

4 NATURAL RESOURCES

4.1 INTRODUCTION

This chapter provides information regarding natural resources located within the City of Citrus Heights, based on review of existing documentation from the City of Citrus Heights, Sacramento County and other surrounding communities, as well as consultations with City and Sacramento County staff and field surveys.

4.2 WATER RESOURCES AND WATER QUALITY

Water resources are an important segment of the natural resources found within Citrus Heights. The quality of water found in the City not only affects Citrus Heights but also users downstream, including the American River, the Sacramento River, the Delta and ultimately the Pacific Ocean. The federal, state, and local governments all have regulations to protect our water resources and water quality.

REGULATORY SETTING

FEDERAL

U.S. Bureau of Reclamation

The U.S. Bureau of Reclamation is responsible for development and conservation of most water resources in the western United States. The original purpose of the Bureau has changed from the reclamation of arid and semiarid lands in the west, to current agency functions ranging from providing water supplies through the Central Valley Project (CVP); generating hydroelectric power; providing irrigation water for agriculture; improving water quality, flood control, and river navigation; providing river regulation and control and fish and wildlife enhancement; offering water-based recreation opportunities; and conducting research on a variety of water-related topics.

U.S. Fish and Wildlife Service and National Marine Fisheries Service

The U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS), in cooperation with other federal and state agencies, enforce the federal Endangered Species Act (ESA) by evaluating the potential for impacts on candidate, threatened, and endangered fish and wildlife resources.

U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (USACE) is responsible for reviewing the placement of fill or discharge of material into waters of the United States and issuing permits for fill into waters of the United States. Any project that involves in-stream construction, such as dams or other types of diversion structures, triggers the need for

these permits and related environmental reviews by USACE. USACE also is responsible for flood control planning and assisting state and local agencies with the design and funding of local flood control projects.

U.S. Geological Survey

The U.S. Geological Survey (USGS) National Water Use Information Program is responsible for compiling and disseminating the nation's water-use data. USGS works in cooperation with federal, state, and local environmental agencies to collect water-use information at the local level.

Federal Clean Water Act of 1972

The Clean Water Act establishes the basic structure for regulating discharges of pollutants into waters of the United States and setting water quality standards for all contaminants in surface waters. Water quality standards are designed to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. Thus, water quality standards must contain:

- ▶ Designation of beneficial uses of water, and
- ▶ Establishment of water quality criteria to protect those designated uses.

EPA's Office of Water is responsible for implementing the Clean Water Act and Safe Drinking Water Act (described below). The Office provides guidance, specifies scientific methods and data collection requirements, performs oversight, and facilitates communication among the federal, State, and local agencies that manage water quality.

National Pollutant Discharge Elimination System

In 1972, the Clean Water Act was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. In California, the State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards (RWQCBs) are authorized to implement this program. NPDES permits cover industrial and municipal discharges, discharges from storm sewer systems in larger cities, storm water associated with numerous kinds of industrial activity, runoff from construction sites disturbing more than one acre of soil, mining operations, and animal feedlots and agricultural facilities above certain thresholds.

Stormwater discharges from both large and small construction sites are now subject to NPDES requirements. Large construction sites are those that involve one or more acres of soil disturbance. The SWRCB has issued an NPDES General Permit for Discharges of Storm Water Associated with Construction Activity (General Construction Permit) under the Clean Water Act. The permit requires the preparation of a Storm Water Pollution Prevention Plan (SWPPP) for proposed construction activities of greater than one acre in size. A SWPPP is an

operational plan that identifies and describes the Best Management Practices (BMPs) to be implemented at the construction site to control pollution of stormwater runoff. Since 2008, small construction sites (those involving disturbance of less than one acre of soil) have also required an NPDES permit as part of Phase II of EPA's NPDES Storm Water Program. Phase II is intended to further reduce adverse effects on water quality and aquatic habitat by instituting the use of BMPs on previously unregulated sources of stormwater discharges that have the greatest likelihood of causing continued environmental degradation (EPA 2000).

The Phase II requirements also impose new obligations on municipal separate stormwater systems (MS4s). Small MS4s (i.e., those located in an incorporated city or a county of less than 100,000 people) that are located within urbanized areas as defined by the U.S. Census must now be covered by a NPDES permit.

