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The Vascular Plants of Lake Roberts, Gila National Forest, Grant County, New Mexico

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Introduction

Lake Roberts is a unique, man-made lake created in 1963 in southwestern New Mexico. Created by damming Sapillo Creek, on Gila National Forest property (latitude and longitude: 33.03100, 108.16200, elevation: 6,064 ft = 1843 m), This 70-acre (28 hectare) lake is managed by the State of New Mexico as a fishing lake. The area immediately around it attracts people fish, camp, bird watch, and hike on local trails. It also has a diverse flora (457 species documented here) and is known for its seasonal wildflowers. A comprehensive list of the common and rare Lake Roberts vascular plant flora has been created, and habitat descriptions are provided. This information has been created for both the interested public and botanists.

Physical Setting and Vegetation

The Sapillo Creek watershed that feeds Lake Roberts is approximately 173 sq. mi (450 sq km) and drains from the Continental Divide in the east, from the Pinos Altos Range to the south, and from the Gila Wilderness to the north. The watershed includes a small portion of the Aldo Leopold Wilderness in the northeast, which contains the highest point in the watershed (Rocky Point at 9,012 ft (over 2,700 m). While Sapillo Creek is intermittent above the lake, springs within the lake allow it to be perennial downstream. Although the watershed is mostly US Forest Service wilderness and roadless area, the creek and lake are impacted by historic and current land uses.

Hills and slopes, dry, rocky habitats composed of Gila conglomerate, ravines, and canyons drain into the lake. There are many disturbed areas (dredging spoils, dam reconstruction impact areas, roads and roadsides, parking areas, fishing access points and trails surrounding the lake. Upland vegetation is primarily Oak/Pinon-Juniper woodland (*Quercus grisea*/*Pinus edulis*-*Juniperus deppeana* and *J. scopulorum*) with scattered stands of Pondersosa pine (*Pinus ponderosa*) woodlands. Riparian and wetland vegetation is found along the lake edge and along the banks of Sapillo Creek. The lake has aquatic vegetation and significant aquatic weed blooms (mostly algae) during the summer, most likely due to upstream nutrients created by residential developments' septic tanks and a small amount of livestock grazing. Although water quality in Lake Roberts is impacted to the extent that drinking and swimming are prohibited, catfish, bass and carp do well. In addition, the lake and lower reaches of Sapillo Creek are frequently stocked with native Gila trout (Moffatt and Wick, 2017).

Historical Setting

The vegetation of the study area was impacted by copper mining activity related to mines at nearby Silver City, Pinos Altos, and Georgetown (which once had 5,000 miners). Significant mining development began in the 1860s and 1870s. Miners required substantial amounts of timbers and firewood as well as military protection from the Apache Indians. The Military Trail crossed the Sapillo Creek watershed. It was constructed to provide troops, from Fort Bayard and other forts, access to the Gila Hot Springs in a

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successful federal effort to remove Apaches from the region. This action opened the area to miners, farmers, ranchers and others who moved into the Sapillo Creek watershed (Markel, 2013.

Historic grazing also significantly impacted the watershed, and is likely the most important factor in the degradation of Sapillo Creek above the lake as it diminishes from a perennial stream to intermittent flow. Two of the more prominent enterprises in the Sapillo drainage were the Stanton Brannin family's operation, and the G.O. Smith (GOS) ranch. The Brannin family lived near the current Lake Roberts store and had a farming, timber mill and ranching operation. They left for Montana in 1895, taking their 1,000 Angora goats, 300 horses and 50 burros with them (Cannon 1951). Their departure was influenced by the very large GOS ranch who bought them out. The ranch was headquartered along Sapillo Creek, about 4 mi (6.5 km) upstream from what is now Lake Roberts. They grazed a large portion of the Gila Forest Reserve (as it was called then) from the 1890s through the 1930s. The ranch was managed by Vic Culverson, who at one time ran 3,600 cattle in the Sapillo Creek watershed. His success and fame led him to be elected president of the American National Livestock Association in 1929. And reflecting those times, a local 1909 map of the upper portion of the Sapillo Creek, indicates it was renamed Cattle Creek for a while (Culverson, 1929; Markel, 2013).

The forester and eminent ecologist Aldo Leopold worked for the US Forest Service in New Mexico and Arizona and spent time in the Gila National Forest in the 1920s. He lamented that the Sapillo and Mimbres watersheds in southwestern New Mexico had been severely damaged by erosion due to GOS grazing management. As reported by Lorbiecki (1998), Leopold stated: "In short, a century of fires without grazing did not spoil the Sapillo, but a decade of grazing without fires ruined it." Furthermore, erosion caused by GOS grazing ruined a trout stream, "where earth scars due to concentration of cattle along the water courses have caused an entire trout stream to be buried by detritus." The damage occurred "in spite of the fact that conservative range management has preserved the remainder of the watershed in excellent condition" (Leopold, 1924).

The Mimbres people likely had higher populations, peaking around 1200 AD, than current human populations in the Sapillo Creek watershed. As evidenced by the significant number of sizeable ruins, and numerous room blocks, we surmise that they used both riparian and upland fields for growing corn, beans, and squash. These village sites were located upstream where there no longer is a year-round water supply, which implies that there was more available water in the past in both Sapillo Creek and from springs. In a study of the Mimbres small upland fields, located less than 1 km from the lake, areas farmed behind check dams (where corn pollen was detected as additional evidence of their agricultural use), the soil quality and nutrients (especially phosphorous) have still not returned to the quality of paired unfarmed areas (Sandor et al. 1990), despite 900 years of potential recovery since these nutrient-demanding crops were grown.

Climatic, Fire, and current Human Impacts to the Watershed

Climate is the biggest factor affecting vegetation in the study area. Droughts are common, and soil moisture and humidity can be very low. Rainfall, similar to nearby Silver City, averages about 20 in. (500 mm) per year. Most of the precipitation comes as rain during the monsoon season, starting in early July and often continuing as scattered rainfall through the rest of the summer and into the fall. One-to-two inches of precipitation falls as snow during winter. Snows melt quickly and the spring season is usually dry. Most of the upland herbaceous plant species remains dormant until the monsoons arrive.

The vegetation of the area is also significantly affected by fires that result from lightning strikes or are caused by humans. Much of the vegetation is fire-adapted. The oaks (*Quercus* spp.), alligator juniper (*Juniperus deppeana*), other shrubs and grasses are capable of resprouting following fire. Although the specific Lake Roberts area has been spared of fire in recent years, nearby fires often result in smoke-filled air, and make it necessary for US Forest Service helicopters with buckets to obtain water from Lake Roberts. Flooding events following downpours during the monsoons or fall Pacific tropical storms has resulted in

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Botany is the natural science that transmits the knowledge of plants.

— Linnaeus

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significant erosion and made it necessary to dredge Lake Roberts in 1993, and significant erosion since that time has once again made the upper half of the reservoir very shallow.

Other human uses and activities have also impacted the vegetation of the area. Although historical grazing was significant, current activities that impact the landscape and vegetation are home building, road construction, off-road vehicle use, parking areas, and campgrounds. Consequently, habitats are being disturbed, and most non-native species are found in disturbed areas.

