

Environmentally Sensitive Areas

The Maricopa Association of Governments (MAG) adopted the MAG Regional Open Space Plan in 1995. Within this plan, sensitive areas and conservation areas were designated in order to limit growth. In 2000, Environmentally Sensitive Areas were designated within the county and recommendations on restricting new growth in these areas were offered. The Environmentally Sensitive Areas identified in the study area include retention areas, conservation areas and secured open spaces. Retention areas are defined as areas with natural resources that can support “sensitive development”. Sensitive development is defined as any land use that maintains the character of the native landscape and natural or cultural resources that define the area. Conservation areas are defined as areas that have high open space value for recreation, aesthetic and/or biological purposes. This type of an area has the highest priority of protection from development. Secured open space includes existing federally managed wilderness areas, Arizona Game and Fish Management Units, regional parks, and reservoirs.

Areas of Special Management. Federal land within the master plan area is primarily under the control of the BLM. Most of the BLM land within the study area is undeveloped, though mining and grazing claims may exist. BLM land is receiving increased pressure from recreational users as the Phoenix urban area expands to the northwest. The congressionally designated Hell’s Canyon Wilderness is located along the border with Yavapai County and touches the Peoria planning area. There are no known areas of special management for State Lands.



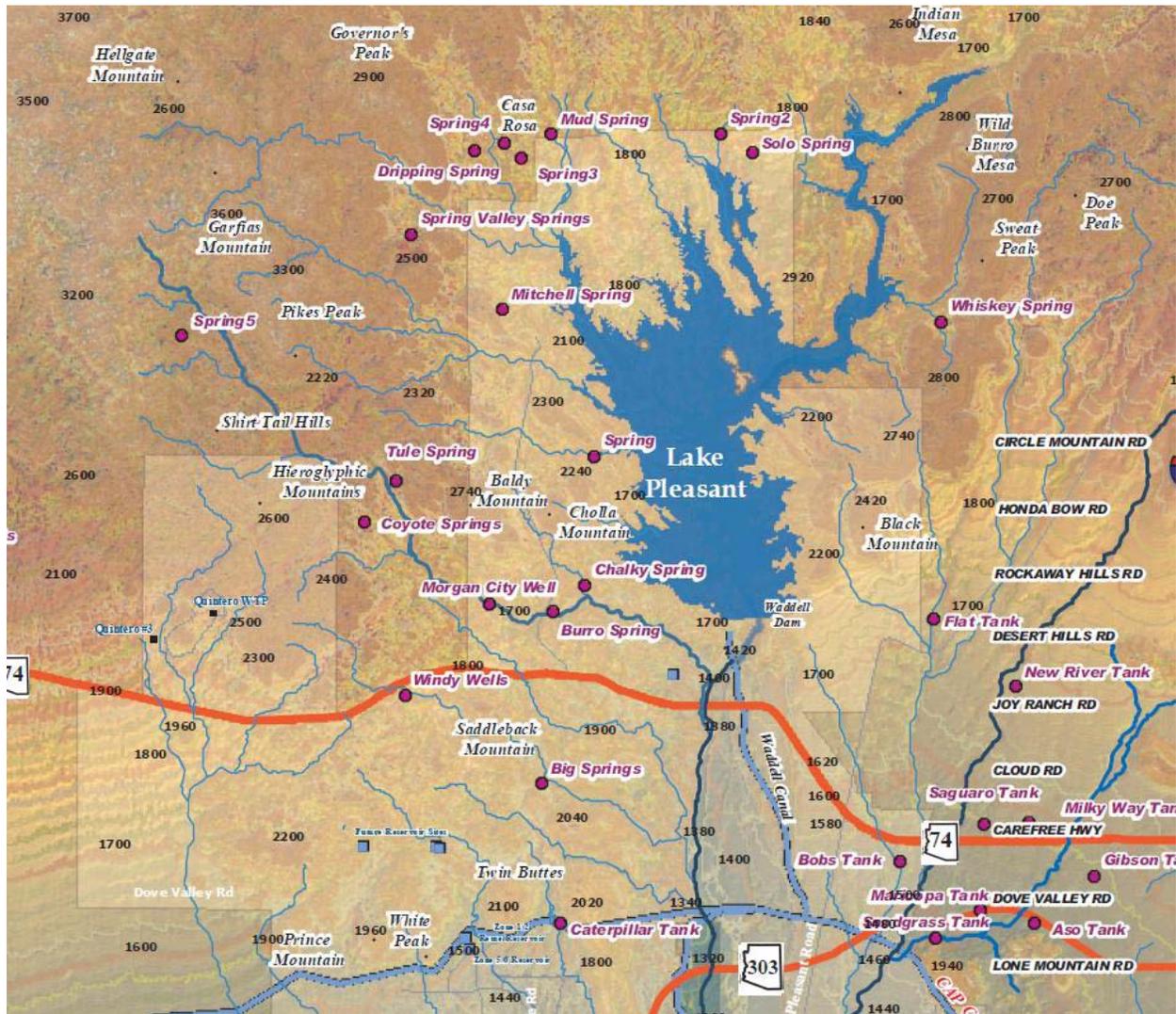
The Lake Peasant Regional Park, managed by the Maricopa County Parks and Recreation Department, is located in the upper north central portion of the master plan area. The 23,000 acre park contains the 10,000 acre Lake Pleasant and is primarily used for boating and non-motorized recreation such as horseback riding and hiking.

