The cost of equipping approximately 60 new deputies (at approximately \$54,000) would be over \$3.24 million (in 2007 dollars), or \$162,000/year. Total additional costs in 2027 would thus be over \$8.1 million for operations staffing and patrol equipment, with average annual increases (for payroll and equipment) of over \$400,000 (2007 dollars). This rudimentary estimate does not include cost estimates for facility expansions and upgrades, and other costs.

Annual costs for upgrades/expansions are difficult to estimate but could conceivably range from \$50,000 to upwards of \$1 million or more depending on the type and scope of the project. Costs for construction of new facilities would be significantly higher. Construction costs for new law enforcement facilities be \$400/square foot or higher (based on current costs). The Sheriff's Office has estimated that a new Main Station would need to be approximately double the size of the current station (14,100 ft<sup>2</sup>), or close to 30,000 ft<sup>2</sup>, which would cost upwards of \$12 million. Estimates of the costs to construct a new Main Station based on comparable facilities constructed elsewhere suggest that \$15 million (depending on material and labor costs and design considerations at the time of construction) is a reasonable (if not likely) cost estimate.

**Table 3-8. Payroll and Equipment Costs, 2007-2027**

Cost Area	2007 (million \$)	By 2027 (million \$)	Total Increase 2007-2027 (million \$)	Average Annual Increase 2007-2027 (million \$)
Payroll	5.7	10.8	5.1	0.265
New Equipment		1.4	1.4	0.07
Facilities		1 – 20*	1 – 20	0.05 – 1
<b>Total</b>	5.7	13.2 – 32.2	7.5 – 26.5	0.385 – 1.335

\* This range assumes that maintenance and upgrade costs will not exceed \$5 million over the 20-year planning period, and that a new main station would cost \$15 million.

### 3.6. Future Level of Service

Projections in the Facilities Master Plan for future staffing project a greater increase in sworn officers and staff relative to the population increase. Projected levels of service would become closer to accepted levels of service (1.9:1,000 officers to population ratio).

**Table 3-9. Projections to 2027 for Sworn Officer- and Staff-to-Population Ratios**

	2007	2017 (est.)	2027 (est.)
Sworn Officers	90	125	150
Sheriff's Office Staff	130	187	240
Humboldt County Population	132,754*	137,572	141,538
Sworn Officer to Population Ratio (:1,000)	0.68	0.91	1.06
Staff to Population Ratio (:1,000)	.93	1.36	1.7

\* Population estimates used in the Humboldt County Facilities Master Plan and Financing Study.

Estimates of staffing increases relative to population increases suggest that levels of service for the Sheriff's Office operations will improve between 2007 and 2027, all other things being equal. Uncertainty regarding funding sources for new personnel, facility upgrades and expansions, and purchase of new law enforcement technologies will have a significant impact on the Sheriff's Office ability to provide adequate service.

#### Issues to be addressed in the General Plan Update

This technical report presents a basis for assessing the County Sheriff's Office operations. As documented in this report, the ability of the Sheriff's Office to provide adequate levels of service is compromised by facility and staffing constraints, which are largely the product of limited funding. As the County population grows there will be need to upgrade, expand and/or replace existing facilities (both the main station and the substations), in addition to maintaining up-to-date equipment and law enforcement technologies. The Community Infrastructure and Services Element will include goals, policies and programs for the following issues:

**Levels of Service Measures.** The Community Infrastructure and Services Element will help to establish clear standards for officer-to-population ratio, the number of officers to calls for service ratio, and officer response times and develop policies designed to raise the Sheriff's Office to those levels.

**Facility and Funding Requirements.** The Community Infrastructure and Services Element will establish policies to guide the Sheriff's Office in assessing long-term facility and funding needs. As this report has shown, other than noting long-standing facility deficiencies and developing an informal wish-list of new or upgraded facilities, the Sheriff's Office has not had the available personnel for a critical, detailed review and assessment of long-term facility needs and associated costs. The development of a nexus between an appropriate law enforcement funding mechanism and the costs associated with providing adequate levels of service through 2025 and beyond will require a more critical assessment than has been completed to date.

**Revenue sources.** A thorough assessment of facility needs and costs will likely indicate the need for a substantial increase in ongoing or one-time funds. Possible sources include impact fees, special taxes, or utility user or sales taxes.

Development impact fees are one-time charges on new development to pay for required public facilities and mitigate impacts created by the development or reasonably related to it. There are a number of approaches to charging developers for the provision of public facilities. In all cases, however, the fees must be clearly related to the costs incurred as a result of the development.

Community Facilities Districts impose special taxes on new development in unincorporated areas to offset the negative impacts of development on the provision of law enforcement (and other) services. A description of the Generalized Mello Roos Community Facilities District Review Process is included in Chapter 8.

The Community Infrastructure and Services Element will propose revenue sources to cover the range of costs associated with the County Sheriff's Office operations to ensure that adequate levels of service can be achieved.

## 4. Storm Drainage & Flood Control

This section addresses storm drainage and flood control infrastructure within the County. A description of existing infrastructure, discussion of system standards, assessment of existing capacity and condition, and recommendations for future infrastructure upgrades and expansions are included. Funding sources for stormwater systems are described in detail in Section 12.2.4.

### 4.1. Description

The County is responsible for storm drainage and flood control within all unincorporated areas of the County. Stormwater runoff from all USAs and WSAs in the County eventually ends up in the County's waterways, including its creeks, streams, rivers, and bays. Since stormwater has the potential to contribute significant amounts of sediments, chemicals, and other natural and anthropogenic compounds into our waterways, stormwater management and quality should be an area of concern to the County. Nonpoint source (NPS) or pollution that cannot be traced back to a single origin or source is the leading cause of water quality impairments in California and the nation (County of Humboldt, 2002). This section references and is intended to be compatible with Chapter 11, Flooding of the Humboldt County General Plan as well as the Humboldt County Multi-hazard Mitigation Plan.

#### 4.1.1. Stormwater Conveyance System Description

The majority of the County does not have stormwater conveyance systems, and stormwater therefore follows more of a natural drainage pattern before either infiltrating the soil or entering a waterway. However, portions of the McKinleyville USA, South Eureka USA, Humboldt Hill USA, Myrtle town USA, and Garberville USA do contain stormwater conveyance systems that collect stormwater from roadways and discharge it to waterways with minimal or no filtration or other treatment. Other smaller communities within the County also contain minimal levels of stormwater infrastructure, which is further described below.

The County maintains a significant number (estimated in the thousands) of culverts under County roadways. These culverts are located throughout the County's road system with many acting as conduits for creeks and streams. Many culverts present a barrier to migrating salmon and other fish passage. Culverts were historically designed to channel water under the roadway without concern for fish passage, and so typically culverts either channel water too fast or at too steep a slope for fish to get through to the other side. Culvert outlets were also often poorly designed with respect to fish passage, with inaccessible entries into the culvert. The County is part of the Five Counties Salmonid Restoration Program, established in 1997 to prioritize culvert replacement projects and evaluate options for improving County plans, policies, and practices to provide or improve salmonid habitat. This program identified approximately 60 culverts within the County that were considered significant barriers to fish migration and listed as high priority for repair or replacement. As part of this effort, the County has upgraded over 20 culverts throughout their service area with the help of California Department of Fish and Game, Coastal Conservancy, and NOAA Fisheries grant monies and will continue to do so as time and funding permit.

#### **4.1.2. Flood Control Systems Description**

There are 6 principal drainage basins within Humboldt County that include streams that have been studied in detail by state and/or federal agencies. These are the Eel River basin which includes the Van Duzen and south Fork Eel Rivers; the Mad River Basin; the Freshwater Creek basin; the Jacoby Creek basin; and the Trinity River basin [and the Klamath]. Characteristics of these basins are defined as follows:

##### **Eureka Plain (Humboldt Bay) Basin**

Eureka Plain is one of the County's flattest planning watersheds. Flood zones on the Eureka Plain are concentrated around Humboldt Bay and Arcata Bay (meeting the Mad River floodplain to the north), also following the lengths of Jacoby Creek, Freshwater Creek, Elk River, and Salmon Creek. Portions of the Arcata, Jacoby Creek, Freshwater, and Eureka Community Planning Areas (CPAs) are crossed by flood zones. The configuration of Humboldt Bay protects the coastal communities of Humboldt County from direct exposure to coastal storm flooding. The Samoa Peninsula and South Spit block the effects of normal storm waves and sea swells. A single channel, defined by jetties and seawalls, provides passage for water into and out of Humboldt Bay. The unincorporated community of King Salmon is located on an artificially constructed peninsula along the eastern margin of Humboldt Bay. Old channel dredgings were stockpiled on the site until 1948, when residential development in the area began. The elevation of the King Salmon vicinity is a few inches higher than the normal maximum high tide. Flooding can occur in this area during unusually high tides accompanied by storm surges. There are portions of Humboldt County that are subject to flooding from storm tides. The estimated highest tidal surge height in Humboldt Bay occurred on February 4, 1958, and was measured at 6.5 feet.

##### **The Eel River Basin**

With a drainage area of approximately 3,260 square miles, this basin drains a predominantly mountainous area within the southern portion of the county. The Eel River flows through a narrow canyon from its junction with the Middle Fork downstream to its confluence with the Van Duzen River. Downstream of the confluence with the Van Duzen River, the Eel River meanders through a wide coastal plain between the City of Fortuna and the Pacific Ocean. The second largest tributary within this basin is the South Fork Eel River. The South Fork joins the Eel River at Dryerville and flows through steep-walled canyons for most of its length.

##### **Van Duzen Planning Watershed**

The Van Duzen River drains an area of approximately 430 square miles to its confluence with the Eel River. The Van Duzen planning watershed is crossed by narrow flood zones following the Van Duzen River (widening near its confluence with the Eel River), Yager Creek, and Lawrence Creek. The widest floodplain runs through the center of the Hydesville-Carlotta CPA and may cross the community of Bridgeville.

##### **Lower Eel Planning Watershed**

The largest single dryland flood zone in Humboldt County is the Eel River delta; a wide swath of floodplain that follows the Lower Eel River from the mouth of Larabee Creek west to its confluence with the Van Duzen River. Larabee Creek and the upper Lower Eel host narrower flood zones. The Fortuna CPA and City of Ferndale sit along the Delta's floodplain (to the north and south, respectively). A wide flood zone passes through the Rio Dell CPA; the Avenues (Stafford-Redcrest) CPA is almost completely within the Lower Eel's floodplain.

### **Middle Main Eel Planning Watershed**

A distinct flood zone winds across the Middle Main Eel planning watershed; tributaries including Dobbyn Creek, Jewett Creek, and Chamise Creek have noticeable flood zones as well. Communities along the Middle Main Eel River (South Fork, McCann, Sequoia, Eel Rock, and Fort Seward) may be in its floodplain; the Alderpoint CPA is bordered by the flood zone on three sides.

### **South Fork Eel Planning Watershed**

The South Fork of the Eel River and its tributaries (Bull Creek, Salmon Creek, Redwood Creek, Dean Creek, Sproul Creek, and the East Branch of the South Fork) have mostly narrow flood zones. These flood zones pass through the Avenues (Weott, Myers Flat, Miranda, and Phillippsville) and Garberville-Redway-Benbow CPAs; Myers Flat CPA is almost completely on floodplain.

### **Cape Mendocino (Mattole) Planning Watershed**

The runs of the Bear River and the Mattole River and its tributaries (Honeydew Creek, Bear Creek, and Mattole Canyon) are designated flood zones. While the community of Ettersburg may be in the Mattole's floodplain, the Shelter Cove CPA and the watershed's other communities are removed from all flood zone areas.

### **The Mad River Basin**

The Mad River drains an area of approximately 500 square miles at its confluence with the Pacific Ocean. The River flows through narrow canyons for the majority of its 100-mile length. The river enters a wide coastal floodplain just north of Arcata, which continues to its confluence with the Pacific Ocean. A narrow flood zone exists along nearly the entire length of the Mad River (and its North Fork), widening to occupy a large plain within the Blue Lake and Fieldbrook-Glendale CPAs. On its final approach to the Pacific, the Mad River's floodplain meets that of Arcata Bay to the south; to the north, the McKinleyville CPA skirts the flood zone. The Mad River has in the past migrated substantially near its mouth, and a recent migration has impacted bluff stability in a portion of the MCSD service area and is jeopardizing a major water line of MCSD's.

### **The Freshwater Creek Basin**

Freshwater Creek drains a small coastal basin of 34 square miles before it enters Ryan Slough. Ryan Slough flows into Eureka Slough, a brackish-water stream, which in turn empties into Arcata Bay just north of Eureka. The characteristics of the floodplain within this basin are a moderately wide floodplain situated between a narrow stream course in the mountains widening as it enters the coastal plain. Flooding is an issue where Freshwater Creek meets the floodplain. All of this area is under County jurisdiction and there are private levees in the area, none of which are the responsibility of the County to maintain.

### **The Jacoby Creek Basin**

Jacoby Creek is a coastal stream just north of Freshwater Creek. Its headwaters originate in the Coast range and flows westerly into Arcata Bay. The Creek drains an area of 16 square miles at its mouth. The majority of this stream meanders through the Arcata Bay coastal plain. This area floods frequently and is in the County jurisdiction. There are private levees in this area; however the County is not responsible for maintaining any flood control structures in this area.

### **The Trinity River Basin**

As the largest tributary to the Klamath River, the Trinity River drains a total area of 2,969 square miles, the majority of which lie within Trinity County. The river flows through a mountainous,

heavily forested area in the eastern portion of Trinity County. Detailed flood insurance studies have been generated in the mountain valley downstream of the confluence with the South Fork Trinity River in the northeastern portion of Humboldt County. The mountainous Lower Trinity planning watershed has one designated flood zone, located entirely within the Willow Creek CPA, at the Trinity River's southern entrance to County land. The Hoopa Valley Indian Reservation, which covers the northern approach of the Trinity River to its confluence with the Klamath River, is not mapped for flood zones. No flood zones are documented within Humboldt County's South Fork Trinity planning watershed.

### **Trinidad Planning Watershed**

Within the Trinidad planning watershed, areas around Big Lagoon, Stone Lagoon, and Freshwater Lagoon are designated as 100-year flood zones. Narrow littoral zones along the lengths of Maple Creek and Little River are also designated as such. The Trinidad-Westhaven CPA is not near a flood zone, though the northernmost part of the McKinleyville CPA overlaps with the Little River flood zone.

### **Redwood Creek Basin**

The Redwood Creek watershed is a narrow, elongated fault-controlled basin that drains an area of approximately 282 square miles, from the center of Humboldt County to its northwestern corner. The creek flows for 65 river miles from its headwaters, located near Board Camp Mountain in central Humboldt County, to the Pacific Ocean near the town of Orick. Redwood National Park occupies the northern half of the watershed. Redwood Creek is fed along its length by a few dozen smaller creeks. Streamflow in Redwood Creek is highly variable from year to year as a result of annual rainfall variations. Streamflow also varies seasonally, owing to the highly seasonal distribution of rainfall. Winter flood flows can be as much as four orders of magnitude higher than summer low flows. Recent large floods occurred in 1953, 1955, 1964, 1972 (two floods), and 1975.

No large floods occurred after 1975, until the recent 11-year return period flood in January of 1997. During January 1997, the relatively small 11-year return period flood initiated debris torrents of mud, boulders, and whole trees directly into Redwood Creek adjacent to Tall Trees Grove. Redwood Creek is currently contained by levees constructed by the Army Corps of Engineers from approximately one mile upstream of the town of Orick to the mouth. Considerable sediment has been deposited in the area contained by the levees, filling in the estuary, impacting the environment and reducing the capacity of the flood channel. The County is responsible for maintaining these levees; however the maintenance and the possible removal or redesigning of the levees has been a source of considerable debate. Redwood Creek has three small flood zones: one along a winding section near the midpoint of the creek's run, one along a tributary near the mouth, and one which overlaps heavily with the Orick CPA.