In the City of Citrus Heights, storm water discharge through the City's municipal storm drain system is managed through a joint NPDES Permit with the County of Sacramento and the cities of Sacramento, Folsom, Rancho Cordova, Elk Grove and Galt. The joint NPDES permit regulates all wet and dry weather runoff discharge in the County, including the City of Citrus Heights. The joint permit requires implementation of a storm water management program including the use of BMPs.

Wastewater discharges from wastewater treatment plants (WWTPs) are also required to have an NPDES permit. WWTPs are typically required to obtain individual permits from the RWQCB. The permits include findings, discharge prohibitions, effluent limitations, provisions and self-monitoring requirements. The findings of the NPDES permit process provide information about treatment plant design and operations, beneficial uses to be protected, and applicable standards.

Safe Drinking Water Act of 1974

The Safe Drinking Water Act was originally passed by Congress in 1974 to protect public health by regulating the quality of public drinking water. The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources, which are rivers, lakes, reservoirs, springs, and groundwater wells. The Safe Drinking Water Act authorizes EPA to set national health-based standards for drinking water to protect against pollutants. EPA, states, and local agencies then work together to make sure that these standards are met (EPA 1999).

Section 303(d) of the Clean Water Act

Section 303(d) of the Clean Water Act requires states to develop lists of water bodies (or segments of water bodies) that will not attain water quality standards after implementation of minimum required levels of treatment by point source dischargers (e.g., municipalities and industries). Section 303(d) requires states to develop a total maximum daily load (TMDL) for each of the listed pollutants and water bodies. A TMDL is the amount of

loading that the water body can receive and still meet water quality standards. The TMDL must include an allocation of allowable loadings to point and nonpoint sources, with consideration of background loadings and a margin of safety. NPDES permit limitations for listed pollutants must be consistent with the load allocation prescribed in the TMDL.

The most recently approved (2002) Clean Water Act Section 303(d) list for California identifies various waterways that are water quality impaired for a number of constituents. On July 25, 2003, EPA gave final approval to California's 2002 Section 303(d) List of Water Quality Limited Segments.

Section 404 of the Clean Water Act

Section 404 of the Clean Water Act establishes a requirement to obtain a permit before conducting any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands. This permit is issued by the USACE.

Section 401 Water Quality Certification

Section 401 of the Clean Water Act states that any person applying for a federal permit or license that may result in the discharge of pollutants into waters of the United States must obtain a state certification that the activity complies with all applicable water quality standards, limitations, and restrictions. This certification is administered in California by the SWRCB, via the RWQCBs. No license or permit may be granted by a federal agency until certification required by Section 401 has been granted. Further, no license or permit may be issued if certification has been denied. Section 401 water quality certifications are typically required in order to obtain a Clean Water Act Section 404 permit from USACE.

National Toxics Rule and California Toxics Rule

In 1992, EPA promulgated the National Toxics Rule under the Clean Water Act to establish numeric criteria for priority toxic pollutants for California. The National Toxics Rule established water quality standards for 42 pollutants not covered under California's statewide water quality regulations at that time. As a result of the court-ordered revocation of California's statewide Basin Plans in September 1994, EPA initiated efforts to promulgate additional federal water quality standards for California. In May 2000, EPA issued the California Toxics Rule, which includes all the priority pollutants for which EPA has issued numeric criteria not included in the National Toxics Rule.

STATE

California Department of Water Resources

The California Department of Water Resources (DWR) is responsible for preparation of the California Water Plan, management of the State Water Project (SWP)¹, protection and restoration of the Sacramento–San Joaquin River Delta (Delta), regulation of dams, provision of flood protection, and other functions related to surface water and groundwater resources. These other functions include helping water agencies prepare their Urban Water Management Plans (UWMPs) and reviewing such plans to ensure that they comply with the related Urban Water Management Planning Act.

State Water Resources Control Board

In 1967, the State Water Resources Control Board (SWRCB) was created to administer state water rights and water quality functions. The SWRCB and its nine RWQCBs administer water rights and enforce pollution control standards throughout the state. The SWRCB is responsible for granting of water right permits and licenses through an appropriation process following public hearings and appropriate environmental review by applicants and responsible agencies. In granting water right permits and licenses, the SWRCB must consider all beneficial uses, including water for downstream human and environmental needs. In addition to granting the water right permits needed to operate new water supply projects, the SWRCB also issues water quality–related certifications to developers of water projects under Section 401 of the federal Clean Water Act.