Water Resources

The Arizona Department of Water Resources (ADWR) develops management plans for the state’s Active Management Areas (AMA). The master plan area lies within the Phoenix AMA. The three main water resources available for the Phoenix AMA are: groundwater, Central Arizona Project (CAP) water, and treated effluent.

The master plan area contains a permitted recharge project located four miles south of New Waddell Dam. There are two components to the project, a four-mile section of the Agua Fria River and 100 acres of spreading basins.

Natural Springs and Wetlands. Springs are defined as any natural occurrence where water flows to the surface of the earth from below the surface. Thus it is where the aquifer surface meets the ground surface. Spring discharge, or resurgence, is determined by the "spring's" recharge basin. Factors include the size of the area in which groundwater is captured, the amount of precipitation, the size of capture points, and the size of the spring outlet. Water may leak into the underground system from many sources including permeable earth. Several natural springs are known to exist in north Peoria. These springs include Big Springs, Burro Springs, Chalky Spring, and Mitchell Spring. The springs for which Castle Hot Springs is known are thermal springs. Other undocumented springs are located around lake Pleasant and are relatively remote.



Tanks and game catchments are permanent or portable devices to provide adequate amount and quality of drinking water for livestock and/or wildlife. Many older tanks were developed over existing springs or seeps. Many livestock tanks have been improved over the years in the rangelands around Lake Pleasant and are important sources of water not only for grazing animals but for wildlife as well. Lake Pleasant and associated tanks and catchments are located

within Arizona Game and Fish Management Unit 20B which supports javalina, mountain lion, mule deer, dove, quail, black bear, and a variety of water fowl.

Wetlands are defined as areas that are periodically or permanently inundated by surface water or groundwater and support vegetation adapted for life in saturated soils. The determination whether an area is considered a wetland is based on the presence of certain types of soils, hydrology, and vegetation as defined by the U.S. Army Corps of Engineers (USACE). Wetlands generally include areas such as swamps, marshes, and bogs, but can also be found in washes and drainages. Jurisdictional wetlands, as described and regulated by the USACE, are those areas where soils, water-dependent vegetation, and water all occur and are generally permanent, except in special cases as noted by USACE for human-induced wetlands. While no specific wetlands have been identified within the master plan area, several areas along the Agua Fria River north of the Recharge project have characteristics that might qualify them as jurisdictional wetlands and will need further study and analysis.

Unique Waters. The Arizona Department of Environmental Quality (ADEQ) designates some surface waters as unique waters. The classification is recognition that a stream is an outstanding state resource. To be designated as unique waters, streams must have exceptional recreational or ecological significance because of their unique attributes, or have threatened or endangered species whose survival is associated with the stream's surface water and existing water quality that is essential to their maintenance and propagation. Unique waters are given more stringent water quality protections than other surface waters under the state's anti-degradation rule. Any activity that may result in a new or expanded discharge is prohibited if the discharge will cause degradation of existing water quality. Discharges include land use activity (e.g., construction, mining, agriculture) as well as discharges that require a surface water discharge permit. There are no unique waters designated by the ADEQ within the master plan area.