### **The Klamath River Basin**

The largest river basin in the region is the Klamath River, which originates in Oregon, drains a total of 12,120 square miles. An approximately 50 mile stretch runs through the mountainous forested northern part of Humboldt County, with its mouth draining to the Pacific Ocean in neighboring Del Norte County to the north. The Lower Klamath area is quite mountainous and has little room for floodplains, although there is a substantial littoral region centered on the confluence of the Klamath River and Blue Creek (near the County's northern border) and a smaller pocket at Weitchpec. The Hoopa Valley Indian Reservation, which encompasses much of the river directly south of the designated flood zone, is not mapped for flood zones. No flooding is anticipated in the Orleans CPA.

### **Existing Flood Protection Measures**

Flood prevention measures are not extensive in Humboldt County. Public and private levees protect downstream communities along the Eel River, Mad River, Redwood Creek, Elk River, Arcata Bay and Freshwater Creek. The County is responsible for maintaining the levees on Redwood Creek, from Orick to the mouth; along the Eel at Sandy Prairie near Fortuna; along the Mad River north of the Mad River Bridge at Blue Lake. The various private levees are maintained either by landowners or levee districts, generally made up of surrounding landowners.

R.W. Matthews Dam on the Mad River at Ruth Lake is expected to reduce flood peaks in Arcata between 5-15 percent. The Lewiston and Trinity Dams on the Trinity also serve to control flooding. The Scott Dam is located on the Eel in Lake County. There is a considerable portion of the Eel River watershed located below this dam, so it does not effectively offer any flood protection to Humboldt County. There are several dams on the Klamath that are located in Oregon and Siskiyou Counties, the biggest being the Iron Gate Dam in Siskiyou County. Humboldt County has no jurisdictional responsibilities with regards to the operation or maintenance on any of the above mentioned dams.

No flood protection measures or designated floodways exist on Van Duzen, South Fork Eel, or Jacoby Creek. Several small communities are situated in floodplains and are vulnerable to flooding, including Ferndale, Fortuna, Hydesville, Carlotta, Stafford, Redcrest, Fields Landing, portions of Arcata and Blue Lake.

## **4.2. Regulatory Framework**

### **4.2.1. Stormwater Standards**

Stormwater systems within the County are subject to federal, state, and county standards. At the federal level, the U.S. EPA promulgates standards associated with stormwater pollution. Upon entering a storm drainage system, stormwater may be considered point source pollution and be subject to the EPA's National Pollutant Discharge Elimination System (NPDES) Storm Water permit program. The Clean Water Act was amended by Congress in 1987 to establish the Section 319 Nonpoint Source Management Program, through which grant funding was made available to be used towards nonpoint source abatement activities.

At the state level, the State Water Resources Control Board (SWRCB) and the North Coast Regional Water Quality Control Board (RWQCB) are responsible for the protection of water quality. In 1990, Congress improved and expanded the Coastal Zone Act Reauthorization Amendments, which expanded the SWRCB and RWQCB stormwater management activities to include the California Coastal Commission (CCC). The CCC through the Coastal Act is responsible for reviewing and evaluating Local Coastal Plans (LCPs) to ensure nonpoint source pollution prevention and control activities.

The SWRCB is also responsible for enforcement of the Phase II of the NPDES, which requires operators of a regulated small municipal separate storm sewer system (MS4) to obtain an NPDES permit for stormwater discharges. The U.S. EPA categorizes MS4s as either "small," "medium," or "large." The unincorporated area of McKinleyville is the only community within the County's jurisdiction that qualifies as a "small" MS4, and as such the County was required to prepare a Storm Water Management Program (SWMP) under Phase II of the NPDES. The intent of the SWMP is to reduce the discharge of pollutants to the maximum extent practicable, protect water quality, and satisfy the requirements of the Clean Water Act.

Another state regulation affecting stormwater discharge within the County is the SWRCB's 1978 California Ocean Plan which prohibits stormwater discharge into Areas of Special Biological Significance (ASBS). The Ocean Plan identified 34 ASBS throughout the State, of which three are located within Humboldt County: Redwoods National Park ASBS, the Trinidad Head Kelp Beds ASBS, and the Kings Range National Conservation Area ASBS. Rural areas of the County potentially discharge into all three ASBS. The City of Trinidad has embarked on an effort to develop a management plan to address discharges within the City and adjacent areas to the Trinidad Head Kelp Beds ASBS. The County is in the process of addressing discharges to the Kings Range National Conservation Area ASBS. Stormwater in the Shelter Cove area discharges into the King Range Conservation Area ASBS.

The other major Clean Water Act regulatory process affecting the future of water quality in Humboldt County is the Total Maximum Daily Load (TMDL) program. TMDL standards differ from previous regulatory methods which focused on waste loads from identifiable point sources. Instead, TMDL's consider the totality of pollutant stressors in a watershed basin and allocate responsibility for action among dischargers. Rather than focusing on a single entity for corrective action, TMDL's often require a number of programs and agencies to work together in achieving the desired level of pollution control. In order for TMDL's to be enforceable, they must be incorporated into a Water Quality Control Plan (Basin Plan). California ranks TMDL's as low, medium, or high priority based on the number and severity of the impairments and the importance of the beneficial uses. The RWQCBs are required to determine which waterbodies are "impaired" by certain pollutants limiting beneficial uses of water and then to initiate a public process to assess pollutant sources, determine acceptable levels, allocate allowable pollutant loads to various sources, and establish an implementation program. The following water bodies in Humboldt County have been identified as impaired;

**Table 4-1. TMDL Listed Water Bodies in Humboldt County**

<b>Water Body</b>	<b>Basin</b>	<b>TMDL Stressor</b>	<b>Size Affected</b>	<b>Priority</b>
South Fork Trinity	Klamath-Trinity	Sedimentation/Siltation/Temperature	1161 miles	Medium
Trinity	Klamath-Trinity	Sedimentation/Siltation	1256 miles	Medium
Klamath River	Klamath-Trinity	Nutrients/ Organic Enrichment/Low Dissolved Oxygen Temperature	609 miles	Medium
Mattole River	Mattole	Sedimentation/Siltation/Temperature	503 miles	High
Redwood Creek	Mad-Redwood	Sedimentation/Siltation/Temperature	332 miles	Medium/Low
Mad River	Mad-Redwood	Sedimentation/Siltation/Temperature/Turbidity	654 miles	Low
Freshwater Creek	Eureka Plain	Sedimentation/Siltation	84 miles	High
Elk River	Eureka Plain	Sedimentation/Siltation	88 miles	High
Eel River Delta	Eel River	Sedimentation/Siltation/Temperature	426 miles	Medium
South Fork Eel	Eel River	Sedimentation/Siltation/Temperature	943 miles	Medium
Upper Main Eel River	Eel River	Sedimentation/Siltation/Temperature	1141 miles	Medium
Middle Fork Eel	Eel River	Sedimentation/Siltation/Temperature	1071 miles	Medium
Middle Main Fork Eel	Eel River	Sedimentation/Siltation/Temperature	674 miles	Medium
North Fork Eel	Eel River	Sedimentation/Siltation/Temperature	382 miles	Medium
Van Duzen River	Eel River	Sedimentation/Siltation	585 miles	Medium
Humboldt Bay	Eureka Plain	PCB's	16075 Acres	Low
Jacoby Creek	Eureka Plain	Sediment	19 miles	Low

Source: Proposed 2006 CWA Section 303(d) List Of Water Quality Limited Segment, North Coast Regional Water Quality Control Board

Sediment impairment affects fifty-nine percent of the area covered by the North Coast Region. Sediment from County roads could potentially become incorporated into TMDLs as well as sedimentation from construction/land development. The removal of riparian vegetation due to construction/land development may also be incorporated into temperature TMDLs. The existing County Grading, Erosion Control and Streamside Management Area ordinances already address many of these issues.

The County, in an effort to comply with all federal and state regulations surrounding stormwater management and control, has set forth a number of policies and standards to apply to stormwater systems within the County. The only two areas with set stormwater quantity discharge limitations are McKinleyville and the Martin Slough drainage. The McKinleyville Community Plan has set a net zero increase in stormwater from development. The County also has applied a standard in place for the Martin Slough drainage (from the City of Eureka General Plan), which only allows for an increase of 1 cfs from pre- to post-development conditions. The 1970 County Roadway Design Manual sets forth stormwater design criteria for roads, including design storm frequencies to be used in the design of roadways.

The County has ordinances for Grading, Erosion Control, Geological Hazards, and Streamside Management Areas. The County's *Grading, Excavation, Erosion, and Sediment Control* ordinance (Title III, Division 3, Section 331-12) regulates "...grading and related activities on private and public property, to control and reduce erosion, to reduce sediment delivery to drainages and streams, and to protect fishery habitat and other biological resources by providing best erosion control and sediment management practices. The ordinance outlines permit and fee requirements, as well as setback requirements, drainage requirements, erosion and sediment control requirements, including plan preparation and standard details for Best Management Practices (BMPs). A portion of the *Geological Hazard* ordinance (Title III Division 3, Chapter 6) has as its purpose to, "...neither create nor contribute significantly to erosion, geological instability or destruction of development sites or surrounding areas or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs." This ordinance outlines when geological reports are required and the contents of such reports. The *Streamside Management Area Ordinance* (Title 3, Division 1, Chapter 6, Section 314-61.1) has as its purpose "...to provide minimum standards pertaining to the use and development of land located within Streamside Management Areas (SMAs) and other wet areas such as: natural ponds, springs, vernal pools, marshes, and wet meadows (exhibiting standing water year-long or riparian vegetation)." This ordinance outlines what development can occur in streamside management areas, mitigation measures, prohibited activities, and mitigation monitoring requirements. Other County standards include the use of oil-water separators in all commercial areas, catch basins and stencils on drainage inlets in McKinleyville, SWPPP and NOI are needed for projects greater than one acre in size, and the use of dissipaters at the outlets of pipes and culverts.

The Subdivision Ordinance contains specific language regarding the design of stormwater conveyance systems associated with new subdivisions throughout the unincorporated area. This section of the ordinance reads:

**328.1-9. STORMWATER DISPOSAL RESTRICTION.**

*Stormwater flowing from a parcel or subdivision in any form or manner shall not be permitted to flow into any sanitary sewer or any other facility not specifically intended for stormwater runoff.*

**328.1-10. CAPACITY OF CHANNELS AND CONDUITS.**

*Drainage channels and conduits shall have the following minimum capacities:*

- 1. Major Drainage Channels. Major drainage channels and conduits shall have sufficient capacity to contain a 100-year frequency or occurrence runoff.*
- 2. Secondary Drainage Channels. Secondary drainage channels and conduits shall have sufficient capacity to contain a ten-year frequency of occurrence runoff, as*

well as sufficient additional capacity so that floodwaters escaping therefrom shall not reach an elevation within one foot of any dwelling or commercial structure.

3. *Minor Drainage Channels. Minor drainage channels, conduits, and appurtenant facilities shall have sufficient capacity to contain a ten-year frequency of occurrence runoff, as well as sufficient additional capacity so that floodwaters escaping therefrom shall not reach an elevation within one foot of any dwelling or commercial structure.*

#### **328.1-11. FACILITIES DESIGN CRITERIA.**

*Drainage systems shall conform to the requirements contained in § 4, "Drainage" of the Humboldt County Roadway Design Manual adopted by the Board of Supervisors on February 1, 1972, as it may be amended from time to time.*

### **4.2.2. Flood Control Regulations**

#### **Federal Programs**

In 1968, Congress created the National Flood Insurance Program (NFIP) in response to the rising cost of taxpayer-funded disaster relief for flood victims and the increasing amount of damage caused by floods. The NFIP makes federally backed flood insurance available to homeowners, renters, and business owners in communities participating in the program. For most communities participating in NFIP, FEMA has prepared a detailed *Flood Insurance Study (FIS)*. The FIS presents water surface elevations for floods of various magnitudes, including the flood that has a 1-percent probability of being equaled or exceeded in any given year (also called the 100-year flood or base flood) and the flood that has a 0.2-percent probability of being equaled or exceeded in any given year (also called the 500-year flood). The water surface elevation of the 100-year flood event is called the base flood elevation (BFE). BFEs and the boundaries of the 100- and 500-year floodplains are shown on participating communities' Flood Insurance Rate Maps (FIRMs).

A repetitive loss property as defined by FEMA is an NFIP-insured property that, since 1978 and regardless of any changes in ownership during that period, has experienced any of the following:

- Four or more paid losses in excess of \$1,000
- Two paid losses in excess of \$1,000 within any rolling 10-year period
- Three or more paid losses that equal or exceed the current value of the insured property.

Repetitive loss properties make up only 1 to 2 percent of the flood insurance policies currently in force nationally, yet they account for 40 percent of the country's flood insurance claim payments. A report on repetitive loss structures recently completed by the National Wildlife Federation found that 20 percent of these structures are listed as outside the 100-year floodplain. In 1998, FEMA reported that the NFIP's 75,000 repetitive loss structures have already cost \$2.8 billion in flood insurance payments and that numerous other flood-prone structures are in the floodplain and remain at high risk. To address this ongoing issue, the government has instituted several programs that encourage communities to identify and mitigate the causes of their repetitive losses such as the Community Rating system (CRS), the Flood Mitigation Assistance Grant Program (FMA), and the Pre-Disaster Mitigation Grant program (PDM) created under the Disaster Mitigation Act. The County currently is involved in the FMA and PDM programs but not the CRS program.

There are seven communities within Humboldt County participating in the NFIP, with 1062 flood insurance policies in force that provide \$170.2 million in insurance coverage annually. According to FEMA statistics, there have been 179 flood insurance claims paid in the County for a total of \$2.3 million between November 1978 and June 30, 2006.

Properties constructed after a FIRM has been adopted are eligible for reduced flood insurance rates. Such structures are less vulnerable to flooding since they were constructed after regulations and codes were adopted to decrease vulnerability. Properties built before the FIRM are more vulnerable to flooding and related damages because they do not meet code or are located in hazardous areas. The first FIRM's within Humboldt County were available in 1982. Information relevant to reducing the risk to the flood hazard provided by flood insurance statistics is summarized as follows:

- Approximately 19.4% of the at-risk buildings within the County are covered by a flood insurance policy. Based on the approximate number of primary, insurable structures in the floodplain and the insurance coverage in force within the floodplain, insurance coverage as a form of mitigation appears to be well below the national average. According to a study being conducted for the NFIP by the Rand Corporation, nationwide about 49 percent of single-family homes in special flood hazard areas (SFHAs) are covered by flood insurance.
- Approximately 35% of the current policies in force within the planning area are for properties located outside of the 100-year floodplain.
- The total value of insurance coverage in force represents 23.5% of the total building exposure value.
- The total claims paid by flood insurance policies since 1978 represents approximately 17.7% total requests for individual assistance (IA) within the same period.
- Of total claims paid, 27.7% were for properties located outside of an identified 100-year floodplain.

**Table 4-2 Flood Insurance Statistics for Humboldt County**

Jurisdiction	Date of Entry Initial FIRM Effective Date	Current FIRM Effective Date	# of Flood Insurance Policies as of 06/30/2006	Total Insurance Coverage in Force	Claims, 11/1978 to 6/30/2006	Value of Claims paid, 11/1978 to 6/30/2006
Arcata	05/02/1983	11/05/1997	140	\$23,099,700	16	\$186,652.55
Blue Lake	09/30/1982	05/05/1997	11	\$1,936,100	2	\$7,851.86
Eureka	06/01/1982	06/17/1986	26	\$5,363,900	4	\$30,889.91
Ferndale	12/01/1993	01/07/1998	18	\$3,732,400	2	\$18,364.05
Fortuna	05/03/1982	05/03/1982	43	\$7,123,900	4	\$5,968.84
Humboldt County (Unincorporated)	07/19/1982	02/08/1999	818	\$128,789,500	146	\$2,036,261.51
Rio Dell	05/03/1982	05/03/1982	6	\$166,400	5	\$30,939.89
<b>Total</b>			<b>1062</b>	<b>\$170,211,900</b>	<b>179</b>	<b>\$2,316,928.61</b>

### Local Regulations

In the Humboldt County Zoning Code, there are two designations for flood zone areas outside the Coastal Zone: Design Floodway (DF) and Flood Plain (FP).