Methods--How the plant list was created

The specific study area can be defined as the lake buffered to New Mexico State Highway 35 on the east and north, and the area of identified state management on the west and south. Essentially the study area is the lake and an approximate 500 m buffer that surrounds it (Fig. 1).

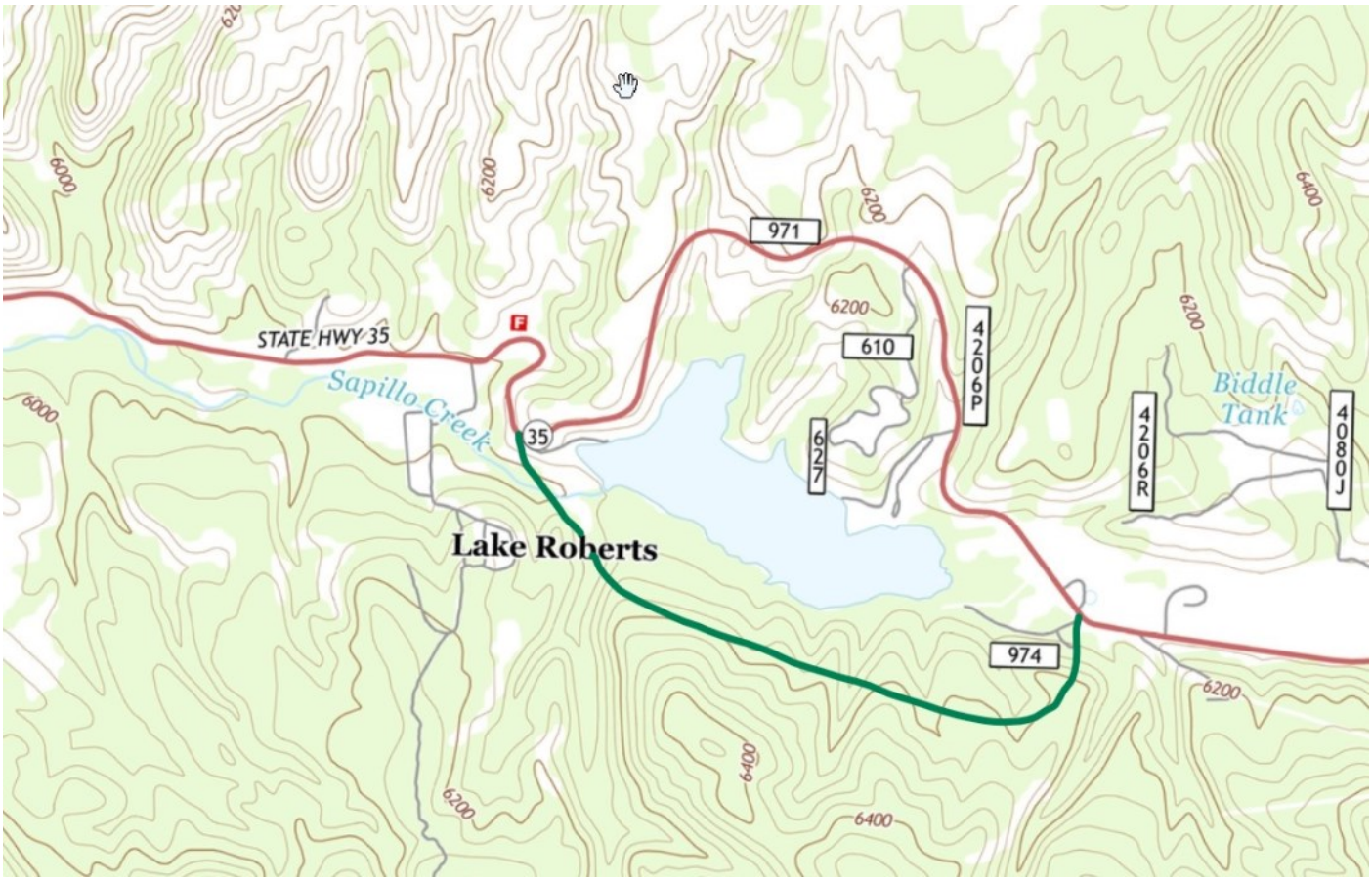

Figure 1. The study area, where plants were collected and documented, is bounded by New Mexico State Highway 35 (red) on the north, and the green line (drawn) which bounds the study area on the south. Wooded areas are in green, open areas in white, and water is blue. Elevation is in feet and local community roads and US Forest Service roads are gray lines.

Several target lists and collections were used to aid in looking for species, including herbarium lists of Lake Roberts (less than 20 species) the Dale A. Zimmerman Herbarium (SNM) at Western New Mexico University, and the New Mexico State Herbarium (NMC), New Mexico University Range Herbarium (NMCR), and a list of plant species for the Gila National Forest developed by Jack Carter. In addition, discussion of this project with William Norris, Professor of Biology at Western New Mexico University and Russ Kleinman, Associate Botanist, Dale A. Zimmerman Herbarium, and also Kelly Allred, Professor Emeritus, New Mexico State University, have provided many leads, past species lists and collections of the area, and insights into identifying difficult taxa, such as sedges in the genus *Carex*, and others.

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Specimens were collected, pressed and labeled with date, location (GPS reading), names, and other pertinent information. These specimens have been deposited at the Dale A. Zimmerman Herbarium at Western New Mexico University. All data related to the specimens are available on SEINet (Southwestern Environmental Information Network at: http://swbiodiversity.org/seinet/) and duplicates of specimens were provided to the Ronald L. McGregor Herbarium (KANU) at the University of Kansas for verification of identification and to make an additional permanent record. Where needed, other specimen found in other herbaria and on SEINet are listed. Nomenclature follows that of Flora Neomexicana, 3rd Edition (Allred 2020) which is based on the systematics and phylogeny outlined by Judd et al. (2016). Where varieties or subspecies have been determined, they have been added, but this has not increased the total number of taxa for the list.

Numerous visits to the study area were all made within the last 15 years, with the focus of the work being about 20 collection visits from 2008-2010 when the Gila Biodiversity study was underway (see Kindscher et al. 2008) and from 2014-2019 as work was also being conducted on the flora of the nearby Gila Cliff Dwellings National Monument. Fieldwork was conducted during the growing season and especially after the surprising dependable summer monsoons (about 2 weeks after they usually begin around July 4). In putting this list together, the wise guidance of Michael Palmer and J. Channing Richardson (2010) in their "Biodiversity data in the information age: do 21st century floras make the grade?" was considered and an effort was made to incorporate their suggested standards into this work.

Results

A total of 457 vascular plant species were found at the Lake Roberts area. Many are attractive wildflowers and images of almost all species can be found at Russ Kleinman's Vascular Plants of the Gila Wilderness (see: http://www.gilaflora.com/).