Central Valley Regional Water Quality Control Board

The Central Valley RWQCB is responsible for the preparation and implementation of basin water quality plans consistent with the federal Clean Water Act. Enforcement of these plans ensures that local water quality is protected. RWQCBs may become involved in water supply programs as a responsible agency with respect to project effects on downstream beneficial uses. Citrus Heights is within the jurisdiction of the Central Valley RWQCB.

California Department of Fish and Game

The California Department of Fish and Game (DFG) is a responsible agency with respect to the review of water right applications and also is responsible for issuing lake and streambed alteration permits for new water supply projects, as appropriate. DFG works in coordination with federal and state agencies to mitigate the impacts of projects on fish and wildlife resources, and is responsible for enforcing the California Endangered Species Act. DFG often helps establish instream flows (minimum releases below a dam or diversion structure) to maintain

¹ The State Water Project is a series of dams, dykes, levees, reservoirs, aqueducts, power plants, pumping stations, habitat restoration projects, and other improvements beginning in the late 1950s designed to provide water to over 23 million Californians and 755,000 acres of irrigated farmland.

habitat below a project. Such release schedules may be included in water right permits and could affect the yield of a project.

Porter Cologne Water Quality Control Act of 1969

The Porter Cologne Water Quality Control Act, otherwise known as the California Water Code, is California's statutory authority for the protection of water quality. Under the Porter Cologne Act, the state must adopt water quality policies, plans, and objectives that protect the state's waters for the use and enjoyment of the people. The Porter Cologne Act sets forth the obligations of the SWRCB and RWQCBs pertaining to the adoption of Basin Plans and establishment of water quality objectives. It also authorizes the SWRCB and RWQCBs to issue and enforce permits containing waste discharge requirements. Basin Plans establish beneficial uses, water quality objectives, and implementation programs for each of the nine regions in California. Unlike the federal Clean Water Act, which regulates only surface water, the Porter Cologne Act regulates both surface water and groundwater.

Senate Bill 7

In 2009, California lawmakers passed, and the Governor subsequently signed, a package of four water policy bills and a \$11.14 billion bond bill devoted to water resources and conservation. These bills, termed the "2009 Water Package," provide for new management of the Sacramento-San Joaquin Delta, set aggressive water conservation targets, establish a Statewide groundwater monitoring program, and dedicate funds for increased enforcement of illegal water diversions. A key component of the 2009 Water Package is Senate Bill (SB) 7, which expands water conservation requirements for urban and agricultural water suppliers throughout California. The intent of these requirements is to help the State meet its goal for reducing per capita water use by 20% in 2020. With limited exceptions, starting in 2016, eligibility for State water grants and loans will be conditioned on meeting the requirements of SB 7. An urban retail water supplier will not be eligible for a water grant or loan awarded or administered by the State unless the supplier has met water use and conservation targets.

REGIONAL/LOCAL

Sacramento Stormwater Quality Partnership

Sacramento area public agencies, including the County of Sacramento and the Cities of Sacramento, Citrus Heights, Elk Grove, Folsom, Galt, and Rancho Cordova, have joined together to form the Sacramento Stormwater Quality Partnership (SSQP). The agencies work together to implement the conditions of the Sacramento Municipal Separate Storm Sewer System NPDES Stormwater Permit. In addition to implementation of the permit requirements, the goals of the SSQP are to:

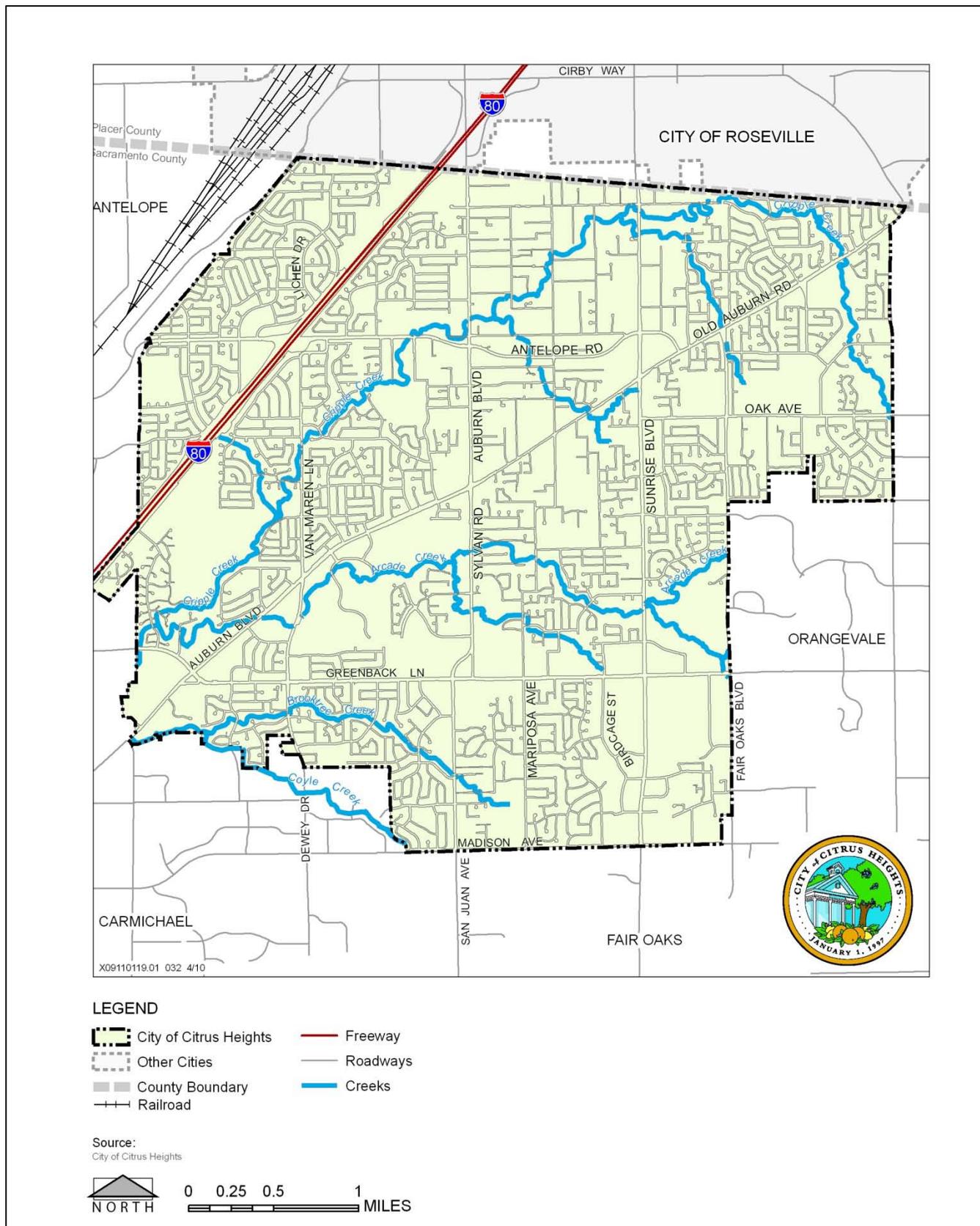
- ▶ educate and inform the public about urban runoff pollution,
- ▶ encourage public participation in community and clean-up events,
- ▶ work with industries and businesses to encourage pollution prevention,
- ▶ require construction activities to reduce erosion and pollution, and
- ▶ require developing projects to include pollution controls that will continue to operate after construction is complete.

The SSQP coordinates and cost-shares various major elements of its activities, including monitoring, target pollutant reduction, special studies, regional public outreach, and program evaluation. The partnership members also coordinate and cost-share selected construction/new development and commercial/industrial activities. The County and City of Sacramento generally conduct and manage the joint work and are reimbursed by the other members according to a cost-share Memorandum of Understanding (MOU).

EXISTING CONDITIONS

SURFACE WATER HYDROLOGY

The City of Citrus Heights is situated within several drainage basins, including Arcade and Cripple Creeks and their associated tributaries (Figure 4-1). In addition to these two main drainages, entire reaches of Brooktree, Mariposa, and San Juan creeks, and a small portion of Coyle Creek are also located within the city. All streams generally flow to the west, ultimately draining into Arcade Creek. Outside of Citrus Heights, Arcade Creek flows west past American River College and through Del Paso Park, draining into the Natomas Main Drainage Canal and ultimately into the Sacramento River.