- DF zoning is intended to be applied to areas that lie in a designated floodway, as defined in Section 8402 of the Water Code of the State of California, and is intended to prohibit such structures in the zone as might endanger life or significantly restrict the carrying capacity of the designated floodway.
- FP zoning is intended to be applied to areas that have been inundated by flood waters in the past and that may reasonably be expected to be inundated by flood waters in the future. The Flood Plain Zone is intended to limit the use of areas subject to such inundation and flooding to protect lives and property from loss, destruction and damage due to flood waters and to the transportation by water of wreckage and debris.

General agriculture, nurseries, animal sales and feed yards are permitted in both zones without a permit. The DF Zone also allows recreational uses not requiring permanent structures, while FP allows recreational uses, roadside stands, and temporary RV parks.

Table 4.3 summarizes uses prohibited in all areas designated “F” on the Zoning Maps and lands located below the 100-year tsunami run-up elevations.

**Table 4-3 Prohibited Uses in Flood-Prone Areas**

Zoning Type	Uses Allowed Within Coastal Zone	Uses Allowed Outside Coastal Zone
Designated Floodways	Manufactured Home Parks Essential Services Health Care Services Extensive Impact Civic Use Solid Waste Disposal Hazardous Industrial	Mobile Home Parks Health Care Services Extensive Impact Civic Use Solid Waste Disposal Hazardous Industrial
Floodplains	Essential Services Health Care Services Extensive Impact Civic Use Solid Waste Disposal Hazardous Industrial	Health Care Services Extensive Impact Civic Use Solid Waste Disposal Hazardous Industrial

Source: Humboldt County Zoning Regulations, §§ 313-21 and 314-21, 2000.

### 4.3. Stormwater System & Capacity

The major stormwater systems within the County include McKinleyville, Arcata, Eureka, and Fortuna. All of these systems qualify as MS4s, but McKinleyville is the only system within the County's jurisdiction. The remaining MS4s are all incorporated cities. Aside from McKinleyville's stormwater system, for which the County developed an SWMP in 2005, the County is also responsible for maintaining systems within other unincorporated regions of the County. Major areas with County stormwater infrastructure include the areas surrounding Eureka, such as Cutten, Ridgewood, Pine Hill, and Humboldt Hill, and also Garberville and Shelter Cove. Other areas with minor amounts of drainage infrastructure include Redway, Manila, King Salmon, Fields Landing, Loleta, and Willow Creek. Private and public flood control levees also exist along

Redwood Creek near Orick, around portions of Humboldt Bay, and along the Eel and Van Duzen rivers.

McKinleyville and Manila are the only communities within the County's jurisdiction for which master drainage plans have been completed. McKinleyville's drainage study was finalized in 1982, while Manila's drainage study was completed in 1987. A regional storm drainage study was also prepared for the Mid-Humboldt County Urban Planning Program in 1971. No other master drainage studies have been prepared since then. Few capital improvements identified in these studies have actually been completed.

Shelter Cove's stormwater drains to the King Range ASBS, so this discharge is regulated by the California Ocean Plan. The County has applied for an exemption to the discharge prohibition requirement for this study area, and is in the process of negotiating with the RWQCB on this issue. A likely requirement or condition of the waiver will be development of an MS4 permit and issuance of an NPDES stormwater discharge permit for Shelter Cove.

The County is part of the Five Counties Salmonid Restoration Program, established in 1997 to prioritize culvert replacement projects and evaluate options for improving County plans, policies, and practices to provide or improve salmonid habitat. This program identified approximately 60 culverts within the County that were considered significant barriers to fish migration and listed as high priority. As part of this effort, the County has upgraded approximately 20 culverts throughout their service area with the help of California Department of Fish and Game, Coastal Conservancy, and NOAA Fisheries grant monies and will continue to do so as time and funding permit. A map showing the 20 culvert locations completed to date is attached as Figure 4-1.

## **4.4. Condition Assessment**

### **4.4.1. Overview**

The Army Corps of Engineers has the responsibility to assess the conditions of the flood control levees for which the County has maintenance responsibility, i.e. Redwood Creek at Orick, Eel River at Sandy Prairie, and Mad River at Blue Lake. At this time there are no known deficiencies or planned levee repairs. As with the maintenance of most public works infrastructure, there are insufficient funds for the level of maintenance that is generally required. The levees along Redwood Creek are being evaluated as part of broader watershed evaluation.

The County's stormwater system varies in condition. Much of the infrastructure is very old and beginning to fail. The County does not have sufficient funding to make improvements to this system. The County needs a systematic replacement program to begin upgrading and expanding stormwater infrastructure as needed, but lacks the proper funding to do so. In fact, the majority of capital improvement projects outlined in the 1982 McKinleyville master drainage plan have yet to be completed. It will be important for the County to identify problem areas, carryout the proper studies, and implement projects to ensure areas within the County are properly served by stormwater infrastructure and to prevent future drainage problems. Storm drainage infrastructure will be essential for serving future development within the County. New master drainage plans should be developed by the County to reflect changes in the County's roadways and new standards for development and runoff.

As a result of the 1982 McKinleyville drainage Study, the County began to collect impact fees when building permits were issued. Unfortunately, the ordinance that was adopted did not include an escalation clause (to account for inflation) so that the fees collected today are

insufficient to fund the necessary improvements. At this point in time, the plan is 25 years old and should be updated to confirm if the recommended improvements are still valid or need to be adjusted. Excerpts from the County's subdivision ordinance pertaining to drainage fees are included below.

### **ARTICLE 3 - DRAINAGE FEES**

#### **328.1-13. ESTABLISHMENT OF FEES.**

*There are hereby established and imposed on each existing parcel and on each new parcel that lies within the "McKinleyville Drainage Area" (excepting therefrom that area shown as "North Bank Road Drainage") drainage fees in the amounts specified in § 328.1-14 of this chapter.*

#### **328.1-14. AMOUNT OF FEES.**

*(a) New Parcels. For each new parcel created pursuant to the Subdivision Map Act and local subdivision ordinance there shall be imposed the following fees:*

- 1. An initial fee of \$250.00 per parcel; and*
- 2. If application is made for a building permit, an additional fee calculated in the same manner as the fee for an existing parcel pursuant to subdivision (b) of this section, less the sum paid pursuant to subdivision (a)(1) of this section.*

*(b) Existing Parcels. For each existing parcel, there shall be imposed the following fees:*

- 1. For the construction of any new dwelling (single or multiple unit), the fee shall be \$250.00 per dwelling unit, up to a maximum of \$2,000.00 per acre.*
- 2. For the construction of all other new structures subject to the permit requirements of Title 3, Division 3 of this Code, the fee shall be \$0.16 per square foot of impervious area created, up to a maximum of \$2,000.00 per acre.*
- 3. For additions to existing structures which will result in additional ground coverage in excess of 100 square feet or, in the case of upper-story additions, an additional floor area in excess of 100 square feet, the fee shall be \$0.16 per square foot. The total fee or cumulative fees paid pursuant to this paragraph shall not exceed \$250.00 per dwelling unit, or \$2,000.00 per acre.*

*(c) The fee provided for in subsection (a)(1) of § 328.1-14 shall be collected at the time and in the manner specified in § 328.1-16; and the fees provided for in subsections (a)(2) and (b) of §328.1-14 shall be collected at the time and in the manner specified in § 328.1-15. However, in no event shall the total fee or cumulative fees imposed pursuant to this chapter exceed, in the case of dwellings, \$250.00 per dwelling unit, and in all other cases, \$2,000.00 per acre. For purposes of computing the acreage in a subdivision, the area included in a designated remainder shall be excluded.*

#### **328.1-15. PAYMENT OF FEES - CONSTRUCTION ON NEW EXISTING PARCELS.**

*The County Building Official shall not issue a building permit for construction on a parcel within the McKinleyville Drainage Area, which results in additional ground coverage in excess of 100 square feet or, in the case of upper-story additions, results in additional floor area in excess of 100 square feet, until the fees set forth in this chapter have been paid. The Building Official may accept cash, or other consideration in the form of actual construction of a part of drainage facilities by the applicant or his principal in lieu of the fee, when authorized to do so by the Director of Public Works. The fee shall not be required if the requested permit is to perform one of the following:*

1. To replace a structure destroyed or damaged by fire, flood, wind or acts of God. This exception is only to the extent that the resultant structure has the same or less ground floor square footage as the original structure; if the ground floor square footage is increased, the square footage of the additional ground floor area shall be used to determine if the fee is due.
2. To construct a swimming pool, patio, patio cover, or driveway.
3. To construct or modify a single family residence on a parcel greater than five (5) acres in area.
4. To construct or modify any facilities on parcels greater than 20 acres in area, provided less than ten percent (10%) of the parcel is covered by impervious surfaces.
5. To construct, enlarge or modify concrete or asphalt concrete surfaces incidental to land uses other than single family residential. This exemption is only to the extent that the increase in impervious area is less than 500 square feet.

**328.1-16. PAYMENT OF FEES - NEW PARCELS.**

(a) No parcel map, tentative map, or final map which divides or subdivides property in the McKinleyville drainage area shall be approved unless and until the subdivider complies with the following requirements:

(1) Pays the fees prescribed by Section 328.1-14(a)(1) of this chapter on or before the date of approval of any such map; or

(2) Agrees to pay the per parcel fee referral to in the preceding subsection on or before a building permit is issued for construction on said parcel created by any such map, if a fee would be required for construction on an existing parcel under the provisions of Section 328.1-15 of this Chapter, and furnishes good and sufficient security to ensure performance of such obligation. For purposes of this subsection, the term "good and sufficient security" means any of the following:

a. A bond or bonds by one or more duly authorized corporate sureties.

b. A deposit, either with the County or a responsible escrow company or trust company, at the option of the County, of money or negotiable bonds of the kind approved for securing deposits of public moneys.

c. An instrument of credit from one or more financial institutions subject to regulation by the state or federal government and pledging that the funds necessary to carry out the act or agreement are on deposit and guaranteed for payment.

d. Subject to approval of the Director of Public Works, a lien upon the property to be divided, created by contract between the owner and the County. Any such lien shall be subject to the provisions of § 326-6.3 of the County Code, except that all references in said section to installation or completion of subdivision improvements shall be deemed to refer to payment of the fees required to be paid pursuant to the provisions of Article 3 of this Chapter.

(b) The provisions of subsection (a) of § 328.1-16 shall not apply to a division or subdivision of land which is conveyed to a government agency, public entity, public utility, or abutting property owner, if a new building lot or site is not created as a result of such division or subdivision.

*(c) The provisions of subsection (a) of § 328.1-16 shall not apply to a division or subdivision of land which is zoned for single family residential purposes and which results in parcels of land which are all larger than five (5) acres in size.*

#### **4.4.2. Current Deficiencies**

##### **FLOOD CONTROL**

In planning for future development, the County must consider the various policy options for the issues. Key questions help frame the issues for policy options for flood hazards. As background, the existing policies in the General Plan are presented, followed by a discussion of issues and policy options that respond to them.

##### **Existing Policies**

The County's General Plan establishes measures to minimize damage from floods. These policies are in Chapter 3, Section 3291.

1. The County shall participate in the Federal Flood Insurance Program to regulate land uses in flood hazard areas in order to minimize loss of life and property, and in order to minimize public flood-related expense.
2. Agricultural lands which are in flood plain areas shall be retained for use in agriculture.

##### **Coastal Zone**

California Public Resources Code § 30236: Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (1) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.

California Public Resources Code § 30253: New development shall minimize risks to life and property in areas of high geologic, flood, and fire hazard.

##### **Flood Control Issues**

- A recent law (Assembly Bill No. 162) requires the Land Use element of the General Plan to identify and annually review those areas covered by the General Plan that are subject to flooding as identified by flood plain mapping prepared by FEMA or the Department of Water Resources. The bill also would require, upon the next revision of the Housing Element, on or after January 1, 2009, the Conservation Element of the General Plan to identify rivers, creeks, streams, flood corridors, riparian habitat, and that may accommodate floodwater for purposes of groundwater recharge and stormwater management. The law would also require, upon the next revision of the Housing element, on or after January 1, 2009, the Safety Element to identify, among other things, information regarding flood hazards and to establish a set of comprehensive goals, policies, and objectives, based on specified information for the protection of the community from, among other things, the unreasonable risks of flooding. The law would also require the planning agency, upon each revision of the Housing Element to review, and if necessary, to identify new information that was not available during the previous revision of the safety element and would provide criteria by which cities and counties that have flood plain management ordinances may comply with the provisions. The bill would provide that the determination of available land suitable for urban development may exclude lands where the flood management infrastructure designed to protect the

jurisdiction is not adequate to avoid the risk of flooding such that the development of housing would be impractical due to cost or other considerations.

- The Land Use element of the General Plan currently identifies the areas subject to flood, but, upon the next revision to the Housing Element after January 1, 2009, the Safety Element and the Conservation Element need to be revised per the bill.

Currently, in the County's zoning ordinance the "F" Flood Hazard zone prohibits mobile home parks within designated floodways and health care services, extensive impact civic uses, solid waste disposal and hazardous industrial uses within both designated floodways and floodplains (see Table 4.3). In the Coastal Zone, essential services also are prohibited. Any other use that is allowed by an underlying residential, commercial, industrial, or agricultural zone is allowed. In other jurisdictions, a much longer list of use restrictions is typically included in flood zone regulations. This ensures that, with changes to the Federal Insurance Administration's Federal Insurance Rate Maps, these restrictions apply and override underlying zoning, which may not have been changed to reflect changes in flood plain mapping.

- Update the flood hazard regulations to restrict development in the floodway and the flood fringe, consistent with federal guidelines and current practice in comparable jurisdictions. Construction standards and review procedures also should be updated to minimize risk. While the County does impose FEMA's restrictions at the building permit stage, integrating these restrictions into zoning will avoid misunderstanding.
  - Update the flood hazard regulations to address the water quality impact of manure storage areas (ponds). Livestock manure can present a hazard to watercourses if not managed properly. Any new policies will need to carefully balance the need to address water quality impacts and the regulatory requirements of other agencies such as FEMA and the Coastal Commission with the benefits of manure capture for use elsewhere and the need to develop solutions which can be safely and efficiently implemented by local farmers.
- Should improvements be made to flood elevation data or gather additional data where it currently does not?

Although the County could pursue a new study of flood elevation data, such a study would not be economically feasible or practical, as it would not be a substitute for the County's required participation in FEMA. As a consequence, no policy options are recommended for this issue. Continued participation in the Federal Flood Insurance Program will provide periodically for updated flood elevation data, and that should be sufficient for planning and zoning purposes.

- Should the County adopt advanced FEMA standards?

The National Flood Insurance Program's (NFIP) Community Rating System (CRS) was implemented in 1990 as a program for recognizing and encouraging community floodplain management activities that exceed the minimum NFIP standards. Under the CRS, flood insurance premium rates are adjusted to reflect the reduced flood risk resulting from community activities that meet the three goals of the CRS: (1) reduce flood losses; (2) facilitate accurate insurance rating; and (3) promote the awareness of flood insurance. Communities are rated on a scale from 1 (highest) to 10 (lowest) based on

their creditable activities in public information, mapping and regulations, flood damage reduction, and flood preparedness.

- Apply for participation in the NFIP's Community Rating System in order to secure lower flood insurance premiums. This may require the implementation of new flood-related programs.