This list comprises about 12% of the state's 3,817 total vascular plant species(Allred, 2020). There were 79 vascular plant families represented in the Lake Roberts flora. The five plant families with the highest representation in the Lake Roberts flora are:

Asteraceae	81species
Poaceae	75 species
Fabaceae	28 species
Cyperaceae	16 species
Brassicaceae	15 species

There are a total of 284 genera represented in the plant list. The most diverse genera are: *Muhlenbergia* (10 species, *Euphorbia* (8), and *Carex* (8). The vast majority of species are perennials, but there are annual grasses, legumes and others. There are 52 species in the Lake Roberts flora that are exotic (not native to the State of New Mexico), and the majority are weeds, including two of concern as very invasive—purple loosestrife (*Lythrum salicaria*), with a few plants around the lake edge that have sporadically been managed, and one mature tamarisk tree (*Tamarix chinensis*) located in the dredged lake spoils. Both common apple (*Malus domesticus*) and peach trees (*Prunus persica*), are exotic and likely form discarded seeds that have sprung up at the edge of the lake adjacent to the fishing areas. A few non-native species have been planted and have persisted around the lake, including grasses: smooth brome, (*Bromus inermis*), Bermuda grass (*Cynadon dactylon*), orchard grass (*Dactylis glomerata*), weeping lovegrass (*Eragrostis curvula*), and tall fescue (*Schedonorus arundinacea*). Also, Siberian elm, *Ulmus rubra*) was planted and is spreading. In addition, several regional native plants have also apparently been planted, including buffalo grass (*Bouteloua dactyloides*) in parking areas, and soaptree yucca (*Yucca elata*), as an ornamental at two public use areas.

Rare and Unusual Plants

There are no federally listed species at Lake Roberts, but Goodding's bladderpod (*Physaria gooddingii*) and Mogollon Mountain draba (*Draba mogollonica*) are on the New Mexico Rare Plant List: https://

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nmrareplants.unm.edu/rarelist. One species, formerly on the list, Wright's dogweed (*Adenophyllum wrightii*) is on the Gila National Forest Sensitive Species list, but this difficult-to-see yellow composite is being found in additional locations within the study area, and is apparently more common in Mexico.

Other native species that are rare and unusual at Lake Roberts are marked with (1) in the species list. Many are just uncommon because of lack of suitable habitat. Of considerable interest are three unusual milkweeds: tufted milkweed (*Asclepias nummularia*), zizotes milkweed (*A. oenotheriodes*) and Rusby's milkweed (*A. rusbyi*). Several species occur locally in the study area at the northern or upper elevations of their range, including: Parry's agave (*Agave parryi*), walking stick cholla (*Cylindropuntia imbricata*), and turpentine bush (*Ericameria laricifolia*).

Conclusion

This list can be a useful tool for studies of plants and vegetation of the region. The list can also be of great interest to the public who wonder what plants they are seeing. In addition, by knowing the species of the area and sharing this information with those who manage Lake Roberts (the US Forest Service and the New Mexico Game and Fish Department), I believe that this important area can continue to receive good management and protection of its biodiversity, as it continues to receive heavy use by the public.

Acknowledgments

There are many people who helped me with this project, especially early in the process of learning the local flora. They included: William Norris, Dale Zimmerman, Russ Kleinman, Jack Carter, Richard Felger, Gene Jercinovic and Kelly Allred. Other botanists, and colleagues and students assisted me with identifications, information, help in the field or lab, corrections and edits. They included: Hillary Loring, Quinn Long, Craig Freeman, Caleb Morse, Ron McGregor, Chick Keller; Amy Isenberg, Kate Utech, Leanne Martin, Marilyn Markel, Jennifer Moody, Steve O'Kane, Angela Flanders, Deb Wagman, John Lacey and Dave Egan.

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Annotated List of the Vascular Plants of Lake Roberts

Each species below is assigned to the habitat where it is found.

Key to Habitats:

U = Upland. Pinyon/juniper /pondersosa pine; the majority of the area surrounding the lake
W = Wetlands or lake edge.
N = North-facing ravines.
R = Rock outcrops; very dry or excessively drained sites; mostly on Gila conglomerate.

Key to Abundance:

1 = Rare. Very few individual plants, or in small, very infrequent patches.
2 = Occasional. Not continuous in distribution within its habitat, but often encountered in suitable locations.
3 = Common. Frequently encountered and nearly continuous in suitable habitats.

Non-native species are marked with an (*), and are listed according to Allred (2020), {} for more well-known synonyms.

FERNS AND FERN ALLIES

Cystopteridaceae - Wood Fern Family
Cystopteris reevesiana Lellinger; SOUTHWESTERN BRITTLE FERN; U-1; Kindscher 4291; moist shady areas, often with rock outcrops.

Equisetaceae - Horsetail Family
Equisetum arvense L.; HORSETAIL; W-3; Kindscher 2473; low, wet areas near the lake only.

Pteridaceae - Maiden-hair Fern Family
Bommeria hispida (Mettenius ex Kuhn) Underwood; COPPER FERN; R-1; Kindscher 2510; only found in one rocky overhang in Gila conglomerate.
Pellaea atropurpurea (L.) Link; PURPLE CLIFFBRAKE; N-2; Kindscher 2857; associated with moist, shady rock outcrops.

GYMNOSPERMS

Cupressaceae - Cypress Family;
Juniperus deppeana Steud var. *deppeana*; ALLIGATOR JUNIPER; U-3; Kindscher 2453; the most common juniper in the area.
Juniperus monosperma (Engelm.) Sarg.; ONE-SEEDED JUNIPER; U-3; Kindscher 2499; in drier sites in uplands.
Juniperus scopulorum Sarg.; ROCKY MOUNTAIN JUNIPER; U-3; Kindscher 2500; scattered in uplands, some very large trees in ravines.

Pinaceae - Pine Family
Pinus edulis Engelm.; PINYON PINE; U-3; Kindscher 2527; common in uplands.
Pinus ponderosa Douglas ex Lawson & C. Lawson subsp. *brachyptera* (Engelmann) Silba ; ROCKY MOUNTAINS PONDEROSA PINE; U-3; Kindscher 2502; common in uplands, very large mature trees in moist sites and ravines.
Pseudotsuga menziesii (Mirbel) Franco var. *glauca* (Beissner) Franco; DOUGLAS FIR; U-1; Kindscher 2538; only found in three north-facing ravines draining into the lake.

ANGIOSPERMS - Monocotyledonous Plants

Agavaceae - Century-plant Family
Agave parryi Engelm.; PARRY'S AGAVE; R-1; Kindscher 2667; only found on south-facing slopes of Gila conglomerate.
Echeandia flavescens (J.A. & J.H. Schultes) Cruden; CRAG-LILY; N-1; Kindscher 2566; not common, found only in pine forests in moist north-facing slopes.
Yucca baccata Torr.; BANANA YUCCA; U-3; Kindscher 2584; scattered, in dry areas.
Yucca elata Engelm.; SOAPTREE YUCCA; U-1; Kindscher 2890; appears to be planted; only a handful of plants at the main fishing dock area and one plant at the fishing area from the trail down from the Vista Village parking lot.

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Alliaceae - Lily Family

Allium rhizomatum Wooten and Standley; NEW MEXICO ONION; U-1; Kindscher 4050; only a couple patches found on the south side of the lake in pinyon-juniper habitat.