Citrus Heights Creeks and Tributaries

Figure 4-1

Headwaters of Arcade and Cripple Creeks originate in Sacramento County, draining the southwest portion of Orangevale. Both streams maintain perennial flows, except in their upper reaches. Similarly, many of the named and unnamed tributaries also maintain perennial flows, although historically these streams were seasonal, flowing under the influence of precipitation. As such, a significant portion of perennial flow in drainages of Arcade and Cripple Creeks is comprised of urban runoff, with existing dry season summer flows likely greater than historic dry season summer flows.

For the most part, the streams in Citrus Heights are unaltered (i.e., they have not been straightened and/or concrete lined), and maintain a riparian corridor.² Cripple Creek and associated named and unnamed tributaries drain the northern half of Citrus Heights, while Arcade Creek and associated named and unnamed tributaries drain the southern half of Citrus Heights, and portions of unincorporated Sacramento County.

GROUNDWATER HYDROLOGY

Groundwater occurs in the “saturation zone” which is an area below ground that accumulates water. Water from precipitation, irrigation, and stream flows enters the ground from the surface and trickles down to the saturation zone. The rate of groundwater recharge (i.e., water flowing into the saturation zone) depends upon a variety of geologic and hydrologic factors. Groundwater is a primary source of water supply for domestic, municipal, and agricultural uses throughout Sacramento County; as a result excess removal (also known as “overdraft”) of this resource has been documented.³ Overdraft is a concern in three areas of Sacramento County: Rio Linda-Elverta, Elk Grove-Laguna and Galt. The Citrus Heights area is not currently experiencing groundwater overdraft.

Citrus Heights is located on the Fair Oaks Geologic Formation (DWR 1978). This geologic formation is comprised of relatively thick deposits of silt and clay with thinner deposits of sand and gravel. The Fair Oaks Formation can yield moderate to high quantities of water, primarily dependent upon whether fine grained or coarse material is present (DWR 1978). Wells to depths greater than 300 feet may encounter the underlying Mehrten Formation, with water yields roughly equivalent to the Fair Oaks Formation. Groundwater in the vicinity of Citrus Heights generally flows to the west and ranges in depth from approximately 80 feet above mean sea level (msl) in the east to 20 feet below msl in the west (County of Sacramento 1996).

SURFACE WATER QUALITY

Surface water quality is predominantly influenced by surrounding land uses. A portion of summer dry season perennial flow in those streams that carry water year round is comprised of urban runoff. Urban runoff includes surface drainage from residential and commercial land uses, including landscape irrigation, driveway and parking

² A riparian corridor is the natural vegetation found growing along the bank of a creek or water body.

³ Groundwater overdraft is a condition where more water is removed from the saturation zone than is entering it.

lot cleaning, swimming pool draining, and other similar activities. In addition to this dry season urban runoff, storm water discharge to the creek system conveys precipitation from areas of soil saturation or impermeable surfaces to low-lying collection areas and creeks. Storm water flow in an urban area often includes contaminants collected from surrounding land uses. Both urban dry-season runoff and storm water discharge influence surface water quality.

WATERWAYS CURRENTLY IMPACTED

Arcade Creek has been identified as not meeting water quality standards for copper (low priority), chlorpyrifos, or diazinon (common insecticide) as set forth in the Clean Water Act and has been included in the California 1998 Section 303(d) list maintained by the Environmental Protection Agency (EPA, 2002). In 2004, the Regional Water Quality Control Board, Central Valley Region, prepared a TMDL report analyzing six creeks in the region, including Arcade Creek. The TMDL calculates the maximum amount of a pollutant allowed to enter a waterbody so that the waterbody will meet and continue to meet water quality standards for that particular pollutant and allocates that load to point sources, (Wasteload Allocation or WLA), and nonpoint sources (Load Allocation or LA), which include both anthropogenic and natural sources of the pollutant.

Pesticides containing the active ingredients diazinon and chlorpyrifos are the most heavily used pesticides in Sacramento County (Russick 2001). These pesticides are primarily used by residential homeowners, pest control operators (PCOs) in the urban environment, and farmers/growers in the agricultural environment to control insect infestations in and around structures, on landscaping, and in crop fields (RWQCB 2004). The most common reported use of diazinon and chlorpyrifos in Sacramento County is for urban structural pest control. The second most common use is for agriculture, and the third most common use is on urban landscaping (CDPR PUR 1993-2000).