Surface Water. The Beardsley Canal is a 30-mile long canal that diverts CAP water and water from the Agua Fria River southward from Lake Pleasant. The water in the Beardsley Canal is diverted by the Maricopa County Municipal Water Conservation District to be delivered to users in their district. The CAP Canal is approximately 336 miles in length and crosses through the master plan area. The CAP is a multipurpose water resource development and management project that delivers Colorado River water, either directly or by exchange, into central and southern Arizona. The master plan area also contains a number of stock tanks that have been constructed for livestock. These tanks also provide the necessary water for many of the wildlife that is found within the study area.

Scenic Impaired River. In 1968, Congress created the National Wild and Scenic Rivers System. This system allows for certain selected rivers that possess scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, to be preserved in free-flowing condition. It is a policy that preserves selected rivers or sections of rivers in their free-flowing condition to protect the water quality and to fulfill other national conservation purposes. The only river in Arizona that is designated as a "Wild and Scenic" river is the Verde River which is not located within the master plan area.

Sole Source Aquifers. There are only two designated sole-source aquifers located within Arizona, both of which are located in southern Arizona; neither located near or within the master plan area. No other aquifers have been designated as such by the Environmental Protection Agency in Arizona.

Proposed Waters of the US. The terminology, Waters of the U.S. (WUS), applies to the jurisdictional limits of the USACE under Section 404 of the Clean Water Act. If WUS are impacted, then a Clean Water Act Section 401 water quality certification and a Section 404 permit to regulate the discharge of dredged or fill material will be required. The USACE administers the issuance of permits for the discharge of dredged and fill material into WUS; however, other agencies that must be coordinated with include the U.S. Environmental Protection Agency, US Fish and Wildlife Service, ADEQ, Arizona Game and Fish Department, and the State Historic Preservation Office.

As part of the 404 permitting process, the permit applicant has to demonstrate that the environmental impacts were considered throughout the alternative analysis process. If the least environmentally damaging practicable alternative was not chosen as the final selected alternative, the applicant must explain why it was not selected. For the selected alternative, if the environmental impacts cannot be avoided, then the impacts must be minimized by modifying the alternative and mitigating the impacts. Typically, mitigation involves replacing the habitat and ecological functions and values that were lost or degraded with equal habitat functions and values. This can be accomplished by habitat creation, restoration, enhancement, or preservation. Mitigation may also consist of paying in-lieu fees to a wildlife agency, a conservancy group, or some other non-profit environmental group. Mitigation sites must remain as wildlife habitat in perpetuity.

In addition, the study area also contains numerous small washes that would be considered WUS. Proposed impacts to potential WUS will need to be evaluated for each project to determine if washes present are considered WUS and if a 404 permit would be required prior to any construction activity.

Air Quality.

The air monitoring division of the Maricopa County Air Quality Department provides reports on the ambient air quality within the county. The division operates approximately 25 air quality sites that measure Carbon Monoxide (CO), Nitrogen Dioxide, Ozone, Particulates Matter (PM10 and PM-2.5) and Sulfur Dioxide. These reports assist in determining attainment status with the Clean Air Act. Maricopa County was reclassified as a serious PM-10 (particulate matter) non-attainment area in 1996. The primary sources of particulate pollution in the Phoenix area are fugitive dust from paved roads, unpaved roads, windblown dust from agricultural fields, disturbed areas on construction sites, and vacant lots.

Maricopa County has also been classified as a CO non-attainment area. Primary sources of CO include on-road mobile sources, non-road mobile sources; area sources (e.g., fuel combustion, on-site incineration, open burning, fireplaces, and wood stoves). In 2005, the EPA finalized the rule to re-designate the Phoenix metropolitan area to attainment for the National Ambient Air

Quality Standard (NAAQS) for carbon monoxide (CO), as well as to approve the attainment demonstration and maintenance plan showing maintenance of the CO standard through 2015. The portion of the master plan area east of the Agua Fria River falls within the Carbon Monoxide maintenance area.