Araceae - Arum Family

Lemna gibba L.; SWOLLEN DUCKWEED; W-3; Kindscher 2843, Correll 3363; in standing water, below the lake.
Lemna minor L.; COMMON DUCKWEED; W-3; Correll & Correll 3362; in standing water.
Lemna minuta Kunth; LEAST DUCKWEED; W-3; Kindscher 2844; in standing water.

Commelinaceae - Spiderwort Family

Commelina dianthifolia Delile; BIRD BILL DAYFLOWER; U-3; Kindscher 2598; common in ponderosa pine habitats.
Tradescantia pinetorum Greene; PINEWOODS SPIDERWORT; R-3; Kindscher 2581; primarily found in shallow soil basins in Gila conglomerate outcrops.

Cyperaceae - Sedge Family

Bulbostylis capillaris (L.) Kunth ex C.B. Clarke; THREADLEAF SEDGE; R-2; Kindscher 3099; primarily found in shallow soil basins in Gila conglomerate outcrops.
Carex athrostachya Olney; SLENDER BEAK SEDGE; W-1; Bleakley 5590; in wet soils areound the lake.
Carex agrostoides Mackenzie; GRASS-LEAF SEDGE; W-2; Kindscher 3041; in wet soils around the lake.
Carex geophila Mack.; WHITE MOUNTAIN SEDGE; U-3; Kindscher 4034; surprisingly common throughout much of the pinyon-juniper habitat, with fruiting bodies not evident, so appears as another grass.
Carex hystericina Muhl. ex Willd.; PORCUPINE SEDGE; W-2; Kindscher 2760; in wet soils around the lake.
Carex occidentalis L.H. Bailey; WESTERN SEDGE; W-3; Kindscher 4456; in wet soils around the lake.
Carex praegracilis W. Boott; CLUSTERED FIELD SEDGE; W-2; Kindscher 2381; in wet soils around the lake.
Carex senta W. Boott; SWAMP SEDGE; W-1; Kindscher 3038; in clumps along water's edge.
Carex stipata Muhlenberg ex Willd. var. *stipata*; SEDGE; W-2; Kindscher 2382; in wet soils around the lake.
Carex subfusca W. Boott; BROWN SEDGE; W-2; Bleakly 5581-A; in wet soils around the lake.
Carex vulpinoidea Michaux; FOX SEDGE; W-2; Adams 42; in moist soil around the lake.
Cyperus esculentus L. var. *leptostachyus* Boeckeler; CHUFA, YELLOW NUT-SEDGE; W-2; Kindscher 2920; in wet soils around the lake.
Cyperus fendlerianus Boeckeler; FENDLER'S FLAT-SEDGE; U-3; Kindscher 2823; scattered in upland habitats.
Cyperus parishii Britton; PARISH'S FLATSEDGE; W-2; Kindscher 4335; in wet soils around the lake.
Cyperus odoratus L.; FRAGRANT FLATSEDGE; W-2; Kindscher 4041; in wet soils around the lake.
Cyperus squarrosus L.; BEARDED FLATSEDGE; R-2; Kindscher 3093; in wet soils around the lake.
Eleocharis parishii Britton; PARISH'S SPIKERUSH; W-2; Kindscher 2389; in wet soils around the lake.
Schoenoplectus tabernaemontani (C.C. Gmelin) Palla; SOFTSTEM BULRUSH; W-3; Kindscher 2405; along water's edge or in lake water.
Scirpus pallidus (Britton) Fernald; CLOAKED BULRUSH; W-2; Kindscher 2441; along water's edge or in lake water.

Iridaceae - Iris Family

Sisyrinchium demissum Greene; STIFF BLUE-EYED GRASS; W-1; Kindscher 2662; rare, one colony in moist soil along water's edge.

Juncaceae - Rush Family

Juncus bufonius L.; TOAD RUSH; W-3; Kindscher 3016; in wet soils around the lake.
Juncus interior Wiegand; INLAND RUSH; W-3; Kindscher 2394; in wet soils around the lake.
Juncus longistylis Torre; LONG-STYLE RUSH; W-3; Kindscher 2792; in wet soils around the lake.
Juncus saximontanus A. Nelson; ROCKY MOUNTAIN RUSH; W-3; Kindscher 2915; in wet soils around the lake.
Juncus torreyi Coville; TORREY'S RUSH; W-2; Adams 238, Kindscher 2841; in wet soils around the lake.

Poaceae - Grass Family

Agrostis exarata Trin. var. *minor* Hooker; SPIKE BENTGRASS; W-2; Kindscher 4040; located in dried floodplain area immediately above lake.
**Agrostis gigantea* Roth; REDTOP; W-3; Kindscher 2589; in wet soils around the lake.
Agrostis scabra Willdenow; ROUGH BENTGRASS; W-3; Kindscher 3023; floodplains and moist soil around lake.
Alopecurus aequalis Sobol.; SHORTAWN FOXTAIL; W-2; Kindscher 4049; Correll 33058; in wet soils around the lake.
Aristida adscensionis L.; SIX-WEEKS THREEAWN; U-3; Kindscher 2636 disturbed areas.
Aristida arizonica Vasey; ARIZONA THREEAWN; U-3; Kindscher 2735; dry soils of upland areas.
Aristida purpurea Nutt.; PURPLE THREEAWN; U-3; Kindscher 3037; common in upland areas.
Aristida schiedeana Trin. & Rupr. var. *orcuttiana* (Vasey) Allred & Valdés-R.; SINGLE THREEAWN; U-3; Kindscher 2411; dry soils of upland areas.