The TMDL Report for the pesticides Diazinon & Chlorpyrifos in Arcade Creek, Elder Creek, Elk Grove Creek, Morrison Creek, Chicken Ranch Slough, and Strong Ranch Slough includes specific measures to reduce the amount of diazinon and chlorpyrifos entering the watershed. The TMDL Report indicates that the largest contributor of diazinon and chlorpyrifos is urban runoff. The reduction measures are implemented through the National Pollutant Discharge Elimination System (NPDES) permit program.

STORM WATER QUALITY MANAGEMENT

Currently (2008) the City of Citrus Heights annual storm water management budget is approximately \$3.1 million. Appropriation of this budget to specific improvements and management projects is a joint effort on the part of the City of Citrus Heights and the County of Sacramento, where the monies originate. In 2010, Citrus Heights will take over the management of Stormwater Utility Funds generated within the city. The City

Engineering Department is currently in the process of identifying and planning for future capital improvement projects.

GROUNDWATER QUALITY

Groundwater quality in Citrus Heights has not been comprehensively documented. The City is not included in any known regional plume of gross groundwater contamination. Thus, groundwater quality is considered to be good in the Citrus Heights area.

4.3 BIOLOGICAL RESOURCES

This section provides a general discussion regarding the biological resources present within the Citrus Heights City limits. Biological resources include biotic habitats (vegetative communities and corresponding wildlife habitat), as well as the associated flora and fauna.

Citrus Heights is primarily an urban setting which consists of a variety of residential, commercial and industrial uses. Topography is relatively flat terrain with small hills rolling to the north. Cripple Creek and Arcade Creek are the main waterways which flow through the City (see Figure 4-1). In addition to these two main drainages, entire reaches of Brooktree, Mariposa, and San Juan Creeks, and a small portion of Coyle Creek flow within the city.

REGULATORY SETTING

FEDERAL

Federal Endangered Species Act

The USFWS has jurisdiction over projects that may result in take of a species listed as threatened or endangered under the federal ESA. Under the ESA (Title 16 of U.S. Code, Section 153 et seq. [16 USC 153 et seq.]), the definition of “take” is to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” USFWS has also interpreted the definition of “harm” to include significant habitat modification that could result in take. If implementation of a project is likely to result in take of a federally-listed species, then the project applicant must either obtain an incidental-take permit under ESA Section 10(a) or complete a federal interagency consultation process under ESA Section 7 before the take occurs. An incidental-take permit typically requires various types of mitigation to compensate for or minimize the take.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (16 USC 703–711) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the U.S. Secretary of the Interior. Most native bird species fall under the jurisdiction of this act.

Section 404 of the Clean Water Act

Section 404 of the Clean Water Act (33 USC 1252–1376) requires a project applicant to obtain a permit before engaging in any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters of the United States, interstate waters, all other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries.

Under Section 404, the USACE regulates and issues permits for activities that involve the discharge of dredged or fill materials into waters of the United States. Fills of less than one-half acre of nontidal waters of the United States for residential, commercial, or institutional development projects can generally be authorized under USACE’s nationwide permit (NWP) program, provided that the project satisfies the terms and conditions of the particular NWP. Fills that do not qualify for a NWP require a letter of permission or an individual permit.

State

California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code Section 2050 et seq.) is the state policy to conserve, protect, restore, and enhance endangered or threatened species and their habitats. CESA mandates that state agencies should not approve projects that would jeopardize the continued existence of endangered or threatened species if reasonable and prudent alternatives are available that would avoid jeopardy. Definitions of endangered and threatened species in the CESA parallel those defined in the ESA. Take authorizations from California Department of Fish and Game (DFG) are required for any unavoidable impact on state-listed species resulting from proposed projects.

Native Plant Protection Act

California’s Native Plant Protection Act (Fish and Game Code Sections 1900–1913) requires all state agencies to establish criteria for determining whether a species, subspecies, or variety of native plant is endangered or rare. Provisions of this act prohibit the taking of listed plants from the wild and require that DFG be notified at least 10 days in advance about any change in land use that would adversely affect listed plants. This requirement allows DFG to salvage listed plant species that would otherwise be destroyed.