Some other known areas where Flood Control infrastructure improvements are needed include the following:

- Elk River area – problems associated with bedload deposition, logging, and overgrown vegetation. Channel modifications and upgrades are needed to address flooding.
- Ferndale Bottoms area – problems associated with riparian deforestation, urban development, increased sediment deposition and instream vegetation. Efforts are underway to restore Salt River channel conditions by removing sediment within the channel.
- King Salmon area – problems associated with the low lying area and tidal influence. Outdated tidal flap gates are being replaced with new tidal flex gates, which will improve operation and maintenance problems associated with the existing gates.
- Arcata Bottoms – problems with privately owned levees failing.
- Jacoby Creek – problems associated with privately owned dykes and streambed aggradation in channel.
- Redwood Creek – problems associated with regulatory hurdles to maintain the levee and channel.
- Freshwater – problems associated with levies and flood relief measures due to actions or lack of actions by private landowners.
- Salmon Creek - flooding problems associated with low grade on Highway 101.

## **STORMWATER SYSTEMS**

As noted above, most culverts and stormwater infrastructure within the County are very old and are in need of repair or replacement in many places. For example, Shelter Cove's culverts were installed in 1967 and are in serious need of replacement, as are many culverts throughout the County. Historically, these culverts were constructed of either corrugated steel pipe or of concrete. Galvanized steel pipe material can typically last 30 to 40 years, while concrete pipe can last for 50 to 100 years. Many of these pipes were installed during the initial road construction or after being damaged in a flood event and are near the end of their service life.

The County has had difficulty in addressing deficiencies with its stormwater infrastructure, as evidenced by progress made in McKinleyville since completion of its drainage study. The 1982 McKinleyville Drainage Study identified 43 drainage improvements, within the 5 drainage basins. To date, only about four of these 43 drainage improvements have been completed.

There also exists a lack of cohesive development ordinance with respect to stormwater. The Humboldt County Framework Plan Policy 4235 does provide some general stormwater guidance and states that (1) drainage needs of each community shall be studied as part of each community plan; (2) natural drainage ways shall be utilized where possible to convey drainage flows consistent with streamside management policies in the General Plan; and (3) drainage facilities shall be capable of passing a 10 year intensity storm without static head at entrance

and passing a 100 year intensity storm without major damage. However, the County does not have a stormwater conveyance design ordinance for new development and instead refers to the 1997 Eureka General Plan Policy Document, which states that “new development that would increase storm drainage runoff in a 10-year storm event more than one cubic foot per second to provide retention/siltation basins to limit new runoff to prior-to-development flows.” The County should develop and establish their own stormwater conveyance system ordinance, that is compatible with the City or Eureka and other jurisdictional ordinances, but also establishes a specified duration for the design storm and addresses issues specific to the County. A more comprehensive standard the County could employ would be one similar to the County of Riverside, which states “Storms to be studied will include the 1-hour, 3-hour, 6-hour and 24-hour duration events for the 2-year, 5-year, and 10-year return frequencies. Detention basin(s) and outlet(s) sizing will ensure that none of these storm events have a higher peak discharge in the ‘after’ condition than in the ‘before’ condition.” Additionally, the County does have a uniform method for developing a synthetic hydrograph to assess stormwater runoff quantity and detention basin sizing, but this method is generally only applicable to a setting where a single detention basin can capture the entire runoff from a site. The method loses applicability in sites where multiple detention basins are needed either in series or in parallel, and a more robust method for routing multiple detention basin releases and assessing their cumulative impacts is needed.

## **4.5. Proposed Improvements**

A comprehensive evaluation of the County's stormwater infrastructure needs to be performed. Master drainage studies and plans should be developed for all areas served by the County with the goal of identifying inadequacies of the existing infrastructure and proposing infrastructure in areas where it is lacking. While a master drainage study was beyond the scope of this report, this section discusses some of the known problem areas and provides conceptual solutions. However, more detailed, site specific analysis should be performed before designing any improvements.

### **4.5.1. Service and Facility Upgrades**

The County will continue to replace culverts that are fish barriers, as part of its Five Counties Salmonid Restoration Program, contingent on available funding. The County has acquired funding and replaced approximately 20 culverts of the original 60 included in its Program, and hopes to upgrade or replace the remaining 40 culverts under this program as resources and funding permit. However, other than this funding program, the County does not have plans to upgrade stormwater services or facilities. The development of master drainage plans will be a critical step for the County to take in order to improve its role as service provider with respect to stormwater control.

### **4.5.2. Future Expansion**

The burden of stormwater drainage facility improvements and future expansion of stormwater infrastructure into unserved areas that will see future development will largely be the responsibility of developers. The County, through adopted ordinances, could either require developers to install both the necessary on-site and off-site facilities as a condition of development or require developers to pay into a stormwater improvement fund through the levying of drainage fees. Fees mechanisms for ongoing maintenance could/should also be developed.

McKinleyville is currently the only community within the County that has a fund that developers pay into, and capital improvement projects are implemented as monies become available. However, the amount of funds that are currently being collected are insufficient and are not indexed to increase with inflation. The County could promote the use of similar funds in other areas served by the County, especially those areas with significant additional growth potential, such as areas served by Humboldt CSD and Glendale.

Although on-site stormwater facilities used to mitigate increased runoff from development may be applicable in some cases, the County should also allow for off-site facilities. The major problem with on-site facilities is the potential for private land-owners to disrupt the intended functions of these facilities. If the responsibility of maintenance is left up to the landowner, they could either not properly maintain the facilities (not check for clogged drains, remove built-up sediment over time, etc.) or altogether change the intended function of the facilities (fill in a rain garden, modify outlet structures because the rain garden backs up and floods their yard too much, etc.). A mix of regional detention and other stormwater facilities, combined with on site measures may be more appropriate in that the County maintains responsibility over their operation and maintenance.

#### **4.5.3. Cost and Schedule of Improvements**

It is estimated the County will need to invest significantly more in stormwater infrastructure improvements over the next twenty years than it has during the last twenty years. The County has not developed a Capital Improvement Program for its stormwater infrastructure to date. Costs and schedule of improvements should be developed in master plan drainage studies. However, it is estimated that the County will have to invest heavily to upgrade its stormwater infrastructure, especially after years of deferred maintenance, on the order of \$20 million over the planning horizon.

## **4.6. Issues to be Addressed in the General Plan Update**

The technical report presents a basis for describing and assessing storm drainage and flood control services being provided in Humboldt County. As documented in this report, these services need to be upgraded. The County needs to complete a county wide master plan that includes a prioritized Capital Improvement Plan and a means for collecting funds to make the necessary improvements and to maintain this system.

This technical report highlights the need for additional storm drainage data. It is important to note that areas where significant development is planned or expected, a storm drain master plan should be prepared to size main line facilities to be compatible with full build-out of the areas for the Q100 storm. The siting of regional storm water detention facilities should be included if down stream areas (outside of the proposed development areas) cannot handle increased flows. Therefore, the Department recommends that a series of master drainage study be prepared as part of the General Plan process. Additionally, standards for storm water detention basin sizing should be developed

The General Plan Update will include goals, policies and programs for the following issues;

- Complete a Countywide Drainage Master Plan. This plan will enable the County to determine the proper sizing for any new improvements, develop a prioritized list of these new improvements and develop the underlying basis for impact fees that can be used for these improvements.

- Develop strategies for providing for the ongoing operation and maintenance of existing and new facilities.
- Develop a stormwater drainage ordinance outlining design guidelines, user fees, etc.
- Encourage the use of alternative and “green” technologies that reduce drainage flows.
- Develop approaches that will allow for the “pooling” of improvements to be done, instead of requiring each parcel to handle its stormwater on site. A good example of this is McKinleyville CSD stormwater marsh at Hiller Park.

# 5. Fire Protection

## 5.1. Introduction

Fire protection and emergency medical response services in Humboldt County are provided by a combination of agencies, districts and organizations. They range from federal agencies such as the U.S. Forest Service (USFS) and the Bureau of Land Management (BLM), and a state agency— California Department of Forestry and Fire Protection (CAL FIRE)—to local organizations such as community services districts, cities and volunteer fire districts and departments. The County Urban Study Areas (USAs) are primarily served by local organizations with volunteer firefighters and officers, and the ability of these organizations to provide services are the primary focus of this technical report.

Many of Humboldt County's USAs are located in the Humboldt Bay area. The remainder of the USAs are located along transportation corridors and waterways in the remainder of the County's 2.3 million acres. The more rural areas are in, or adjacent to, the County's 1.9 million acres of forested land, which cover over 80 percent of the County (including State and Federal lands). The rural and forested nature of the landscape contributes to the fire risk in the County (Department of Finance. California County Profile. Humboldt County Profile May 31, 2007). According to the Humboldt County Natural Resource Hazards Report, three-quarters of Humboldt County's land is identified as containing substantial forest-fire risks and hazards.

In Humboldt County, there are 25 local government agencies with responsibility for structural fire protection include one County Service Area (CSA), five Community Service Districts (CSDs), 16 Fire Protection Districts (FPDs), one Resort Improvement District (RID), and two city fire departments. There are also 18 all volunteer fire departments or brigades not associated with local government organizations (see figure 5-1).

Local fire protection districts and volunteer fire departments are formed specifically to provide community fire protection and emergency medical response services within their district boundaries or response area. The County's larger population centers of Eureka and Arcata/McKinleyville have fire departments with paid staff and multiple stations. Smaller communities have established districts and typically one station and an all volunteer staff. The smallest communities have the most limited resources, often relying on community contributions and used equipment to operate.

This report primarily addresses the ability of local organizations to serve communities and respond to structure fires and other emergencies, because these types of preparedness and response are considered the responsibility of local organizations. Most wildland fire protection (nonstructural fire) is the responsibility of Federal and State agencies. CAL FIRE is responsible for wildfires in State Responsibility Areas (SRA). The federal land management agencies are responsible for providing wildland fire protection for federal lands within the county, and the Yurok and Hoopa Valley Tribes provide funding, equipment, and facilities for volunteer fire departments in their respective reservations (Humboldt County Master Fire Protection Plan).

## 5.2. Existing Level of Service

### 5.2.1. Local Fire Protection Service Providers

Community fire protection can be divided into two strategic elements: proactive and reactive. The reactive element involves committing resources to an incident after it has started. The proactive element addresses the prevention of incidents, and the minimization of incident impacts, through safety education and code enforcement. Fire Prevention includes administration of specialized services involving fire code enforcement, fire education, fire investigation, and State-mandated code enforcement and inspections. Fire Prevention staff, where available, play a critical part of suppression by providing incident management, project administration, support services, training, and vacancy back-fill. In most local organizations, these roles are filled with the same personnel.

There is a significant difference in the fire response capabilities available to residents living in more populated areas such as Eureka or Arcata, compared to residents living in more remote rural communities. Local departments use formal and informal mutual aid and automatic aid agreement to augment the level of protection provided to the residents that they serve, but level-of-service differences between communities still persist. When preparing the County Master Fire Protection Plan, the County Fire Safe Council acknowledged the importance of establishing a county-wide level-of-service standard so that service gaps can more easily be identified and addressed and residents are aware of the level of protection available to them. This includes:

- Developing level-of-service standards for the provision of all fire protection services (fire, EMS, HazMat, rescue) in the County, and make such standards public.
- Establishing regional fire training facilities in appropriate locations; facilities should include classrooms, a burn tower, and fire and rescue training props.
- Improving communication and coordination between local fire departments, CAL FIRE, and federal agencies during fires and other emergencies.

The table below depicts a comparison of the various organizations that provide fire protection services to communities within the urban study areas of Humboldt County. The organization type, district size in square miles, number of facilities, and urban study areas are identified for each organization below.

**Table 5-1. Fire Protection Services within Humboldt County**

Name of Organization	Organization Type	District Size*	# of Fire Stations	USA/WSA
Arcata Fire Protection District	Combination Career-Volunteer	62.0	3	Arcata USA McKinleyville USA/WSA
Briceland Volunteer Fire Department	Volunteer (non-agency)	N/A	1	Briceland WSA
Blue Lake Fire Protection District	Volunteer (Career Chief)	13.6	1	Blue Lake USA/WSA Glendale USA/WSA
Carlotta Community Services District	Volunteer	4.4	1	Hydesville USA/WSA
County Service Area No. 4	Career	23.5	1	Big Lagoon WSA & Westhaven WSA

Name of Organization	Organization Type	District Size*	# of Fire Stations	USA/WSA
Eureka City Fire Department <sup>12</sup>	Career	15.8	3	Works in concert with Humboldt FPD No. 1
Ferndale Fire Protection District	Volunteer	44.2	1	City of Ferndale and Riverside WSA
Fieldbrook Community Services District	Volunteer	9.4	1	Fieldbrook USA
Fortuna Fire Protection District	Volunteer	29.4	3	Fortuna USA Hydesville USA/WSA
Garberville Fire Protection District	Volunteer	1.1	1	Garberville USA/WSA
Humboldt Fire Protection District #1	Career	40	2	Myrtle town USA & Humboldt Hill USA & South Eureka USA
Loleta Fire Protection District	Volunteer	48.9	1	Loleta USA
Miranda Community Services District	Volunteer	0.5	1	Miranda USA
Myers Flat Fire Protection District	Volunteer	0.7	1	Myers Flat WSA
Orick Community Services District	Volunteer	2.3	1	Orick USA/WSA
Orleans Community Services District	Volunteer	1.6	1	Orleans WSA
Phillipsville Community Services District	Volunteer	0.5	1	Phillipsville WSA
Redway Fire Protection District	Volunteer	1.1	1	Redway USA
Resort Improvement District No. 1	Volunteer	4.8	1	Shelter Cove USA/WSA
Rio Dell Fire Protection District	Volunteer	4.6	1	Rio Dell USA/WSA
Samoa Peninsula Fire Protection District	Volunteer	2.8	1	Samoa USA
Weott Community Services District	Volunteer	0.5	1	Weott USA
Westhaven Volunteer Fire Department	Volunteer (non-agency)	N/A	1	Westhaven WSA
Willow Creek Fire Protection District	Volunteer	6.6	1	Willow Creek USAWSA

\*In square miles

<sup>12</sup> Shown due to Auto-Aid agreement with Humboldt Fire Protection District No. 1

The following are overviews of each of the local organizations providing fire protection services within Humboldt County USAs. They are listed in alphabetical order.

### **Arcata FPD**

The Arcata FPD (FPD) is responsible for providing fire protection services, to the City of Arcata, the unincorporated communities of McKinleyville, Manila, Jacoby Creek, and the Mad River bottom. The Arcata FPD covers the McKinleyville, Jacoby Creek, Manila, and a small portion of Glendale and Fieldbrook USAs. The Arcata FPD protects some of the most populated areas in Humboldt County including the County's second largest City (Arcata), the growing community of McKinleyville, and Humboldt State University. The Arcata FPD, is one of the few departments in Humboldt County with paid firefighters supplemented by a significant number of volunteer fire fighters, and provides full service fire protection including plan check, building inspection, and fire prevention related public education. There are many large facilities within the Arcata FPD including Humboldt State University, the large commercial downtown core, Mad River Hospital, and the United Indian Health Services Potawot Health Village.

The Arcata FPD's (FPD) district boundary encompasses 62 square miles with a total response area of 67.9 square miles. The Arcata FPD has a total of 75 personnel serving the District, 53 of which are volunteers. The district received 1,768 calls in 2006, 51 percent of which were for medical assistance. There are three fire stations within the district: the headquarters are based at 631 9th street in Arcata, the McKinleyville station at 2149 Central Avenue in McKinleyville, and the Mad River station is located at 3295 Janes Road in Arcata.

### **Briceland VFD**

The Briceland VFD is not associated with a special district. The Briceland VFD provides comprehensive fire protection services to a 58 square mile response area that includes Briceland and the surrounding area. The department raises all of its revenue from fund raising activities.

The Briceland VFD has approximately 15 to 20 volunteers, many of whom are EMTs, and maintains a high standard of training. In addition, the Briceland VFD leads the Southern Humboldt Fire Chief's Association technical rescue team. Most of the Briceland VFD response area is comprised of rural residences within the wildland interface. Other facilities within the response area include the Skyfish Charter School and Briceland Thorne Road.