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Aristida ternipes Humb. & Bonp. ex Willd. var. *gentilis* (Henrard) Allred; POVERTY THREEAWN; U-3; Kindscher 3050; dry soils of upland areas.
Bothriochloa barbinodis Lag. Herter; CANE BLUESTEM; U-3; Kindscher 2816; disturbed areas in dry soils of upland areas.
**Bothriochloa bladhii* (Retz.) S.T. Blake; AUSTRALIAN BLUESTEM; U-3; Kindscher 4051; disturbed areas in dry soils of upland areas.
**Bothriochloa torreyana (Steudel) Scrivanti & Anton*; SILVER BEARDGRASS; U-3; Kindscher 2905; disturbed areas in dry soils of upland areas.
Bouteloua curtipendula (Michaux) Torrey; SIDE-OATS GRAMA; U-3; Kindscher 2807; found in good soils and moister sites in upland areas.
Bouteloua dactyloides (Nutt.) J.T. Columbus {*Buchloe dactyloides*}; BUFFALOGRASS; U-2; Kindscher 4332; apparently planted in main parking area near north-shore boat ramp.
Bouteloua gracilis (Willd. ex Kunth) Lagasca ex Griffiths; BLUE GRAMA; U-3; Kindscher 2416; common in upland areas.
Bouteloua hirsuta Lagasca; HAIRY GRAMA; U-3; Kindscher 2808; in upland areas, in rocky habitats with shallow soils.
Bouteloua radicosa (Fournier) Griffiths; PURPLE GRAMA; U-1; Kindscher 2470; only found in a few locations of Gila conglomerate outcrops on north side of the lake.
Bouteloua simplex Lag.; MAT GRAMA; U-2; Kindscher 4231; in parking lot area near boat ramp on north shore.
Bromus carinatus Hook. & Arn.; CALIFORNIA BROME, MOUNTAIN BROME; U-3; Kindscher 3032; ponderosa pine slopes and shady riparian areas.
**Bromus catharticus* Vahl.; RYE CHESS; U-3; Kindscher 2906; ponderosa pine slopes and shady riparian areas.
Bromus ciliatus L.; FRINGED BROME; U-3; Kindscher 2419; ponderosa pine slopes and shady riparian areas.
Bromus frondosus (Shear) Woot. & Standl.; WEEPING BROME; U-2; Kindscher 4151; ponderosa pine slopes and shady riparian areas.
**Bromus inermis* Leyss.; SMOOTH BROME; U-3; Kindscher 2818; planted on and near lake dam.
**Bromus tectorum* L.; CHEAT GRASS; U-3; Kindscher 2471; disturbed areas around the lake and trails.
**Chloris virgata* Swartz; SHOWY WINDMILL GRASS; U-3; Kindscher 2643; disturbed areas and parking areas.
**Cynodon dactylon* (Linnaeus) Persoon; BERMUDA GRASS; W-2; Kindscher 4288; planted around boat docks and parking areas.
**Dactylis glomerata* L.; ORCHARDGRASS; U-2; Kindscher 2450; planted, as only occurring on and around the dam.
**Echinochloa crus-galli* (L.) Beauv.; LARGE BARNYARD GRASS; W-3; Kindscher 2907; in wet soils around the lake.
Echinochloa muricata (Beauv.) Fernald var. *microstachya* Wiegand; ROUGH BARYARD GRASS; W-3; Bleakly 1715, Kindscher 1840; in wet soils around the lake.
Elymus canadensis L.; CANADA WILD-RYE; U-3; Kindscher 2606; open, riparian areas.
**Elymus elongatus* (Host) Runemark; TALL WHEATGRASS; W-2; Kindscher 4289; open, riparian areas.
Elymus elymoides (Rafinesque) Swezey subsp. *brevifolius* (J.G. Smith) Barkworth; SQUIRRELTAIL; U-3; Kindscher 2513; scattered across upland areas.
Elymus lanceolatus (Scribner & Smith) Gould; THICK-SPIKE WHEATGRASSS; W-3; Holland 10498; open, riparian areas.
Elymus trachycaulus (Link) Gould subsp. *subsecundus* (Link) A. & D. Löve; SLENDER WHEATGRASS; W-3; Kindscher 2451; in wet soils around the lake.
**Eragrostis cilianensis* (Allioni) Lutati ex Janchen; STINKGRASS; U-3; Kindscher 2452; disturbed areas around the lake, often with moist soil.
**Eragrostis curvula* (Schrad.) Nees; WEEPING LOVEGRASS; W-3; Kindscher 2511; planted along roadsides.
Eragrostis mexicana (Hornemann) Link subsp. *mexicana*; MEXICAN LOVEGRASS; W-3; Kindscher 2738; common, especially in disturbed areas with moist soil.
Eriochloa acuminata (J. Presl) Kunth; TAPERTIP CUPGRASS; W-2; Kindscher 4183; disturbed areas.
Hopia obtusa (Kunth) Zuloaga & Morrone, {*Panicum obtusum*}; VINE MESQUITE; U-3; Kindscher 2456; grasslands and open disturbed sites.
Hordeum brachyantherum Nevski; MEADOW BARLEY; W-2; Kindscher 2837; in wet soils around the lake.
Hordeum jubatum subsp. jubatum L.; FOXTAIL BARLEY; W-3; Kindscher 2765; in wet soils around the lake.
Koeleria macrantha (Ledebour) J.A. Schultes; JUNE GRASS; U-3; Kindscher 2455; grasslands.
Leersia oryzoides (L.) Sw.; RICE CUTGRASS; W-2; Kindscher 4118; in wet soils around the lake.
Melica porteri Scribner; PORTER'S MELICGRASS; U-1; Kindscher 4325 rare, only found in deep shade near cliffs along trail from Upper End Campground to the lake.
Muhlenbergia alopecuroides (Grisebach) Peterson & Columbus; {*Lycurus setosus*} BRISTLY WOLFSTAIL; U-3; Kindscher 2714; scattered across dry grassland and savanna areas.
Muhlenbergia brevis C. O. Godding; SHORT MUHLY; R-1; Kindscher 4340; thin soils in Gila conglomerate outcrops.
Muhlenbergia dubia Fournier ex Hemsley; PINE MUHLY; U-3; Kindscher 2686; dry grassland areas.
Muhlenbergia emersleyi Vasey; BULLGRASS; U-3; Kindscher 2715; sunny ravines, often rocky.
Muhlenbergia minutissima (Steudel) Swallen; LEAST MUHLY; R-3; Kindscher 2687; thin soils in Gila conglomerate outcrops.
Muhlenbergia pauciflora Buckley; MESA MUHLY; U-3; Kindscher 2743; rocky areas and cliffs.
Muhlenbergia repens (Presl) Hitchcock; CREEPING MUHLY; U-3; Kindscher 2927; shaded areas in pinyon- juniper habitat and

