

US EPA ARCHIVE DOCUMENT

## Ecoregion 79 (Madrean Archipelago) Observations

Alisa, Greg, Mark, and Roger visited the Madrean Archipelago during the week of May 15-18, 2000. We drove through parts of nine of the eleven randomly selected blocks that fall totally within or are partials to the ecoregion. One block could not be easily reached because it is within a wilderness area and one small portion of a partial block on the western edge of the ecoregion was by-passed. The types of land covers encountered were arid/semi-arid shrubland, various types of forests, grasslands, agriculture, urban, and mining. The above order is also the probable descending areal proportion of the covers that were present. The amount of land cover/ land use change appeared to be limited overall but specific locales were exceptions to the rule.

### Arid/Semi-Arid Shrubland

This cover varied from place to place, depending on the dominant species. Mesquite, creosote bush, ocotillo, cholla, yucca, and low cacti species such as prickly pear were quite prevalent. The mesquite appeared to be the most abundant. Shrub density varied between areas, ranging from thickets to sparse vegetation on bare ground. Shrubs in some areas appeared to be showing signs of stress from the unusually dry winter with the exception of the mesquite. The current land use appears to be rather light, mostly grazing of small herds of horned, lean cattle (Herefords predominantly) and wildlife habitat. Riparian areas had cottonwood woodlands and denser thickets of mesquite.

### Forested land

The forest cover was found in mountainous areas. The mountains had a broad range from scrubby juniper/oak on low-medium elevations to significant conifers (white fir, ponderosa pine, Engelmann Spruce) on higher peaks. Differences in species types not only corresponded to elevational change but also to aspect location. North facing slopes had more conifers and southern and eastern slopes usually had a more open density because of the drier conditions. The juniper-oak mix appeared to be the most prevalent, even found in the more montane forest elevations.

Most of the forested land was found within the boundaries of Coronado National Forest. Land use appeared limited to some occasional cattle grazing, wildlife habitat, scientific research (observatories), and recreational use. The latter included scenic drives, hiking, bird watching, and most likely hunting during the fall/winter months.

### Grasslands

Grasslands were more limited in extent than other vegetative covers. Areas bordering the Chiricahuas and the San Rafael Valley between the Huachucas and the Patagonias were prime examples. Ranching operations in these locations might not have been as intense or had better stewardship practices. A grassland/shrub (mostly mesquite) interface appeared much more often than pure grasslands. The dominant use was for cattle grazing, although ranches and cattle were widely spaced throughout this cover type.

### Agriculture

Agriculture was concentrated along riparian areas and lower, flatter valleys where irrigation was possible. The main agricultural locations were the Gila and San Pedro River valleys and the Sulphur Springs valley. The Gila area appeared to specialize in cotton production and the San Pedro in alfalfa hay. The Sulphur Springs valley produced a variety of crops such as alfalfa, corn, dried beans, and nut orchards.

Gila River farmers appeared to be using both river and aquifer water by flood canal irrigation. San Pedro operators used mostly aquifer sources through older, steel wheeled movable pipes. Irrigation in the Sulphur Springs valley was mostly center-pivot for crop fields and most likely buried drip pipes for orchards although no orchards were actually visited and this cannot be confirmed. Gila and San Pedro fields were directly in the floodplains whereas the Sulphur Springs fields were more widespread. Some fields appeared to be no longer used for crop production, such as near Elfrida where a significant portion of the agricultural land fit this category.

### Urban

Urban places were mostly centered in agricultural/mining areas. Sierra Vista differed from this pattern but it is surrounded by its main employer, Ft. Huachuca. It has also become a retirement center and has become the largest city in the ecoregion. Low density settlement appeared to be located along riparian areas (San Pedro River valley from San Manuel to Benson; Santa Cruz River from Nogales to Tucson) and along highway corridors (I-19 from Nogales to Tucson; U.S. 70 from Safford to Pima).

Advertisements for large, remote lots were encountered, even in the sparsely populated area east of the Chiricahua Mountains. Developments featuring 40 acre "ranchettes" were present in several places but only a few dwellings, mostly newer mobile homes, were actually in place. Several communities, such as Pommerene and Elfrida, appeared to be in various stages of decline.

### Mining

The amount of the total area affected by mining in the ecoregion was relatively small but this land use dominated the landscape in specific places. The tailings and overburden were visible miles away from places such as San Manuel and Clifton-Morenci. The color of the residue and ongoing activity were easily detected when compared to neighboring mountain or desert areas. Mining was continuing in these areas but not at the levels that had been maintained in the past as noticed by boarded-up company housing units in Morenci and Clifton.