### **Blue Lake FPD**

The Blue Lake FPD is responsible for providing fire protection services, through the Blue Lake VFD (VFD), to the City of Blue Lake, and unincorporated communities of Glendale, and the West End Road/Hatchery Road area. The Blue Lake FPD boundaries are fairly compact, but the Department responds to calls out of district to the east along Hwy 299 on Lord Ellis Summit and the Redwood Creek area. The largest facilities within the Blue Lake FPD include the Blue Lake Casino, the Ultra Power biomass generator, an industrial area near the Mad River, and a mill and industrial area in Glendale.

The Blue Lake FPD has a district boundary of 13.6 square miles, with a total response area of 121.1 square miles. The Blue Lake fire department only has a paid Chief, and 56 volunteers serving the district, which received 134 calls in 2006. The District's boundary includes Mc Adams and Liscom Hill Roads to the north, and Hatchery road to the south. The district has one facility on 1st Avenue in Blue Lake.

## **Carlotta Community Services District**

The Carlotta Community Services District is responsible for providing fire protection services, through the Carlotta Volunteer Fire Department (VFD), to the unincorporated community of Carlotta located along the Van Duzen River in central Humboldt County. The community of Carlotta is located in the Van Duzen River valley along State Highway 36 and is surrounded by steeply sloped timberlands. The largest facilities within Carlotta are the former Pacific Lumber Mill located on the south side of Hwy 36 and Cuddeback Elementary School located on Wilson Road.

The District boundary is 4.4 square miles, serving a total response area of 50.5 square miles. There is only one fire station in this district, which is located at 61 Johnson Lane in Carlotta. The district received 44 calls in 2002. There are 15 volunteers and no paid staff members.

## **County Service Area No. 4**

County Service Area (CSA) No. 4 is a dependent special district governed by the County Board of Supervisors who serves as its ex-officio Board of Directors. CSAs can be authorized to provide a wide range of municipal services; however, CSA No. 4 provides only fire protection. CSA No. 4 provides fire protection services, through the CAL FIRE Trinidad station, to the coastal communities (south of Orick) of Big Lagoon, Trinidad, Westhaven, and Cranell. CAL FIRE performs this service through a contract with Humboldt County. One engine is staffed year-round to provide service to CSA No. 4 and if this engine is detailed to a fire out of the area another engine is moved to serve the district, if available. Larger facilities within CSA No. 4 include Patricks Point State Park and other coastal recreation areas, U.S. 101, and portions of Westhaven (most of the community of Westhaven and all of the Westhaven WSA is located outside the boundaries of CSA No. 4), Cranell, and Big Lagoon. Westhaven is almost entirely residential, but contains a restaurant and park at Moonstone Beach.

CSA No. 4 FPD has a district boundary and total response area of 23.5 square miles. The District has 6 paid personnel, and no volunteers. This is the longest stretching district boundary, beginning just south of Orick in the north, to Clam Beach in the south, with the exception of Trinidad, which is served by its own City FPD. In Westhaven, the Volunteer Fire Department provides service and has requested back-up support from CSA No. 4. In 2006, CSA No. 4 recorded a total of 252 calls.

## **Eureka City Fire Department**

The Eureka Fire Department is a City department, governed by the Eureka City Council, and protects the area within the boundaries of the City of Eureka. Eureka is the Humboldt County seat and the largest city in the County, with a population of approximately 26,000. The city is bordered on one side by Humboldt Bay and on the other by forested ridges. Eureka is the governmental, commercial, industrial and transportation center of the region. Eureka functions more like a city twice its size due to its regional center status and the fact its service area population is about 50,000. Eureka has numerous commercial and industrial areas including Old Town, the Bayshore Mall/Broadway area, Henderson/Eureka Mall area, and Myrtle Town.

The City of Eureka is located outside any USA or WSA, but provides service within the Myrtle town and South Eureka USAs based on its interoperation agreement with Humboldt FPD No. 1. Through this agreement, the Eureka FD and Humboldt FPD No. 1 cooperatively provide services dividing their respective service areas between their five stations.

The boundary for the Eureka FD is 15.8 square miles, with a total response area of 55.8 square miles. The Eureka FPD also includes the Humboldt Fire No. 1 auto areas. The Department has 41

paid personnel, and 12 volunteers that provide services to the district. The department received 3,139 calls in 2006. There are three stations within the Department: 533 C Street, 2905 Ocean Ave, and 1016 Myrtle Avenue.

### **Fieldbrook Community Services District**

The Fieldbrook Community Services District is responsible for providing fire protection services, through the Fieldbrook VFD, to the unincorporated community of Fieldbrook which is located between McKinleyville and Blue Lake along Fieldbrook Road. The Fieldbrook CSD also provides water and wastewater services. The Fieldbrook area is located in a sheltered valley bounded by ridges covered by thick conifer forests. The largest facilities within Fieldbrook are the Grange, several churches, Community Services District office/Fire Station, Fieldbrook Elementary School, Fieldbrook store and the Fieldbrook Valley Winery.

The District has a district boundary of 9.4 square miles and a total response area of 10.4 square miles. The District is operated by 22 volunteers; there are no paid personnel in the district. In 2006 the district received a total of 71 calls, with over 60 percent of those being medically related.

### **Ferndale FPD**

The Ferndale FPD is responsible for providing fire protection services, through the Ferndale VFD, to the City of Ferndale, and unincorporated communities of Grizzly Bluff, Arlynda Corners, Centerville, Port Kenyon, Wildcat Ridge, and the remainder of the Eel River bottoms south of the Eel River. The City of Ferndale, known as the Victorian Village, is a well known visitor destination and draws thousands of tourists during the summer months. The largest facilities within the Ferndale FPD include the commercial downtown, the Humboldt County Fairgrounds, and Ferndale's Elementary and High Schools. The Ferndale FPD has a district boundary of 44.2 square miles and a total response area of 115.7 miles. The Riverside WSA is located within the Ferndale FPD boundaries. The district is run exclusively by 38 volunteers, as there are no paid personnel. The District received 162 calls in 2006, almost 60 percent of which were medical related.

### **Fortuna FPD**

The Fortuna FPD is a dependent district. It is responsible for providing fire protection services, through the Fortuna VFD, to the City of Fortuna, and unincorporated communities of Fernbridge, Rohnerville, Hydseville, Alton, and Metropolitan. The City of Fortuna is the third largest city in the County and has a large commercial downtown area. The largest facilities within the Fortuna FPD include the Pacific Lumber Mill (currently closed but being considered for new development), Redwood Memorial Hospital, Rohnerville Airport, the Riverwalk area, the community of Rohnerville, and downtown Fortuna. There are 65 volunteer employees serving the District boundary and total response area, which spans 29.4 square miles. The FPD maintains three fire stations. The FPD is not the primary responder on medical calls in the City of Fortuna. That service is currently provided by the Fortuna Police Department.

### **Garberville FPD**

The Garberville FPD is responsible for providing fire protection services, through the Garberville VFD, to the town of Garberville and the old Wallen Ranch area. Garberville is the most southerly town in Humboldt County and is located on a bluff above the South Fork of the Eel River. The largest facilities within the Garberville FPD include the downtown core, Blue Star Gas storage/distribution, and the Garberville California Department of Forestry and Fire Protection station. The Garberville FPD has a boundary of 1.1 square miles, but has a total response area of 35.9 square miles. There are no paid personnel, and there are 17 volunteers.

### **Humboldt Fire District No. 1**

Humboldt Fire District No. 1 is responsible for providing fire protection services to a small portion of the City of Eureka as well as the area south of Eureka to Fields Landing, north of Eureka to Freshwater and Indianola, and east of Eureka to Elk River and Ridgewood Heights. Additionally, the District provides auto-aid to the City of Eureka. Humboldt Fire District No. 1 has both paid staff and volunteer firefighters. Humboldt Fire District No. 1 has an active fire prevention program and all firefighters are trained to at least the level of Emergency Medical Technician I. Major facilities within Humboldt Fire District No. 1 include Redwood Acres Fairgrounds, the PG&E Humboldt Bay Power Plant, College of the Redwoods, and numerous schools and churches. Humboldt Fire Protection District No. 1 traditionally operates a fire protection/safety education program for schools within the district, and also participates in countywide fire education activities as a member of the Humboldt County Fire Prevention Officer's Association.

Humboldt Fire District No. 1 has a district boundary of 40 square miles and a total response area of 48 square miles. Two stations are located within the District; the headquarters are located at 3455 Harris Street, and another station is located at 755 Herrick Avenue in Bayview. The District received 1452 calls in 2006, and almost 60 percent of the calls were for medical service. There are 18 paid personnel, and 9 volunteers that serve the Humboldt No. 1 FPD.

### **Loleta FPD**

Loleta FPD is responsible for providing fire protection services, through the Loleta VFD, to the town of Loleta and surrounding lands. Most of the Loleta FPD is agricultural grass lands with some limited forested areas. The district also includes the Table Bluff area, the Eel River bottoms north of the River, Hookton Slough, the South Spit, and a portion of Fernbridge. The populated areas within the Loleta FPD include the town of Loleta and the Table Bluff Rancheria. Larger facilities within Loleta FPD include Loleta Elementary School, the Table Bluff Rancheria, and a large food warehouse. The Loleta FPD has a district boundary and total response area of 48.9 square miles, which is served by 24 volunteer personnel.

### **Myers Flat FPD**

Myers Flat FPD is responsible for providing fire protection services, through the Myers Flat VFD, to the community of Myers Flat along the Eel River midway between Weott and Miranda on the Avenue of the Giants. The Myers Flat FPD is surrounded by Humboldt Redwoods State Park. Although the District extends across to the south side of the Eel River, most of the District is coterminous with the populated area of Myers Flat. Larger facilities within Myers Flat include the Bear River Casino, Myers Inn, miscellaneous small commercial establishments, and an RV Park.

The Myers Flat FPD has a district boundary of 0.7 square miles and a total response area of 2.2 square miles. There is one station within the district, which is served by 6 volunteer members and no paid personnel.

### **Miranda Community Services District**

The Miranda Community Services District is responsible for providing funding for fire protection services, through the Miranda VFD, to the unincorporated community of Miranda located within the Avenue of the Giants (State route 254) along the South Fork of the Eel River between Myers Flat and Phillipsville. The Miranda area is characterized by Humboldt Redwoods State Park and the surrounding mature redwood forest, steep hillsides, and the Eel River. The largest facilities within Miranda are South Fork High School and Miranda Junior High School. The Miranda Fire Department often responds outside the area.

The Miranda Volunteer Fire Department has a response area of 8.5 square miles and a total response area of 9.0 square miles. In 2006 there were a total of 50 calls, 76 percent of which were for medical services. There are two engines, and a total of 8 personnel that provide services within the district, all of which are volunteers.

### **Orick Community Services District**

The Orick Community Services District is responsible for providing fire protection services, through the Orick VFD, to the unincorporated community of Orick located along U.S. 101 adjacent to the Redwood Creek flood plain as it reaches the Pacific Ocean. The Orick CSD also provides domestic water services. The Orick area is dominated by Redwood National Park and the surrounding old growth stands of redwoods. The largest facilities within Orick are Redwood National Park Operation Center, its downtown commercial strip along U.S. 101, and the Simpson Timber Mill just north of town. The District boundary for Orick CSD is 2.3 square miles, with a total response area of 123.8 miles. The district has two fire engines, one built in 1971, and one from the 1960's.

### **Orleans Volunteer Fire Department**

The Orleans Volunteer Fire Department primarily protects the area in and around the community of Orleans along the Klamath River north of its confluence with the Trinity River. The area around Orleans is known for the rugged Klamath River valley, steeply sloped ridges with dense conifer forests. Orleans contains a school, U.S.F.S District Ranger Station, Karuk Tribal facilities, and small stores and overnight accommodations.

The Orleans district boundary is 1.6 square miles, with a total response area of 120.2 miles. The district has five trucks: two main engines, a big water tender, a brush fire rig (also a vehicle accident response rig), and a rescue vehicle. The district is staffed with 8 volunteers.

### **Phillipsville Volunteer Fire Department**

The Phillipsville Volunteer Fire Department protects community of Phillipsville and is located along the Avenue of the Giants, on the eastern bank of the South Fork of the Eel River. The town is approximately 2 miles south of Miranda. Most of the community is located on a large river flat. Some individual homes also occur on the steep, wooded hillside just east of the flat. Along the Avenue of the giants, there is a small amount of commercial buildings and a mobile home park.

The district boundary for the Phillipsville is approximately .5 square miles, with a total response area of 4.4 square miles. The Department is served by 5 volunteers, and does not have any paid personnel. The fire station, located at 2973 State Highway 254, has one engine and one tender. Most of the calls received in 2006, were medically related.

### **Redway FPD**

Redway FPD is responsible for providing fire protection services, through the Redway VFD, to the community of Redway. The Redway FPD does not extend beyond the developed Redway community which is located on a large bend of the South Fork of the Eel River just north of Garberville. Larger facilities within the Redway FPD include the Mateel Community Center, and the small shops and businesses in the town center.

The Redway FPD has a district boundary of 1.1 square miles and total response area of 3.3 square miles. The District, which receives approximately 80 calls per year, has one fire station, three engines and 24 volunteer personnel.

## **Resort Improvement District No. 1 - Shelter Cove**

Resort Improvement District No. 1 is responsible for providing fire protection services, through the Shelter Cove VFD, to the unincorporated community of Shelter Cove. Shelter Cove is an isolated community located at the southern end of the Kings Range National Conservation Area and the Lost Cost at the end of Shelter Cove Road. Resort Improvement District No. 1 is a multi-purpose special district (differing from a CSD because of its more limited year-round population) and also provides electric, water, and sewer services to the residents of Shelter Cove and manages the Shelter Cove airport and golf course. The Shelter Cove area is surrounded by public lands and has a significantly larger summer population due to second homes and its status as a tourist destination. The largest facilities within Shelter Cove include the airport, golf course, and schools.

Resort Improvement District No. 1 is responsible for providing funding to the Shelter Cove Volunteer Fire Department. The District boundary is 4.8 square miles with a total response area of 7.1 square miles. The District has one station, three engines, and one rescue vehicle. The District is served by one paid staff member and 11 volunteers.

## **Rio Dell FPD**

Rio Dell FPD is responsible for providing fire protection services, through the Rio Dell VFD, to the City of Rio Dell. The City of Rio Dell is located on a bench above the Eel River surrounded by slopes covered by redwoods. The Rio Dell FPD boundary is roughly equivalent with the City of Rio Dell boundaries and extends beyond the City in the Belleview area and up Monument Road. Larger facilities within the Rio Dell FPD include the Rio Dell town center and Eagle Prairie Elementary and Monument Middle Schools. The Rio Dell FPD has a district boundary of 4.6 square miles and total response area of 6.7 square miles, which is served by an all volunteer staff of 22. The District received a total of 295 calls in 2006 and 83 percent of those calls were medically related. Rio Dell has one station, three engines, and one rescue vehicle. The Rio Dell FPD was recently received an ISO (a support services firm for the insurance industry that provides the most comprehensive ratings of fire department operations) rating of "4," which is among the lowest for volunteer fire departments in the County. The FPD has received an application to annex the town of Scotia into the district. This proposed annexation is currently under review by the FPD Board of Directors.