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grasslands.
Muhlenbergia rigens (Benth.) A.S. Hitchc.; DEERGRASS; U-3; Kindscher 2434; often in moist rocky ravines.
Muhlenbergia rigida (Kunth) Trinius; PURPLE MUHLY; U-3; Kindscher 2688; rocky, open habitats.
Muhlenbergia wrightii Vasey ex Coulter; SPIKE MUHLY; U-3; Kindscher 2345; very dry, often gravelly sites.
Panicum capillare L.; WITCHGRASS; U-3; Kindscher 2779; disturbed and rocky habitats, often on moist soils.
**Panicum dichotomiflorum* Michaux; FALL PANICUM; U-3; Kindscher 2623; moist soils, usually on floodplains.
Panicum hirticaule J. Presl; MEXICAN PANICGRASS; U-2; Kindscher 4160; annual, responding to monsoons in upland areas of thin soil.
Pascopyrum smithii (Rydberg) Barkworth & Dewey; {*Elymus smithii*} WESTERN WHEATGRASS; W-3; Kindscher 2829; common grassland species, especially in deeper, clayey soils.
Paspalum distichum L.; HAIRY CRABGRASS; U-3; Kindscher 2825; scattered in sunny, moist habitats.
Piptochaetium fimbriatum (Kunth) Hitchcock; PINYON RICEGRASS; U-3; Kindscher 2876; common in pinyon-juniper habitat, often performing circular patches directly under widely-spaced trees.
**Poa annua* L.; ALPINE BLUEGRASS; U-3; Kindscher 2861; in very disturbed areas, near boat docks and heavily used trails.
Poa fendleriana (Steudel) Vasey; FENDLER'S BLUEGRASS; U-3; Kindscher 2481; common upland grass especially in open ponderosa pine forest.
**Poa pratensis* L.; KENTUCKY BLUEGRASS; U-3; Kindscher 2800; common grass in moist, disturbed areas, such as along lake edge trails.
**Polypogon monspeliensis* (L). Desf.; ANNUAL RABBITSFOOT GRASS; W-3; Kindscher 4045; moist soil in floodplain.
**Polypogon viridis* (Gouan) Breistr; BEARDLESS RABBITSFOOT GRASS; W-3; Kindscher 4046; moist soils in floodplain.
* *Schedonorus arundinaceus* (Schreber) Dumortier; TALL FESCUE; U-3; Kindscher 2770; planted and spread from dam construction and road building.
Schizachyrium cirratum (Hackel) Wooton & Standley; TEXAS BLUESTEM; U-3; Kindscher 2461; scattered in understory, open sites of ponderosa pine stands.
**Setaria adhaerens* (Forssk.) Chiov.; BUR BRISTLEGRASS; U-3; Kindscher 4047; found in weedy, disturbed sites.
Setaria grisebachii Fournier; GRISEBACH'S BRISTLEGRASS; U-3; Kindscher 2723; found in weedy, disturbed sites.
Setaria leucopila (Scribn. & Merr.) K. Schumann; PLAINS BRISTLEGRASS; U-3; Kindscher 2868; widely scattered in upland grassland sites.
**Setaria pumila* (Poiret) Roemer & Schultes; YELLOW BRISTLEGRASS; U-3; Kindscher 2724; found in weedy, disturbed sites.
Sorghastrum nutans (L.) Nash; INDIANGRASS; U-1; Kindscher 2971; only one site of a large colony of plants under ponderosa pine in a moist open site.
**Sorghum halepense* (L.) Persoon; JOHNSON GRASS; W-3; Kindscher 2443; edge of lake in several locations.
Sphenopholis obtusata (Michaux) Scribner; PRAIRIE WEDGESCALE; W-3; Kindscher 3018; moist soil in the floodplain.
Sporobolus contractus Hitchc.; SPIKE DROPSEED; W-3; Kindscher 2462; common in floodplain areas.
Sporobolus cryptandrus (Torrey) Gray; SAND DROPSEED; U-3; Kindscher 2463; common in upland areas of grasslands and open pinyon-juniper habitats.
Zuloagaea bulbosa (Kunth) Bess; {*Panicum bulbosum*} BULB PANICGRASS; U-3; Kindscher 2856 scattered in shady ponderosa pine habitats.

Potamogetonaceae - Pondweed Family
Potamogeton foliosus Rafinesque var. *foliosus*; LEAFY PONDWEED; U-3; Adams 29; in lake water.
Stuckenia pectinata (L.) Böerner; {*Potamogeton pectinatus*} SAGO PONDWEED; W-3; Adams 28, Kindscher 3063; common in lake water.
Zannichellia palustris L.; HORNED PONDWEED; W-3; Adams 30; in lake water.

Ruscaceae (Convallariaceae) - Butcher's-Broom Family
Maianthemum racemosum (L.) Link subsp. *amplexicaule* (Nuttall) LaFrankie; {*Smilacina racemosa*} FALSE SOLOMON'S SEAL; N-1; Kindscher 2526; only found in a few locations in deep shade in canyons and seepy areas.
Polygonatum biflorum (Walter) Elliott; SOLOMON'S SEAL; N-2; Kindscher 2528; in very moist shady sites in canyons.

Typhaceae - Cat-tail Family
Typha domingensis Pers.; SOUTHERN CATTAIL; W-3; Kindscher 2635; lake or water's edge.
Typha latifolia L.; BROADLEAF CATTAIL; W-3; Kindscher 2530; lake or water's edge.

ANGIOSPERMS - Dicotyledonous Plants

Amaranthaceae - Amaranth Family
* *Amaranthus hybridus L.* GREEN PIGWEED; U-3; Kindscher SNM 17972; disturbed sites, primarily in the floodplain.
Amaranthus palmeri S. Wats.; PALMER'S AMARANTH; U-3; Kindscher 2409; disturbed sites primarily in the floodplain.
*Bassia scoparia (Linnaeus) A.J. Scott {*Kochia scoparia*}; BURNING BUSH; U-3; Kindscher 2618; disturbed areas.

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Chenopodiastrum simplex (Torrey) S. Fuentes, Uotila & Borsch; MAPLELEAF GOOSEFOOT; U-3; Kindscher 2730; shady sites, often riparian.
**Chenopodium album* L.; LAMB'S QUARTER; U-3; Kindscher 2914; disturbed areas, often riparian.
Chenopodium fremontii S. Wats.; FREMONT'S GOOSEFOOT; U-3; Kindscher 2749; disturbed areas.
Chenopodium incanum (S. Watson) A. Heller; MEALY GOOSEFOOT; U-3; Kindscher 4048; disturbed areas.
Chenopodium leptophyllum (Moq.) Nutt. ex S. Wats.; NARROWLEAF GOOSEFOOT; U-3; Kindscher 2820; shady areas, often disturbed.
Chenopodium neomexicanum Standl.; NEW MEXICO GOOSEFOOT; U-3; Kindscher 4152; shady areas, often disturbed.
Dysphania graveolens (Willd.) Mosyakin & Clemants; GOOSEFOOT; U-3; Kindscher 2423; shady areas in ponderosa pine habitats, often disturbed.
Froelichia gracilis (Hooker) Moquin-Tandon; SLENDER SNAKE-COTTON; R-2; Kindscher 2612; thin soils, disturbed sites, often in Gila conglomerate.
Gomphrena caespitosa Torr.; TUFTED GLOBE-AMARANTH; R-2; Kindscher 3008.
Guilleminea densa (Humb. & Bonpl. ex Willd.) Moq.; SMALL MATWEED; U-3; Kindscher 2518; thin soils, disturbed sites, often in Gila conglomerate.
**Salsola tragus* L.; RUSSIAN THISTLE; U-3; Kindscher 3067; disturbed areas.

Anacardiaceae - Sumac Family
Rhus trilobata Nutt.; SKUNKBUSH SUMAC; U-3; Kindscher 2630; scattered in canyons and moist ravines.
Toxicodendron rydbergii (Small ex Rydberg) Greene; POISON IVY; N-3; Kindscher 3021; shady moist areas, often in canyons, near cliffs.

Apiaceae - Parsley Family
Berula erecta (Huds.) Coville; WATERPARSNIP; W-2; Kindscher 2509; lake edge.
Cymopterus lemmonii (Coulter & Rose) Dorn; LEMMON'S SPRING-PARSLEY; N-2; Kindscher 2529; shady sites in ponderosa pine habitats.
**Torilis arvensis* (Huds.) Link; HEDGE PARSLEY; W-2; Kindscher 4037; disturbed areas near lake.