Effective June 2004, the Phoenix area, including portions of the master plan within Maricopa County, was designated non-attainment for the new more stringent 8-hour ozone standard. The 1-hour standard was revoked one year later however, certain control measures developed and implemented for the 1-hour standard are required to remain in place to ensure continued progress toward attainment of the new 8-hour standard. Any project involving earthmoving equipment may result in an increase of dust and particulates. These short-term impacts to air quality are typically mitigated through control of dust with water trucks and proper emission testing on vehicles. Maricopa County may require an Air Quality Earthmoving Activity Registration Form to be completed prior to any activity.

Hazardous Materials

Superfund Sites. The ADEQ oversees all hazardous substance identification, clean up, assessment, and privately funded clean up efforts. Some sites in Arizona are governed and funded by the federal Comprehensive Environmental Response, Compensation and Liability Act of 1980 (Superfund). Sites that pose the greatest potential threat to human health and the environment are put on the National Priorities List (NPL). There are nine NPL Superfund sites in Arizona. In addition to the NPL and the Water Quality Assurance Revolving Fund (WQARF) registry sites, the Superfund Programs Section also provides state review and oversight at 12 Department of Defense (DoD) sites. No WQARF Registry sites, NPL sites, or DoD sites are known to exist within the master plan area.

Landfills. No landfills are known to exist within the master plan area, however wildcat dumps are common in desert areas and long river corridors. Development and improvement projects in undeveloped desert areas and along river corridors will need closer inspection, further study and analysis.

Leaking Underground Storage Tanks. An underground storage tank system (UST) is a tank and any underground piping connected to the tank that has at least 10 percent of its combined volume underground. The federal UST regulations apply only to underground tanks and piping storing either petroleum or certain hazardous substances. The Tank Programs Division regulates approximately 7,640 tanks in 2,620 facilities in Arizona. Nearly all underground storage tanks at these sites contain petroleum. These sites include marketers who sell gasoline to the public (such as service stations and convenience stores) and non-marketers who use tanks solely for their own needs (such as fleet service operators and local governments).

A review of the ADEQ's website for USTs and LUSTs shows only one known leaking underground storage tank, and that is at lake Pleasant. New and future development projects within the master plan area should review the ADEQ database to determine if any new sites are listed and if the existing LUST sites have been closed.

Former Department of Defense Sites. Several airfields were built in the vicinity of Luke Air Force Base to provide auxiliary operating locations for training aircraft during WW II. Records indicate eight auxiliary airfields were activated; the only remaining auxiliary field is Auxiliary Field Number 1, also known as Wittmann Field located in north Surprise, AZ. This site (as well as the former auxiliary sites) served as the training site for P-40 operations when Luke Field became too congested with aircraft. Aux-1 was activated on July 1, 1941, and is located approximately 15 miles northwest of the main base. The runway was lengthened to 8,800' in 1951 to accommodate jet fighter traffic. The runway has since deteriorated to the point where fighter landings would be unsafe, however it continues to be used for instrument approach procedures. Aux 1 currently consists of 400 acres of federally owned land and approximately 705 acres leased from the State of Arizona. Primary use of this auxiliary field is in support of instrument approach practice for the 56th and 944th Fighter Wings. One inactive runway is used for instrument approach runway alignment. Installed equipment includes a Precision Approach Radar (PAR) and Instrument Landing System (ILS).

Abandoned Mines. The BLM suggests that there may be over 27,000 abandoned mine features in Arizona. These features range from insignificant shallow trenches and small exploration pits to features that pose environmental hazards. According to the *Agua Fria National Monument and Bradshaw-Harquahala Planning Area Draft Resource Management Plan and Draft Environmental Impact Statement* at least 200 of those sites are known to pose some level of environmental risks. There is a possibility that some features could present a hazardous waste problem if they have materials, chemicals or other wastes present or if they have been used as illegal dump sites. A survey should be conducted to determine if there are any abandoned mine features within any proposed flood control project area prior to any construction activities.

Abandoned mine features are known to be utilized by many different species of bats as roost sites and should be protected for continued use by bats while resolving safety issues.