## **Samoa Peninsula FPD**

Samoa Peninsula FPD is responsible for providing fire protection services, through the Samoa Peninsula VFD, to the communities of Fairhaven and Samoa on the Samoa Peninsula. The Samoa Peninsula is a narrow strip of land bounded by the Pacific Ocean on the west and Humboldt Bay on the east. The Samoa Peninsula FPD includes the historic mill town of Samoa which is the subject of a Master Plan development proposal on file with the County, and industrial and residential uses in the Fairhaven area. Larger facilities within the Samoa Peninsula FPD include the Samoa Pulp Mill operated by Evergreen Pulp, Fairhaven biomass power plant, the former mill site industrial land associated with Samoa, and the Redwood Dock which was recently returned to Harbor District control. The Coast Guard Humboldt Bay Life Boat Station at the southern end of the Samoa Peninsula located outside of the district boundaries; the Coast Guard contracts with BLM to provide fire protection services to the station. The FPD has experienced significant revenue reductions due to closed mill site property reassessments

The Samoa Peninsula FPD has a district boundary of 2.8 square miles and a total response area of 3.4 square miles. The District and has one fire station, three engines, and is served by an all volunteer staff of 12 personnel. They maintain a Fire station in Fairhaven, and also keep fire apparatus in the Samoa Block, in the town of Samoa.

### **Trinidad FPD – City of Trinidad**

The Trinidad Volunteer Fire Department is a City department, governed by the Trinidad City Council, and protects the area within the boundaries of the City of Trinidad. Trinidad is located along a coastal bluff near Patrick's Point State Park and forest lands at the northern edge of the urbanized portion of Humboldt County. Trinidad is the smallest City in the County with 310 residents. Trinidad is a tourist attraction and has several restaurants, an active wharf, and a Humboldt State University marine laboratory.

The Trinidad FPD has a district boundary of 0.6 square miles, and a total response area of 2.2 square miles. A total of 58 calls were received in 2006 and most of those calls were medically related. The district served by 11 volunteers; there are no paid personnel.

### **Weott FPD**

The Weott Community Services District is responsible for providing fire protection services, through the Weott VFD, to the unincorporated community of Weott. Weott is located within the Avenue of the Giants along the South Fork of the Eel River near the confluence of the Main Step and South Fork of the Eel. The Weott CSD also provides water, wastewater services. The Weott community is surrounded by Humboldt Redwoods State Park. It is the closest community to the Park visitor center and campground facility. It is a residential community with no industrial uses and limited commercial uses. The largest facilities within Weott include the Agnes Johnson School and a California Department of Forestry and Fire Protection Fire Station.

The Weott Volunteer Fire Department has an all volunteer staff of 9 personnel. The District boundary is only 0.5 square miles, but the total response area is 12.5 square miles. The District received a total of 16 calls in 2006, with about 38 percent of those calls being for medical service. The station has one engine and rescue vehicle.

### **Westhaven VFD**

The Westhaven VFD is not associated with a special district. The Westhaven VFD provides fire protection services to a response area that includes Westhaven and the surrounding area. The department raises all of its revenue from local fund raising activities.

The Westhaven VFD has approximately six volunteers. The Westhaven VFD response area is located within the district boundaries of CSA No. 4. Westhaven VFD and CSA No. 4 are jointly dispatched to calls within the response area of the VFD.

### **Willow Creek FPD**

The Willow Creek FPD is responsible for providing fire protection services, through the Willow Creek VFD, to the residences of the Willow Creek area along the Trinity River between the Friday Ridge area (west side of the Trinity River) in the south and both sides of the Trinity River on the north end of the Willow Creek area. Willow Creek is an active tourist destination in the summer, with many second homes, and motels. Larger facilities within the Willow Creek FPD include Hwy 299 and 96, Trinity Valley School, Big Foot Country Club, community health clinic, and downtown commercial area.

The Willow Creek Fire Protection District is responsible for providing funds to the Willow Creek Volunteer Fire Department. The District boundary is 6.6 square miles with a total response area of 26.6 square miles. There are four engines, one rescue vehicle, and 23 volunteers that serve the district.

### **5.2.2. Humboldt County Role in Fire Protection**

Humboldt County plays a variety of roles in fire planning and protection including:

- Serving as the Governing Board and contracting for fire protection services (CSA No. 4);
- Serving as the Governing Board for certain fire protection services and appointing local commissions to manage the activities of the districts (Fortuna, Loleta, Whitethorn);
- Maintaining current Geographic Information System (GIS) data on fire services, districts, areas of responsibility, and fire history;
- Maintaining public roads;
- Maintaining current fire safe goals and land use planning policies in the General Plan;
- Carrying out the responsibilities of the County Fire Warden;
- Planning for development that receives adequate fire protection through adoption of the County General Plan and Safety Element;
- Adopting Fire Safe Regulations that include the application of fire safe standards for development in unincorporated areas;
- Offering a less expensive workman's compensation insurance option to Fire Districts/Departments through the County's participation in the California State Association of Counties Excess Insurance Authority (CSAC EIA);
- Coordinating emergency services response through the Sheriff's Department and OES; and
- Maintaining and implementing the Humboldt County Master Fire Protection Plan.

With the formation of a County Fire Safe Council and preparation of a County Master Fire Protection Plan the County has broadened its role in fire planning. The Fire Plan focuses on the County's coordination and oversight role, and incorporates new policies that the County can implement through the Humboldt 2025 General Plan.

The County's Office of Emergency Services (OES), part of the Humboldt County Sheriff's Office, is in charge of coordinating emergency response planning for Humboldt County, pursuant to the County Emergency Operations Plan. The California Emergency Services Act (Gov Code § 8550) establishes a mandate for emergency operations planning to "insure that preparations within the state will be adequate to deal with such emergencies."

### **5.2.3. Wildland Fire Responsibility**

There are three basic types of wildland responsibility areas within Humboldt County: Federal Responsibility Areas (FRA), State Responsibility Areas (SRA), and Local Responsibility Areas (LRA). Local government provides wildland fire protection within their jurisdictions, but only to areas outside of State and Federal Responsibility Areas. Federal agencies are responsible for preventing and suppressing wildland fires within FRAs. These lands are generally protected by the Department of Agriculture, Forest Service, and Department of the Interior bureaus: Bureau of Land Management, National Park Service, US Fish and Wildlife Service, and the Bureau of Indian Affairs. FRAs generally include National Forest, National Park Service and Tribal lands, or any federally owned land. Local agencies can respond out of their jurisdictions either through auto-aid or goodwill.

CAL FIRE provides wildland fire protection services to the SRAs and cooperates with local agencies to suppress wildland fires. SRAs include timberlands, rangelands, watersheds, and

privately owned lands, but do not include areas within incorporated cities, federally owned lands, or areas with more than three housing units per acre.

LRAs include areas in which local government has the primary financial responsibility for providing fire protection services. Local government contracts can be made with CAL FIRE to provide fire protection services in LRA lands and the local government agency would pay CAL FIRE for providing those services. Alternatively, local governments can enter agreements to provide fire protection services to SRAs and CAL FIRE would pay the Local government for those services. Local Fire Districts are responsible for responding to structure fires, within their responsibility areas which may include some SRAs. Federal Agencies such as the USFS will not enter structures. The County USAs are primarily located within LRAs. However, agreements such as those described below can be made between local and state or federal agencies to provide fire protection services within USAs.

### **CAL FIRE Agreements with Local Providers**

CAL FIRE cooperates with local governments to provide emergency services under four main types of funding agreements:

1. **“Schedule A” Agreements.** Local governments hire CAL FIRE to provide local fire protection services (structure fire protection, emergency medical response, etc). The state is reimbursed for the costs of the service.
2. **Contract Counties.** The state hires local county governments to provide wildland fire protection in SRA. The state pays local government for those services.
3. **Amador Agreements.** Under these agreements, local governments reimburse the state for the costs of keeping CAL FIRE fire stations open during the non fire season. Service is provided to the residents of CSA No. 4 through an Amador agreement.
4. **Mutual Aid.** The state and local governments have entered into many agreements to provide assistance to one another. For example, there are auto-aid agreements that allow for the closest available resource to respond to the fire or other emergency, without regard to jurisdiction. In general, reimbursements are only paid after 12 or 24 hours of response.

### **Fire Safe Standards**

One of the issues being addressed in the General Plan Update is how new development can be planned to minimize services needs. One effective means is the implementation of uniform fire safe standards, which have proven to be effective in reducing losses to life and property. To be effective the most current fire safe techniques should be incorporated into the planning regulations, and most importantly enforcement measures, of local jurisdictions throughout the County. To this end, Humboldt County adopted versions of the California SRA Fire Safe Regulations (HCC Div 11 of Title III) as the County Fire Safe Regulations. These regulations constitute local alternative standards as authorized by PRC § 4290, and have been approved by CAL FIRE as meeting or exceeding the State regulations. Additionally, the Humboldt County Master Fire Protection Plan makes the recommendation to update these regulations to ensure that the most up-to-date and fire safe techniques are incorporated.

The Humboldt Fire Chief's Association has also begun working to clarify the implementation of State and Federal fire prevention construction and occupancy standards in order to assist contractors, business operators, local government, and local fire agencies to improve fire safety. To that end, they are developing standards for smoke detectors, key boxes, fire department connections, fire sprinkler inspector test and alarm monitoring, fire extinguishers, cooking hoods,

premises identification, roads, burn permits, and gated communities. This work will serve as an effective springboard for additional coordinated fire safe planning and enforcement efforts.

## **5.3. Condition Assessment**

### **5.3.1. Fire Protection Funding**

Fire services in the county are financed through a variety of programs and sources. The most stable sources are property tax apportionments and ongoing assessments. One-time funding (such as grants) can be effective for acquiring a piece of equipment and may be used for establishing a program or service, but must be replaced by an ongoing source for long-term viability. The following are the funding sources most used in the county, but not a comprehensive list:

- Benefit Assessments;
- Special Taxes;
- Property 172 funds;
- Property tax apportionments;
- Grants; and
- Fundraisers.

#### **5.3.1.1. Funding For Local Fire Organizations**

Fire protection service providers in Humboldt County operate with limited resources and demonstrate a strong need for additional funding. Expenses for essential budget items such as the maintenance of aging apparatus, worker's compensation, and liability insurance outstrip department revenue. Although local fire organizations have demonstrated that they are very resourceful—using volunteers, surplus and donated equipment, and by working cooperatively to deliver services—most fire departments report that they do not have sufficient funding to support the desired minimum level of service. As a result, fiscal stability is one of the most critical issue facing local fire related organizations.

SB 1207 (Romero – approved by the legislature in 2001 and codified as California Labor Code Section 6303), which took effect on January 1, 2004, revised the Labor Code to define volunteer firefighters as “employees” for the purposes of the California Occupational Safety and Health Act. This law establishes new requirements for volunteer fire departments including:

- A requirement for an Injury and Illness Prevention Plan
- Occupational Safety & Health Administration (OSHA) compliant personal protective equipment (PPE including an annual pulmonary examination and “fit testing”) for all personnel
- Staffing requirements to achieve “two-in/two-out” policies (burning buildings can only be entered by a minimum of two firefighters and at least two firefighters must be available outside and ready to perform a rescue if required)
- Requirements for hazardous materials and confined space rescue training
- Department blood borne pathogen programs
- Hazard labeling; and
- Personal liability for managers and supervisors in the event of serious Labor Code violations

Although some of the County's fire departments may be substantially in compliance with these regulations already, most local fire departments will need to significantly increase training, purchase new equipment, and devote additional time to department administration in order to comply with this law. As described in the previous paragraph, local department budgets are already stretched beyond their limit. Compliance with SB 1207 requirements profoundly affects the fiscal stability of local departments.

Establishing new funding sources to meet the ever-increasing demands on local fire organizations is a difficult undertaking. There is not an easy "one size fits all" solution that can be applied to each fire department for meeting funding shortfalls. Tax revenue is limited by state law and requires voter approval. Grant funds are highly competitive, require considerable time and administrative capacity, and their use is limited. Fund raising is competitive, time consuming, and is limited by the incomes of residents and businesses that receive services from the particular fire department.

The following is a discussion of existing ongoing and one-time funding sources for fire protection in Humboldt County, as well as a partial listing of alternative funding sources. For the purposes of this analysis, on-going funding sources are considered recurring revenues that residents/agencies are obligated to pay such as property taxes, assessments, other government aid, and fees. One-time funding sources are grants, donations, and the like. Portions of this section were excerpted from *Funding Alternatives for Fire and Emergency Services* (FEMA U.S. Fire Administration) and the *Planner's Guide to Financing Public Improvements* (Governor's Office of Planning and Research).

### **5.3.1.2. Funding By Organization Type**

For the purposes of this Fire Plan, local fire organizations are divided into two types: Local Agency Fire Departments (city departments and special districts) and Non-Agency Fire Departments (volunteer fire companies not supported by a city or special district.) Humboldt County and its non-fire related district role in local fire protection funding is discussed separately. For each department type, the most common sources of funding will be described as well as some of the additional funding sources that are authorized by the State Legislature, but may not be currently in use. This analysis may not describe all funding types available to all local agency types or all funding sources utilized by all departments.

#### **Humboldt County**

Humboldt County plays various roles in local fire protection. The County Board of Supervisors serves as the ex officio Board of Commissions/Directors of four fire related districts. However, neither County staff nor County funds are used in the administration of those districts.

The County does use some General Fund money for fire protection related activities. CAL FIRE receives approximately \$13,000/year through the Amador contract with the County for dispatch services, as well as approximately \$60,000/year for CSA-4 related contract services. Funding for CSA-4 is derived from a property assessment and the funding for dispatch services is derived from the County General fund. Competition among County programs for General Fund revenue is very tight. Given recent statewide reductions in funding to counties without commensurate reductions in program responsibilities, the likelihood that County General Revenue expenditures for fire protection will increase in the near future is very low.

## Non-Agency Fire Departments

Non-agency fire departments are volunteer fire companies established by local communities to protect themselves. In Humboldt County there are three general types of volunteer fire companies: volunteer fire companies protecting Tribal communities that receive at least some portion of their regular ongoing funding from the Tribal government; volunteer fire companies associated with a timber company that protect a mill and other timber company property and receive at least some portion of their ongoing funding from the timber company, and the remaining volunteer fire companies that rely almost exclusively on their own fund raising efforts.

With few exceptions, non-agency fire departments have no certainty as to their funding levels from one year to the next. Fund raising is the primary source of revenue for volunteer fire companies. Additional sources of funding for non-agency volunteer fire departments include event promotion (for example, the Honeydew Volunteer Fire Department organizes the "Roll on the Mattole" each year – a music event in the Honeydew area), wages and equipment rental derived from State and Federal wildfire related work, raffles, and bake sales. Volunteer fire companies are eligible to apply for many fire related grants; however, most grants will not fund recurring expenses such workers compensation, liability insurance, and utilities. Grant funding sources will be discussed generally at the end of this Section.

Many local departments have had regular success as result of their fund raising efforts. Some volunteer fire companies generate more revenue from fund raising than fire related districts do from taxes. Fund raising does provide an opportunity for local departments to meet the community they protect. However, a significant investment of time and energy is required by the volunteer company in order to raise funds. Time and energy are scarce resources for any community volunteer, but especially for volunteer firefighters. Volunteer firefighters, whether associated with a local agency or not, are often expected to perform at the same level as career firefighters who train 20 to 40 hours per month. The time spent fundraising for volunteer firefighters could be better devoted to training or department administration.

Although fund raising is the primary source of revenue, it is not the sole domain of volunteer fire companies. Local agency fire departments also perform a good deal of fund raising to supplement their revenue. Fund raising will always be an important component of non-agency and local agency volunteer fire department revenue and community relations. However, it is clear that fund raising efforts can detract from the time and energy required to be a volunteer firefighter. Table 5-1 lists the primary funding sources available to non-agency fire departments.