Apocynaceae - Dogbane Family
Apocynum cannabinum L.; INDIAN HEMP; N-1; Kindscher 4290 uncommon, only in a couple shady locations—moist slope or riparian.
Asclepias asperula Wood ex Carruth subsp. asperula; SPIDER MILKWEED; U-2; Kindscher 2736; in a variety of upland habitats.
Asclepias nummularia Torrey; TUFTED MILKWEED; U-1; Kindscher 2815; rare, in dry, rocky, south-facing slopes of pinyon-juniper woodlands.
Asclepias oenotheriodies Chamisso & Schlectendal; ZIZOTES MILKWEED; U-1; Kindscher 2586; rare, only a couple plants observed in rocky dry sites of pinyon-juniper habitat.
Asclepias rusbyi (Vail) Woodson; RUSBY'S MILKWEED; U-1; Kindscher 4237; only a few plants observed on steep open slopes near the lake on north-facing slopes.
Asclepias subverticillata (Gray) Vail; HORSETAIL MILKWEED; U-2; Kindscher 2585; patches of this plant are along roadsides and trails in open areas.
Asclepias tuberosa L. subsp. *interior* Woodson; BUTTERFLY MILKWEED; N-1; Kindscher 2880; scattered locations in ponderosa pine, shaded habitat.

Asteraceae - Aster Family
Achillea millefolium L.; YARROW; U-3; Kindscher 2587; common in a variety of habitats.
Adenophyllum wrightii A. Gray; WRIGHT'S DOGWEED; U-1; Kindscher 4154; this rare plant, very hard to find unless in flower, was only found on a north-facing dry rocky slope in one location near the lake.
Ageratina herbacea (Gray) R.M. King & H.E. Robinson; FRAGRANT SNAKEROOT; N-2; Kindscher 2918; on slopes in shade under ponderosa pines and other shaded moist sites.
Aldama cordifolia (A. Gray) E.E. Shilling & Panero; HEARTLEAF GOLDENEYE; U-3; Kindscher 3088; scattered in a variety of sites, including pinyon-juniper habitats.
Ambrosia acanthicarpa Hooker; FLATSPINE BURR RAGWEED; U-3; Kindscher 2410; common in disturbed riparian areas, especially in rocky locations.
Ambrosia psilostachya D.C.; PERENNIAL RAGWEED; U-3; Kindscher 2894; scattered in grassland sites.
Ambrosia trifida L.; GREAT RAGWEED; W-2; Kindscher 2668; open floodplain sites.
Antennaria parvifolia Nutt.; SMALL-LEAF PUSSYTOES; N-1; Kindscher 4039. Rare, only found under ponderosa pine in steep north-facing slope above the Upper End Campground.
Artemisia carruthii Wood ex Carruth; CARRUTH'S SAGEWORT; U-3; Kindscher 2412; one of the more common plants, found in riparian areas, and in moist, upland, often disturbed sites.
Artemisia dracunculus L.; TARRAGON; N-1; Kindscher 2813; only found along the trail on the south shore near lake, in shady cliff area.

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Artemisia ludoviciana Nutt.; WORMWOOD; U-2; Kindscher 2637; scattered locations around the lake, often associated with shady rock outcrops.

Baccharis pteronioides D.C.; YERBA-DE-PASMO; U-1; Kindscher 2881; rare, only a few plants observed, on very dry south-facing slope between the dam and Vista Village.

Bidens bigelovii A. Gray; BIGELOW'S BEGGARTICKS; U-3; Kindscher 4162; one of the most common plants found in a variety of habitats from disturbed sites to pinyon-juniper habitats.

**Bidens bipinnata* L.; SPANISH NEEDLES; U-3; Kindscher 2810; in moist soil near lake edge.

Bidens frondosa L.; DEVIL'S BEGGARTICKS; U-3; Kindscher 4156; in moist soil near lake edge.

Bidens pilosa L.; HAIRY BEGGARTICKS; U-3; Kindscher 2895; in moist soil adjacent to lake and along shady parts of the trail around the lake.

Brickellia brachyphylla Gray; PLUMED BRICKELLBRUSH; U-3; Kindscher 2919; shady sites in ponderosa pine habitats.

Brickellia eupatorioides L. Shinners var. *chlorolepis* (Wooton & Standley) B. Turner; FALSE BONESET; U-3; Kindscher 2908; scattered in moist upland sites.

Brickellia floribunda Gray; CHIHUAHUAN BRICKELLBUSH; U-3; Kindscher 2926; shady canyons, ravines, floodplain areas.

Brickellia grandiflora (Hook.) Nutt.; TASSEL-FLOWER BRICKELLBUSH; U-3; Kindscher 2909; shady canyons, ravines, floodplain areas.

Brickellia rusbyi Gray; RUSBY'S BRICKELLBUSH; U-3; Kindscher 2814; shady canyons, ravines, floodplain areas.

Brickelliastrum fendleri (Gray) King & H.E. Robinson; FENDLER'S BRICKELLBUSH; U-2; Kindscher 4409; cliffs and steep slopes in ponderosa pine habitat.

Carminatia tenuiflora A.P. de Candolle; FENDLER'S DRYMARY; N-2; Kindscher 2707; moist upland sites in canyons and shady habitats.

Cirsium neomexicanum Gray; NEW MEXICO THISTLE; U-3; Kindscher 2386; widespread in upland sites.

Cirsium undulatum (Nuttall) Sprengel; YELLOW-SPINED THISTLE; U-3; Kindscher 2896; widespread in upland sites.

**Cirsium vulgare* (Savi) Ten.; BULL THISTLE; W-2; Kindscher 2731; disturbed areas, especially in floodplain and moist, shady sites.

**Conyza canadensis* (L.) Cronq.; HORSEWEED; U-3; Kindscher 2645; moist, disturbed sites.

Cosmos parviflorus (Jacquin) Humb., Bonp., & Kunth; SOUTHWEST COSMOS; U-3; Kindscher 2674; upland sites; often shady.

Dieteria bigelovii (Gray) Morgan & Hartman; TANSY ASTER; U-3; Kindscher 2422; common in disturbed sites with moist soil or some shade.

Dyssodia papposa (Vent.) Hitchc.; FETID MARIGOLD; U-2; Kindscher 4161; dry disturbed sites; often on the edge of gravel roads.

Ericameria laricifolia (Gray) Shinners; TURPENTINE BUSH; R-1; Kindscher 2710; rare, only one plant observed, clinging to Gila conglomerate rock on very dry south-facing slope.

Ericameria nauseosa (Pallas ex Pursh) Nesom & Baird; RABBIT BUSH; U-3; Kindscher 2425; common on rocky, gravely, sandy flood plain areas.

Erigeron bellidiastrum Nutt.; WESTERN FLEABANE; U-3; Kindscher 2830; open areas in ponderosa pine forest.

Erigeron divergens Torrey & Gray; SPREADING FLEABANE; U-3; Kindscher 2904; upland areas.

Erigeron neomexicanus Gray; NEW MEXICO FLEABANE; U-3; Kindscher 2680; moist sites in upland forests.

Erigeron speciosus (Lindley) D.C.; ASPEN FLEABANE; N-2; Kindscher 2897; very moist, shaded sites in ponderosa pine forest.

Erigeron tracyi Greene; RUNNING FLEABANE; U-3; Kindscher 2390; common in partially shady, disturbed sites in uplands.