Lake and Streambed Alteration

DFG, through provisions included in Sections 1600–1603 of the California Fish and Game Code, is empowered to issue streambed alteration agreements for projects that would “divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or

dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake” (Fish and Game Code Section 1602[a]). Streams and rivers are defined by the presence of a channel bed, banks, and intermittent flow. DFG jurisdiction can also be based on the existence of riparian habitat and may include wetland areas that do not meet USACE criteria for soils and/or hydrology (e.g., where riparian woodland canopy extends beyond the banks of a stream away from frequently saturated soils).

Protection of Bird Nests and Raptors

The California Fish and Game Code (Section 3503) states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. The Code specifically mentions that it is unlawful to take, possess, or destroy any raptors (i.e., hawks, owls, eagles, and falcons), including their nests or eggs. Examples of code violations include destruction of active nests resulting from removal of vegetation in which the nests are located. Violation of Section 3503.5 could also include failure of active raptor nests resulting from disturbance of nesting pairs by nearby project construction.

REGIONAL/LOCAL

TREE PRESERVATION AND PROTECTION ORDINANCE

Chapter 106.39 of the Citrus Heights Zoning Code provides regulations for the protection, preservation, and maintenance of protected trees in the City. The ordinance protects native oak trees, oak woodlands, trees of historic or cultural significance, groves and stands of mature trees, and mature trees associated with development proposals.

EXISTING CONDITIONS

BIOTIC HABITATS

Four distinct biotic habitats are present within Citrus Heights. The names of these habitat types were described using *A Guide to Wildlife Habitats of California* (Mayer & Laudenslayer 1988). Biotic habitats provide cover, food, and water necessary to meet the biological requirements of one or more individuals of an animal species. Each biotic habitat identified within the City is described below.

Urban

A distinguishing characteristic of urban habitats is the mixture of native and introduced plant species. Exotic and ornamental plant species may provide valuable habitat elements such as cover for nesting and roosting, as well as food sources such as nuts and berries. Urban habitats within Citrus Heights include ornamental landscaping and lawns associated with street medians, homes, and commercial buildings.

Annual Grassland

Open space and vacant lots within developed areas of Citrus Heights support small pockets of annual grassland habitat. This habitat type is most prevalent within drier areas of the floodplains of Arcade Creek, Cripple Creek, and their associated tributaries. Due to prior human disturbance, most of the plant species that comprise annual grasslands within Citrus Heights are non-native.

Interior Live Oak Woodland

Small pockets of Interior Live Oak woodland habitat occur within Citrus Heights in undeveloped upland areas, above the mean high-water line, along Arcade Creek, Cripple Creek and their associated drainages. The dominant plant species associated with this habitat is interior live oak (*Quercus wislizenii*), with valley oak (*Quercus lobata*) and blue oak (*Quercus douglasii*) occurring as common associates.

Valley Foothill Riparian

Valley foothill riparian woodlands are complex habitats associated with perennial and intermittent creeks and streams. Riparian woodlands generally have closed canopies dominated by broad-leaved, winter deciduous trees. The composition of species in riparian woodlands is highly variable and depends on geographic location, elevation, substrate, and amount of flow in a watercourse. Riparian woodland is a widespread habitat type scattered throughout the Central Valley, though it has been estimated that nearly 95 percent of riparian woodlands have been eliminated in California (Mayer & Laudenslayer 1988). Within the City, small pockets of valley foothill riparian habitat occur along Arcade and Cripple creeks, as well as their tributary streams Brooktree Creek, Coyle Creek, San Juan Creek, and Mariposa Creek.

In addition to providing high value wildlife habitat, riparian woodlands provide local movement corridors between fragmented habitat patches. Due to the value and scarcity of riparian woodlands, on both a state and regional level, they are considered a sensitive habitat by CDFG. Remnant valley foothill riparian woodland corridors along Arcade Creek, Cripple Creek, and other smaller waterways are important biotic resources associated with Citrus Heights.

SPECIAL-STATUS SPECIES

Plant and animal species may occur within or in the vicinity of Citrus Heights that are accorded “special-status” because of their recognized rarity or vulnerability to various causes of habitat loss or population decline. Some of these receive specific protection defined in federal or state endangered species legislation. Others have been designated as “sensitive” on the basis of adopted policies and expertise of state resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and

special districts to meet local conservation objectives. These species are referred to collectively as “special-status species”. The various categories encompassed by the term, and the legal status of each, are summarized below.