**Table 5-2. Non-Agency Fire Department Funding Sources**

Funding Source	Notes
Federal, State, Local, Foundation Grants	Generally available only for one-time purchases only, not for ongoing expenses such as insurance
Informal Subscriptions/Dues	Program that seeks participant/household fees rather than large service charges if services are provided
Fundraising Solicitations	Door to door or letter writing fund raising campaigns directed towards residents within the service area
Interest / Rent	Revenue from volunteer fire company assets such as investments, real property, or equipment
Wildfire Wages	Payments from responsible Federal and State fire agencies for assisting in wildfire suppression
Events / Promotions	Events and promotions such as raffles, pancake breakfasts, bake sales, and shows

## Local Agency Fire Departments

Providing fire protection is not a requirement for counties and not a clear requirement for cities. Counties have no requirement to provide fire protection or dedicate any portion of their revenues to this service. Pursuant to Government Code §'s 38600 and 38601, the legislative body of a city may provide fire engines and all other necessary or proper apparatus for the prevention and extinguishment of fires. However, § 38611 states that cities *shall* establish a fire department, and that the fire department shall be under the charge of a chief who shall have had previous training and experience as a firefighter. But, § 38611 further states that no general law city shall be required to appoint or elect a fire chief or establish a fire department if such city is included within the boundaries of an established fire protection district.

As a result, a range of special districts have been formed to provide fire protection services, including: Fire Protection Districts; Community Services Districts; a County Service Area; and a Resort Improvement District. State law defines the sources of revenue available to each of these local agencies as well as the method of establishing appropriations (or spending) limits. Taxes are a significant source of ongoing revenue for local agency fire departments. Even though its budgetary significance has steadily declined since the passage of Proposition 13, property tax remains one of the primary revenue sources for most local fire related special districts. In addition to the one percent property tax that all property owners are familiar with, some local agency fire departments with actively harvested timber resources within their district boundaries also receive Timber Yield Tax, which is a property tax on the value of timber that has been harvested. Other significant taxes and fees that are collected as part of the property tax bill include special taxes and special assessments approved by voters of the district for fire protection. Special taxes and assessments will be discussed in greater detail in the following Section.

The California State Controller's Office publishes an annual report or fiscal transaction for special districts (most recent edition - *Special District Annual Report, 1999-2000, State Controller*) that lists the revenue and expenditures of each special district. Table A-3 contains revenue and expenditures by Humboldt County fire related district for fiscal year 1999-2000 (the most recently published report.). Table 5-3 lists taxes the primary funding sources available to local agencies providing fire protection services. The following paragraphs describe these and other funding sources in greater detail.

**Table 5-3. Local Agency Fire Department Funding Sources**

<b>Funding Source</b>	<b>Notes</b>
Property Tax	The portion of the 1% base property tax available to districts formed prior to 1978
Assessments / Special Taxes	Subject to rigorous approval process, including voter approval
Timber Tax	Property tax based on the value of timber harvested within the district
Federal, State, Local, Foundation Grants	Generally available for one-time purchases only, not for ongoing expenses such as insurance
Homeowners Property Tax Relief	Home Owner Property Tax Relief revenues are received from the State as reimbursement for property tax revenues lost due to the \$7,000 Home Owners Exemption.
Interest / Rent	Revenue from district assets such as investments, real property, or equipment
Funding Raising	See Non-Agency Fire Department Funding Sources above
Education Revenue Augmentation Fund (ERAF)	Back-fill payments in an effort to hold fire districts harmless from the effects of ERAF shifts

### **5.3.2. Current Deficiencies**

The conditions of local fire organizations vary widely. Some have dependable revenue sources, paid staff, and up to date equipment that allow them to provide adequate services within their districts. Others are all volunteer organizations, with equipment in fair to poor working order and no source of dependable revenue, other than the goodwill of the communities they serve.

Unlike water and wastewater services, also discussed in this technical report, there is not a set of clear overall standards to apply to fire protection capabilities. Fire protection personnel are expected to be trained, and equipment is expected to meet current Occupational Health and Safety (OSHA) standards and be in good working order.

The County, in its work with the Fire Safe Council, has recognized this as a critical issue and is working on the development of level-of-service standards that, once accepted by the Humboldt County Fire Chiefs' Association, can be applied to local organizations. This is important for the following reasons:

- It will improve the ability of local fire personnel and government officials to inform landowners and residents of the level of fire protection that is available to them;
- It will support fire departments grant requests to local, state, and federal funding sources for purchase of apparatus, equipment, and training to meet standards; and

- Local government can effectively plan for municipal service delivery and population growth.
- Determine individual Fire Department administrative capacity and insurance needs.

It may be a challenge for smaller departments to bring their level of service up to standard but if the standard is utilized appropriately it can be seen as a tool to measure progress toward improved service provision and for communicating the need for grant funds. The first step in the process of developing level-of-service standards is to identify the current levels-of-service within Humboldt county communities. To that end, a level-of-service identification tool could be developed using a combination of the following criteria:

- ISO rating
- Response times (for each of the following service types: residential, commercial and/or vegetation fires, Rescue, Rescue/Extraction, Confined Space, EMS, Hazardous materials (HAZMAT));
- Training;
- Staffing;
- Wildland fire responsibility (Local Responsibility Area or State Responsibility Area)
- Water availability; and
- Fire hazard severity rating.

Minimum service standards for rural, suburban and urban areas could be developed after or concurrent with the process of determining the existing level-of-service. Such standards can provide local fire departments providing insufficient levels of service something to shoot for and facilitate the process of determining the resources required to meet the applicable standards.

In discussions with local fire personnel, administrative capacity has also been identified as a need facing local fire organizations, especially those that are all volunteer. Operating a local fire organization entails record keeping for: calls and activities, equipment maintenance and staffing schedules, accounting records and other fiscal matters. Local organizations are also dependent on grants and other funding sources which require detailed applications, documentation of matching funds, and tracking and reporting of expenditures from the grant. Equipment and services procurement are also important administrative tasks.

Response times are largely dependent on two factors, the ability of appropriate fire personnel to reach the equipment at the fire station and the time it takes appropriate fire personnel and equipment to reach the scene of the incident. Fire station locations are a critical factor, but given response requirements (# of staff per apparatus, and # of staff to enter a building) the ability to get the appropriate number of personnel to the scene can be just as important. One trend that has been occurring is that more volunteers are working in areas other than the ones they serve. This means they are not available to respond to calls during working hours. This trend has been identified as a significant issue with both the Blue Lake and Arcata Fire Chiefs, and is probably an issue with other districts as well.

Training in fire suppression and emergency response are offered locally through individual departments and through group training events provided by the Humboldt County Fire Chiefs Association and the Humboldt County Office of Education Regional Occupation Program. Since many emergency calls are medical, the availability of emergency medical technicians (EMT) at all local organizations is an important capability.

Using the basic criteria described above, the following are condition summaries for the local organizations. Only the district's that are projected to serve USAs are included:

### **Arcata FPD**

The Arcata FPD has three fire stations and paid staff. Its district covers the Arcata, McKinleyville and Manila USAs, and the westernmost portion of the Fieldbrook USA. The District has seen a steady increase in activities receiving seven times more calls per year in 2003 than it did in 1983. The District had an assessment increase approved in 2006 by district voters which has allowed it to increase staff and replace equipment. The district was also successful in receiving Fire Act Grant Funds (Federal Emergency Management Act) for new equipment. The District has a parcel in Arcata where they intend to build a new fire station and regional training facility. No date has been set for construction of these facilities, and they are considering other locations in the City of Arcata for their future facility.

The FPD is currently reconsidering mutual aid agreements, especially the one with the Samoa Peninsula Fire Protection District. Mutual aid is based on shared response to emergency services calls. While Arcata has been successful in securing a sustainable funding source for fire and emergency services, SPFPD has seen a significant decline in their funding. Because this funding reduction, and not having paid staff or an adequate number of volunteers, SPFPD is not able to provide a reciprocal response to mutual aid calls with the Arcata FPD.

### **Blue Lake FPD**

The Blue Lake Fire Protection District has recently been able to add paid staff, due in part to the support of the Blue Lake Rancheria. This staff has allowed the district to increase their administrative capacity. The district maintains a group of trained volunteers and equipment that is able to respond to most incidents in the district. This district serves the Blue Lake USA/WSA, Glendale USA/WSA and the southern portion of the Fieldbrook WSA.

### **County Service Area No. 4**

The area served by CSA 4 is not expected to experience significant growth during the planning period. This CSA will continue to rely on assessments for operating revenues, and is expected to maintain the relationship with CAL FIRE to provide services.

### **Eureka City Fire Department**

Eureka FD provides protection to the College of the Redwoods (CR) through a contract. However, both Eureka FD and Humboldt No. 1 provide services to CR depending upon availability. CR is not within the District boundary of any of the fire districts in the County. The two districts work closely together in responding to calls for service. There have been some discussions of a merger, but no action is being currently considered. The FPD has also noted that the paid staff and City department status has impacted their ability to recruit and retain volunteers.

### **Fieldbrook Community Services District**

This CSD is expected to maintain current fire protection services for the Fieldbrook area. They would continue to provide mutual aid response to the Glendale area.

### **Fortuna FPD**

Fortuna is the largest all volunteer fire district in Humboldt County. They have built a reasonably new headquarters fire station in the city of Fortuna and operate two other stations as well as

maintain an adequate volunteer staff and equipment. The City General Plan update projects growth to a population of 16,500 persons by the year 2030. There are also several annexations being considered by the City, but they are all in the current FPD boundary. There is also the potential for significant retail development in the City. These growth factors would require additional response capabilities from the FPD.

### **Humboldt Fire District No. 1**

This district has multiple locations and paid staff. Its service area includes portions of Cutten and Humboldt Hill which could experience growth. The district is currently assessing potential impacts from a large-scale mixed-use project currently on file with the County.

### **Loleta FPD**

According to the County GIS database, there is a gap in fire protection district boundaries in and around the Humboldt CSD Urban Study Area, which includes College of the Redwoods. This area is located just south of the Humboldt #1 Fire PPD and north of the Loleta FPD boundary. To provide service to this area, it is suggested that either the Humboldt #1 FPD boundary is extended south or the Loleta FPD Boundary is extended north.

### **Orick CSD**

This district currently provides services from a single station located in the community of Orick. Growth in this area is contingent upon a community wastewater system. It is expected that this system would be managed by the CSD.

### **Rio Dell FPD**

This all volunteer District currently provides services from a single station located in the city of Rio Dell. The district is currently in the process of assessing conditions in connection with a request to annex the town of Scotia.

### **Samoa Peninsula FPD**

The district has seen a significant reduction in revenues, associated with the decline in industrial uses on the Samoa Peninsula. This has affected their ability to recruit volunteers, maintain training levels and respond to incidents within their district. One of the largest remaining industrial users in the district, Evergreen Pulp, has started a fire brigade to handle incidents at the pulp mill. The Samoa Town Master Plan would add growth to this district. One of the conditions the County is considering placing on the Town Master Plan is a standard of response coverage study requirement, to determine appropriate staffing and equipment needs. Given these circumstances, this district has one of the greatest needs for improvement.

### **Willow Creek FPD**

This all volunteer fire district will be responding to increased demands for fire services due to projected growth from the Willow Creek USA. Improvements in administrative capacity staffing and equipment will be needed to meet demands from future populations and uses.

As stated above, a deficiency experienced by many local organizations is in administrative capacity. In addition to training and response commitments, local agencies also have to devote time and effort to administrative duties. Other deficiencies experienced by local organizations include lack of training and lack of adequate equipment in good working order. These deficiencies prevent local organizations from providing adequate fire protection services.

### **5.3.3. Summary of Deficiencies**

The following is a summary of local fire agencies deficiencies and needs.

#### **Lack of Revenues**

Lack of funding for local fire organizations is a critical deficiency. Personnel related costs such as workman's compensation, even in all volunteer departments, have increased many times faster than the growth of revenue. Proposition 13 and subsequent changes to the State Constitution have made it extremely challenging for local agencies to increase taxes for fire protection, and fund raising by all-volunteer departments is difficult and time-consuming. To maintain capable fire protection, it is important to establish adequate and reliable revenue sources for local fire organization as well as innovative cost-sharing programs to increase the efficiency of service provision.

#### **Regional Training Facility**

Another deficiency is the lack of regional training facilities. The development, management and staffing of fire and emergency services training facilities, accessible to local organizations, are critical to the delivery of fire protection services in the County. Ninety percent of firefighters in Humboldt County, many of whom live in outlying areas, are volunteers. They may require multiple training facilities to support countywide training programs. Regional fire training facilities are also essential to local firefighters in meeting an established level-of-service standard. Several local education organizations, such as the Humboldt County Office of Education (HCOE), College of the Redwoods (CR), and Humboldt State University (HSU), may have programs or resources to address this deficiency. To accomplish this task, the County Fire Safe Council is looking into ways to coordinate with local education organizations and survey local organizations to determine the level of department interest in a regional training facility, and resources available for this propose (funding, land, equipment, staff). This type of facility could be available to other agencies (police, Sheriff, ambulance, etc.)

#### **Fire Safety Education**

Fire safety education programs can reduce fire risk and minimize loss due to fire. When the public understands fire safe strategies and the associated costs of not utilizing them, the likely result will be less fire related damage in the community.

To address this deficiency, a County wide fire safety education programs would be needed. It would be coordinated and implemented by local fire organizations, but would involve the cooperation of construction and real estate professionals, and home building supply retailers.

These entities could assist local government and fire departments in distributing information regarding fire safe standards. Contractors and real estate agents could be instrumental in the education effort by disclosing information regarding high fire risk areas.

Steps toward correcting this deficiency include: establishing partnerships with construction, real estate, and retail interests; compiling materials regarding local fire safe standards and home fire safety techniques (construction materials, defensible space, rural water supply, road maintenance and signing, etc); disclosing hazard zones and evacuation strategies; and establishing local real estate disclosure requirements for high fire hazard areas.

### **5.3.4. Underserved Areas**

In Table 5 4, Study Area Recommendations, below, areas that have inadequate fire protection services or coverage are identified. The table also addresses fire protection coverage and

funding issues. Recommendations are included to assist the County in pursuing options that would result in appropriate funding and coverage.

**Table 5-4. Study Area Recommendations**

USA	Responsible Local Agency	Acres Outside District	Comments, Issues and Recommendations
Alderpoint WSA	None	370	<p>CAL FIRE -Alderpoint provides seasonal fire protection for this area.  <b>Issue:</b> Assisting Alderpoint community in forming VFD (non-agency VFD) with assistance from So. Humboldt Fire Chiefs Assoc.  <b>Recommendation:</b> Encourage the formation of a fire protection district or community services district in Alderpoint, or a countywide county service area formed, with appropriate funding and support the organization of the Alderpoint VFD</p>
Benbow WSA	None	415	<p>CAL FIRE -Garberville and Garberville FPD may respond to calls depending upon availability.  <b>Issue:</b> Adequate and timely incident response, Service outside district boundaries.  <b>Recommendation:</b> Encourage the annexation of Benbow to Garberville FPD with appropriate funding.</p>
Briceland WSA	None	80	<p>Briceland VFD (non-agency VFD) provides fire protection in Briceland without ongoing funding support.  <b>Issue:</b> Ongoing funding support.  <b>Recommendation:</b> Encourage the formation of a new district or expansion of a neighboring district, or a countywide county service area formed, to support Briceland VFD</p>
Freshwater WSA	Humboldt FPD #1	130	<p>PALCO Lumber Camp Road area outside Humboldt FPD#1 district boundaries.  <b>Issue:</b> Service outside district boundaries  <b>Recommendation:</b> Annex developed and unserved areas to Humboldt FPD#1</p>
Garberville USA	Garberville FPD	100	<p>Developed and developable areas within the Garberville USA are outside the GFPD.  <b>Issue:</b> Service outside district boundaries limit development potential.  <b>Recommendation:</b> See Garberville WSA recommendation</p>

USA	Responsible Local Agency	Acres Outside District	Comments, Issues and Recommendations
Garberville WSA	Garberville FPD	1,515	<p>Considerable land along Sprowel Creek and Camp Kimtu Roads are developed and unserved by fire protection. Lands between Garberville and Alderpoint are also unserved.</p> <p><b>Issue:</b> Service outside district boundaries.</p> <p><b>Recommendation:</b> Encourage the annexation of developed and planned development areas surrounding Garberville to GFDP</p>
Humboldt Hill USA	Humboldt FPD #1 Loleta FPD	725	<p>College of the Redwoods area is outside of Humboldt FPD#1 and LFPD boundaries, but is served via contact with Humboldt FPD#1.</p> <p><b>Issue:</b> Service outside district boundaries: a gap in fire protection service including College of the Redwoods and the surrounding agricultural areas exists in the southern part of the Humboldt Hill USA.</p> <p><b>Recommendation:</b> Encourage the annexation CR and surrounding unserved lands to Humboldt FPD#1</p>
South Eureka USA	Humboldt FPD #1	760	<p>Mid and south McKay Tracts and south Ridgewood area are outside of the Humboldt FPD #1 service area boundary.</p> <p><b>Issue:</b> Service outside district boundaries.</p> <p><b>Recommendation:</b> Encourage the annexation of unserved areas to Humboldt FPD#1 as condition of development approval</p>
South Eureka WSA	Humboldt FPD #1	180	<p>Elk River area is located outside of the Humboldt FPD #1 boundary.</p> <p><b>Issue:</b> Elk River area outside district boundaries.</p> <p><b>Recommendation:</b> Encourage the annexation of Elk River area to Humboldt FPD#1</p>
Orick WSA	Orick CSD	280	<p>Simpson-Orick Mill and Redwood Parks Lodge site outside OCSD district boundary.</p> <p><b>Issue:</b> Service outside district boundaries.</p> <p><b>Recommendation:</b> Encourage the annexation of developed and unserved areas north of Orick to OCSD</p>
Orleans WSA	Orleans CSD	30	<p>Karuk Tribal Lands are outside of south edge of the Orleans CSD boundary.</p> <p><b>Issue:</b> Service outside district boundaries.</p> <p><b>Recommendation:</b> Encourage the annexation of unserved areas to OCSD or enter into contract for service as development occurs</p>

USA	Responsible Local Agency	Acres Outside District	Comments, Issues and Recommendations
Redcrest WSA	None	280	Redcrest, Holmes, Stafford, and Shively are located outside fire related district boundaries. <b>Issue:</b> Service outside district boundaries. <b>Recommendation:</b> Encourage the formation of a new district or expansion of a neighboring district, or a countywide county service area formed, to support Redcrest VFD (currently a non-agency VFD) and to provide service to unserved developed areas
Redway USA	Redway FPD	610	Areas proposed for development between Redway and U.S. 101 are located outside the RFPD. <b>Issue:</b> Service outside district boundaries. <b>Recommendation:</b> Encourage the annexation of unserved areas to RFPD as condition of development approval
Scotia USA	None	464	PALCO-Scotia VFD provides service to Scotia, <b>Issue:</b> Service outside district boundaries, and need for stable funding sources. <b>Recommendation:</b> Encourage the formation of a new district or expansion of a neighboring district, or a countywide county service area formed, to support Scotia VFD and to provide service to unserved developed areas
Shelter Cove USA	RID #1	0	<b>Issue:</b> No service gaps have been identified in Shelter Cove <b>Recommendation:</b> Consider services capabilities with next Municipal Services Review
Samoa USA	Samoa Peninsula FPD	0	Samoa has one of the largest pending planned developments proposed in the County, and it is the only area on Humboldt Bay that does not employ paid firefighters. <b>Issue:</b> Capacity, response, mutual aid. <b>Recommendation:</b> Prepare a Standards of Response Coverage Study and implement study recommendations (mitigation in the Samoa Town Master Plan Draft MEIR)
Willow Creek WSA	Willow Creek FPD	60	The extreme north and south extent of the WCWSA is outside WCFPD district boundary. <b>Issue:</b> Service outside district boundaries. <b>Recommendation:</b> Encourage the annexation of developed and unserved areas to WCFPD
Weott USA	Weott CSD	40	Western extent of USA is outside WCSD district boundary. <b>Issue:</b> Service outside district boundaries. <b>Recommendation:</b> Encourage the annexation of developed and unserved areas to WCSD

USA	Responsible Local Agency	Acres Outside District	Comments, Issues and Recommendations
Westhaven WSA	CSA #4	0	<p>Westhaven WSA is inside the district boundaries of CSA#4, and is served by the Westhaven Volunteer Fire Department, which completely depends on fundraisers for their revenues.</p> <p><b>Issue:</b> Capacity, response, mutual aid.</p> <p><b>Recommendation:</b> Encourage the formation of a zone of benefit within County Service Area 4 to support Westhaven VFD</p>

The above table summarized areas within urban study areas that are outside fire related district boundaries. Whether or not an area is within is a strong indicator that an area is underserved. It should be noted that there are many developed areas outside of urban study areas that are also outside fire related district boundaries. These areas should also be included within the boundaries of fire related districts. When updating the boundaries of the fire districts it would be beneficial to undertake a comprehensive analysis to ensure that all areas of the County are adequately served.

Although urban study areas may be completely within the boundaries of a fire related district and not listed in the table above, they may still be underserved. For instance, the Samoa Peninsula Fire Protection District is the only fire district within the Humboldt Bay Area that does not have career firefighters on duty 24 hours a day. Ten to twenty years ago most mills on the Samoa peninsula were operating and the fire department (at this time this area was served by the Fairhaven Fire Protection District and a company funded Samoa Volunteer Fire Department) had the funding to support paid personnel and many times the current number of volunteers. The mill closures and associated decreases in property value have reduced the fire protection district's budget by a factor of ten and the pool of potential volunteers. As a result, the level of service available to residents of the Samoa USA is significantly different than that available to residents of the rest of the Humboldt Bay Area.

The Samoa Peninsula Fire Protection District is not alone in its effort to provide services with limited revenue and a declining number of active volunteers. Although most volunteer fire departments strive to have between 20 and 30 firefighters, many fall short. A volunteer fire department with between five and ten volunteers may be adequate if they all live and work in town and each has received a high level of training. However, a significant percentage of volunteers firefighters work outside the community and the levels of training vary. As a result, many urban study areas may be underserved due to lack of available volunteers; lack of properly trained volunteers needed for the incident; or even lack proper equipment.

## 5.4. Proposed Improvements

### 5.4.1. Service and Facility Upgrades

One technique for upgrading fire services and facilities would be the formation of a County Service Area (CSA) covering the entire County to fund fire protection services in areas of the county that are experiencing growth and to provide assistance to where needed to existing districts. Humboldt County has already used a CSA to fund fire protection. CSA 4 provides fire protection to communities between Crannell and Freshwater Lagoon, excluding Trinidad.

Subject to approval of the Humboldt Local Agency Formation Commission (LAFCo) and the voters, a new CSA could be created or CSA 4 expanded to fund expanded fire protection, emergency dispatch services, prevention, and training in other areas of the County. The CSA could “over-lay” existing fire related districts to extend new services (e.g., dispatch or training) or potentially augment existing services. Formation of the CSA must be accompanied by a special tax, assessment, or fee structure to fund the services to be provided.

Another service that should be considered by the County is establishing and funding a full time fire services coordinator. This position could be instrumental in assisting local organizations with building their administrative capacity, pooling resources for group equipment, identifying and pursuing grant funding opportunities, volunteer recruitment and retention, and coordinating training and education programs.

The County provides a valuable service in assisting some organizations with workers compensation insurance. The County can often procure this insurance at less cost than what the individual organizations would pay. This service should be extended.

#### **5.4.2. Future Expansion**

The service areas and districts of the local organizations cover most of the USAs identified for the County General Plan Update. Table 5 4, Study Area Recommendations, above identifies the areas into which existing districts should be expanded or new districts formed. It should be an objective of the County and LAFCo for there to be a local agency with a secure long term funding source responsible for providing fire protection to all developed areas within the County. To the extent that districts are not expanded, pursuant to Government Code Section 56133, LAFCo should be consulted regarding the provision of services outside district boundaries.

While not all districts and service areas may need to be expanded, the provision of services within those areas will need to be upgraded to meet future demand. The Community Infrastructure and Services Element will contain policies and programs to carry out these needed upgrades.

**District Expansion.** LAFCo has the authority to consolidate districts and make determinations on service delivery. If two agencies provide a similar service, LAFCO has the authority to determine who should provide that service.

Pursuant to the Cortese Knox Hertzberg Act of 2000, prior to the adoption by the local agency formation commission of a resolution making determinations, the district may request and the commission shall impose, as a term and condition, a requirement that the legislative body of the city shall enter into a contract with the district. The contract shall require:

- (1) That the affected territory shall remain part of the district for a period of at least 10 years.
- (2) That the city shall pay the cost of services provided by the district. This payment shall be in amounts and on terms specified in the contract.
- (3) Any other conditions to which the city and the district mutually agree.

**Service Extension Outside District Boundaries.** Pursuant to the Cortese Knox Hertzberg Act Section 56133, a city or district may provide new or extended services by contract or agreement outside its jurisdictional boundaries only if it first requests and receives written approval from the Local Agency Formation Commission in the affected county. The commission may authorize a city or district to provide new or extended services outside its jurisdictional boundaries but within its sphere of influence in anticipation of a later change of organization. See Section 1.5 for additional information regarding LAFCo and district boundaries

### 5.4.3. Cost and Schedule of Improvements

When addressing the infrastructure and service costs associated with future growth, it is important to understand both the initial costs to local organizations to increase service capacity, and the ongoing costs to maintain the service. Upfront costs are most appropriately addressed with impact fees. In many other areas of California, a onetime impact fee is imposed upon new construction. Currently there are few impact fees in Humboldt County and no fire impact fees. These fees, where collected, are used to purchase equipment and construct facilities in order to provide service to new development. As part of the schedule of improvements for County growth, passage of a fire impact fee ordinance should be considered by the County. It would then be up to the individual organizations to set the fee, based on a nexus study that correlates their individual facility and equipment needs to the service demands of new development.

#### **Mechanism for assessing impacts and imposing appropriate fees.**

New fee assessments, or special taxes could be used to extend the existing level of fire protection services or improve the level of service. Prior to approving any development projects or implementing any public facilities projects that could result in additional demand for fire protection services, the County of Humboldt (County) could enter into a Memorandum of Agreement (Agreement) that assures the provision of adequate fire protection services within the project area, including both capital and service needs. The specific potential mitigations that could be implemented through the Agreement include the following programs:

- (1) Construction or financing of necessary publicly owned facilities and improvements by the redevelopment agency;
- (2) Implementation of a capital facilities development impact fee covering the entire project area;
- (3) The creation of a Mello-Roos Community Facilities District that will impose special taxes to be used specifically for fire protection and suppression services; and
- (4) The creation and imposition of other fees, assessments, special taxes, dedications or payments necessary to provide adequate fire protection services.

The agreement could contain a commitment on the part of the Agency and the County to mitigate any potentially significant impacts resulting from an increased demand for fire protection services and it will ensure that any program chosen to mitigate the impacts will be in place before final project approval.

**Special Assessments.** Most fire districts and community services districts receive special assessments as a part of their budget. These assessments are levied on property owners, and collected by the County assessor. Local organizations that currently rely on fundraising should consider becoming a government agency through formation of a district, and proposing a special assessment to voters in their respective areas.

**Proposition 172 Public Safety Sales Tax Revenues.** Sharing of state tax revenues is also an important source of operating funds for local organizations. In 1993, the voters of California passed Proposition 172, the Local Public Safety Protection and Improvement Act of 1993 (Art. XIII, Sec 35, California Constitution), which added an additional ½ cent to the Sales and Use tax to fund public safety (including fire protection). This tax was placed on the ballot by the Governor and the Legislature in an attempt to reduce the impact of the shift of property tax funds from local government to schools that resulted from the implementation of the Education Revenue Augmentation Fund (ERAF).

Proposition 172 also created the Public Safety Augmentation Fund. Subsequent laws approved by the Legislature that implemented Proposition 172 (Gov. Code Sec. 30051-30056) did not

specifically mention Special Districts as entities eligible to receive allocations from the Public Safety Augmentation Fund, even though Special Districts were affected by the ERAF shifts. As a result, special districts providing fire protection in Humboldt County did not receive Proposition 172 funds until recently.

In 2005, the Humboldt County Fire Chief's Association negotiated a multi-year agreement to include local fire related districts in the allocation of Proposition 172 funds. This three-year agreement reallocates a small portion of Proposition 172 funds to fire related districts.

An agenda item, an agreement between the County of Humboldt and Orick Community Services for Fiscal 2006-07 went before the Board of Supervisors and described the distribution of funds. Under the agreement, the County would:

- appropriate 1.4 percent of the Proposition 172 revenues to recognized fire protection districts;
- Accept the Humboldt County Fire Chiefs Association's distribution formula;
- Monitor and audit expenditures made with distributed funds;

The agreement also includes provisions that the Orick CSD shall cooperate and supply documentation to the County, utilize funds only for fire protection services, and comply with all other applicable policies.

## 5.5. Issues to be Addressed in the General Plan Update

Future levels of service will be drawn from efforts by the County Fire Safe Council to determine feasible levels that can be achieved and maintained by local fire service providers.

### **ISSUES TO BE ADDRESSED IN THE COMMUNITY INFRASTRUCTURE AND SERVICES ELEMENT**

The technical report presents a basis for describing and assessing fire services being provided in Humboldt County. As documented in this report, the fire services need to be upgraded just to respond to the current levels of calls for service and districts should be expanded or created, or a countywide county service area created, to cover current development and future developed areas. The service providers will need additional resources and revenues to respond to the volume of calls that could occur from the future population projected in the County General Plan, through the year 2030.

The Community Infrastructure and Services Element will include goals, policies and programs for the following issues;

**Fire protection levels of service.** The policy document will recommend policies and programs to define and maintain service levels for Administrative capacity; Response times; Staffing; Equipment; and Training.

**Distinction between urban and wildland fire standards.** Wildland fire typically does not involve structure fire and requires different response and techniques than urban fires, which typically involve structures. The policy document will differentiate between these fire types, and what should be done to minimize their risk and maximize response capabilities.

**Revenue sources.** The report documents current gaps and deficiencies in existing fire capabilities. Additional services needs are projected for the future. The Community Infrastructure and Services Element will propose revenue sources including impact fees, development

standards, special taxes, and assessments to cover the range of services required of local agencies.

**Mutual aid and consolidation of services.** The policy document will promote the consolidation of services, where such actions would clearly result in greater efficiency and capacity. There will also be policy for considering mutual aid agreements that pools resources and maximizes use of capital facilities.

**Fire Safety Education.** Fire safety education programs can reduce fire risk and minimize loss due to fire. Policies will be developed to promote a public understanding of fire safe strategies and the associated costs of not utilizing them.

**County Fire Warden.** One of the greatest needs identified by fire service providers is the need for administrative capacity. Currently, the CAL FIRE Humboldt/Del Norte Unit Chief serves as the Humboldt County Fire Warden to assist local agencies. The Board of Supervisors created the position of Humboldt County Fire Warden in 2001. The Fire Warden reports to the Board of Supervisors on fire related issues and may also pursue fire related grant opportunities on behalf of the County. An additional responsibility of the CAL FIRE Unit Chief is to serve as the Office of Emergency Services (OES) operational area coordinator for fire and rescue services. In this capacity, the CAL FIRE Unit Chief coordinates the mutual aid system throughout the County.

Duties of the County Fire Warden can include administrative capacity, bookkeeping, grant writing and reporting. It can also be applied to assessing and responding to future needs. The Element will provide policy about the county's role in supporting the Fire Warden as a countywide independent fire services coordinator.

**Fire Prevention.** Smaller fire related districts in the County do not have the resources to adequately review building permit applications. A part-time fire marshal position could be established through the County Fire Warden and the Fire Prevention Officers of the County Fire Chief's Association and funded with additional building permit fees. The fire marshal could be a position that is filled on a rotating basis by existing fire marshals. The Element will provide policy about supporting the creation of a fire marshal within the Fire Warden's office.