Plants

Based on record searches conducted using the CDFG’s Natural Diversity Database (CNDDDB) and the California Native Plant Society’s (CNPS) electronic floristic inventory for the Citrus Heights Quadrangle, the only special-status species records for the Citrus Heights area were three occurrences of Sanford’s arrowhead (*Sagittaria sanfordii*), a Federal Species of Concern and CNPS List 1B.2 species, and two occurrences of stinkbell (*Fritillaria agrestis*), which is a CNPS List 4.2 species.

Sanford’s arrowhead is found in freshwater marshes and in slow-moving ditches and streams and stinkbells are found in non-native grasslands or grassy openings on clay soils (Skinner & Pavlik 1994). All three of the Sanford’s arrowhead occurrences were located within Citrus Heights. These occurrences were: an unnamed drainage to Cripple Creek, located between Oak Avenue and Old Auburn Road; an unnamed drainage located along the northwestern boundary of City on the east side of Roseville Road; and an unnamed channel located along the northwestern boundary of City at the Roseville Road / Whyte Avenue intersection, just south of the Placer/Sacramento County line (CNDDDB 1998). Both of the stinkbell occurrences were located outside, but within two miles of the City.

Fish and Wildlife

Based on a CNDDDB record search for the Citrus Heights USGS Quadrangle, the only special-status animal species with a known occurrence in Citrus Heights is white-tailed kite (CNDDDB 1998, Sacramento County 1995). White-tailed kite is designated as a California Fully Protected species by the CDFG. The recorded occurrence was a nesting pair from Woodbridge Park, on the east side of Linda Creek, approximately 0.5 mile southeast of Old Auburn Road and the Linda Creek Court subdivision.

Elderberry shrubs, which provide habitat for the federally threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphous*), occur along both Arcade and Cripple Creeks. However, there are no known occurrences of valley elderberry longhorn beetle within the City. Elderberry shrubs located on the Stock Ranch development were inspected in 1992 and shrubs in the northeastern portion of the city near Old Auburn Road were inspected in 2007, but no sign of valley elderberry longhorn beetle was observed (Sacramento County 1992, Padre 2007). No special-status fish species are known to occur within Citrus Heights waterways.

Northern Pacific Pond Turtles are a California Species of Special Concern found throughout the region. A recorded occurrence of a Northern Pacific Pond Turtle was found in the northeastern portion of the city near Old Auburn Road near the Cripple Creek drainage (Padre 2007).

WETLANDS

Wetlands are ecologically productive habitats that support a rich variety of both plant and animal life. The importance and sensitivity of wetlands has increased as a result of their importance as recharge areas and filters for water supplies, while widespread filling and destruction to enable urban and agricultural development has resulted in their decline.

Wetlands within Citrus Heights

Due to the intensity of urban development within Citrus Heights, wetland features are primarily limited to perennial and intermittent streams and drainages. These include both Cripple Creek and Arcade Creek, in addition to Brooktree Creek, Coyle Creek, San Juan Creek, and Mariposa Creek. All of these wetland features would be subject to USACE jurisdiction under Section 404 of the Clean Water Act. The USACE has jurisdiction over that portion of each channel defined by ordinary high water marks on opposing channel banks. Ordinary high water marks can be identified by shelving, scour lines, drift lines, and exposed roots (Environmental Laboratory, 1987). The CDFG also has jurisdiction over these waterways under the State Fish and Game Code Sections 1600-1607.

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Acronyms

Central Valley Project (CVP);
U.S. Fish and Wildlife Service (USFWS)
National Marine Fisheries Service (NMFS)
Endangered Species Act (ESA)
U.S. Army Corps of Engineers (USACE)
U.S. Geological Survey (USGS)
National Pollutant Discharge Elimination System (NPDES)
Regional Water Quality Control Boards (RWQCBs)
Storm Water Pollution Prevention Plan (SWPPP)
Best Management Practices (BMPs)
wastewater treatment plants (WWTPs)
maximum daily load (TMDL)
Department of Water Resources (DWR)
River Delta (Delta),
Urban Water Management Plans (UWMPs)
California Department of Fish and Game (DFG)
Senate Bill (SB)
Sacramento Stormwater Quality Partnership (SSQP).
Memorandum of Understanding (MOU)
National Pollutant Discharge Elimination System (NPDES)
nationwide permit (NWP)
California Endangered Species Act (CESA)
CDFG's Natural Diversity Database (CNDDDB)
California Native Plant Society's (CNPS)

Citations

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Miscellaneous