Gaillardia pinnatifida Torrey; RED DOME BLANKETFLOWER; U-3; Kindscher 2649; open, sunny, upland sites.

**Galinsoga parviflora* Cavanilles var. *semicalva* A. Gray; GALLANT SOLDIER; U-3; Kindscher 2681; disturbed sites near the lake.

Grindelia arizonica Gray; ARIZONA GUMWEED; U-3; Kindscher 2650; disturbed areas adjacent to roadsides and of floodplains.

Gutierrezia sarothrae (Pursh) Britt. & Rusby; BROOMWEED; U-3; Kindscher 2429; scattered in dry upland areas.

Gymnosperma glutinosum (Sprengel) Lessing; GUMHEAD; U-3; Kindscher 3009; scattered in open upland sites.

Helianthus annuus L.; COMMON SUNFLOWER; U-3; Kindscher 3082; open floodplain sites.

Helianthus petiolaris Nuttall var. *fallax* (Heiser) B.L. Turner; PLAINS SUNFLOWER; U-3; Kindscher 2683; open floodplain sites.

Heliomeris longifolia (B.L. Rob. & Greenm.) Cockerell var. longifolia; GOLDENEYE; U-3; Kindscher 2447; moist soils and shady upland sites.

Heliomeris multiflora Nuttall; SHOWY GOLDENEYE; U-3; Kindscher 2694; moist soils and shady upland sites.

Heterosperma pinnatum Cav.; WINGPETAL; U-2; Kindscher 4147; uplands with thin soils of Gila conglomerate.

Hieracium fendleri Schultz-Bipontinus; YELLOW HAWKWEED; N-1; Kindscher 2836; shady sites in ponderosa pine habitats.

Hymenopappus mexicanus Gray; MEXICAN WOLLY-WHILTE; U-3; Kindscher 4246; open upland sites.

Hymenothrix dissecta (A. Gray) B.G. Baldwin; RAGGED-LEAF BAHIA; U-3; Kindscher 2671; open upland sites.

Hymenothrix wrightii Gray; WRIGHT'S THIMBLEHEAD; U-3; Kindscher 2712; open upland sites.

Hymenoxys rusbyi (A. Gray) Cockerell; PINGUE; U-3; Kindscher 4027; open upland sites.

Lactuca oblongifolia Nuttall; BLUE LETTUCE; U-3; Kindscher 2842; shady moist sites, lakeside and in ponderosa pine habitats.

**Lactuca serriola* L.; PRICKLY LETTUCE; U-3; Kindscher 2740; disturbed sites near the lake.

Laennecia coulteri (A. Gray) Nesom; COULTER'S HORSEWEED; U-2; Kindscher 4286; scattered in disturbed sites.

Packera neomexicana (Gray) W.A. Weber & A. Löve var. *mutabilis* (Greene) W.A. Weber & A. Löve; NEW MEXICO

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GROUNDSEL; U-3; Kindscher 2407; scattered in upland ponderosa pine habitats.

Pectis filipes Harv. & A. Gray var. *subnuda* Fernald; LEMONWEED; U-3; Kindscher 2658; scattered in disturbed upland sites, and also in thin-soiled Gila conglomerate sites.

Pectis prostrata Cavanilles; DWARF CHINCHWEED; U-3; Kindscher 3036; roadside disturbed areas.

Plectocephalus rothrockii (Greenman) D.J.N. Hind; {*Centaurea rothrockii*} ROTHROCK'S BASKETFLOWER; W-3; Kindscher 2437; moist sites lake edge or under shady ponderosa pine habitats.

Pseudognaphalium canescens (de Candole) Weber; WRIGHT'S CUDWEED; N-3; Kindscher 2438; scattered in upland sites.

Pseudognaphalium stramineum (Kunth) W.A. Weber; CUDWEED; N-3; Kindscher 3041; scattered in upland sites.

Psilostrophe tagetina (Nutt.) Greene; WOOLY PAPER-FLOWER; U-2; Kindscher 2721; found in sunny, upland sites.

Rudbeckia laciniata L. var. *ampla* (A. Nelson) Cronquist; GREEN-HEAD CONEFLOWER; W-1; Kindscher 2554; one location in wetland area adjacent to lake on north side.

Sanvitalia abertii Gray; ABERT'S DOME; U-3; Kindscher 2786; scattered in dry upland sites.

Senecio flaccidus Lessing var. *flaccidus*; THREADLEAF RAGWORT; U-2; Kindscher 2406; uncommon in dry upland sites.

Senecio wootonii Greene; WOOTON'S RAGWORT; N-3; Kindscher 2899; moist upland sites under ponderosa pine.

Solidago lepida A.P. de Candolle var. *salebrosa* (Piper) Semple; WESTERN GOLDENROD; U-3; Kindscher 2745; moist upland sites under ponderosa pine.

Solidago velutina A.P. de Candolle; THREE-NERVED GOLDENROD; U-3; Kindscher 2691; moist upland sites under ponderosa pine.

**Sonchus asper* (L.) Hill; SPINY-LEAF SOW-THISTLE; W-3; Kindscher 2870; wet soils around the lake.

Stephanomeria pauciflora (Torr.) A. Nelson; WIRE LETTUCE; U-3; Kindscher 4036; scattered in dry upland sites.

Stevia micrantha Lagasca; CANDYLEAF; U-2; Kindscher 4185; wet upland sites; including seasonal pools in Gila conglomerate outcrops.

Symphyotrichum ericoides (Linnaeus) Nesom var. *ericoides;* {*Aster ericoides*}; WHITE HEATH ASTER; U-3; Kindscher 2872; scattered in upland and lowland sites.

Symphyotrichum falcatum (Lindley) Nesom var. *falcatum*; SMOOTH WHITE ASTER; U-3; Kindscher 2444; found in upland sites.

Symphyotrichum lanceolatum (Willd.) Nesom var. *hesperium* (A. Gray) Nesom; WILLOWLEAF ASTER; U-3; Kindscher 2445; moist soil and meadows near lake.

Tagetes micrantha Cavanilles; LICORICE MARIGOLD; U-3; Kindscher 2727; wet upland sites; including seasonal pools in Gila conglomerate outcrops.

**Taraxacum officinale* G.H. Weber ex F.H. Wiggers; COMMON DANDELION; U-3; Kindscher 2487 disturbed sites near the lake and roads.

Townsendia exscapa (Richardson) Porter; STEMLESS TOWNSEND-DAISY; N-1; Kindscher 3019; one location associated with a moist meadow under ponderosa pine on the south side of the lake.

**Tragopogon dubius* Scopoli; GOATSBEARD; U-3; Kindscher 2408; scattered in disturbed lowland sites.

Verbesina encelioides (Cavanilles) Bentham & Hooker f. ex Gray; GOLDEN CROWNBEARD; U-3; Kindscher 2582; moist soils and disturbed sites near the lake.

Viguiera dentata (Cavanilles) Sprengel; GIANT GOLDENEYE; U-2; Kindscher 4179; riparian areas and moist, shady locations.

Xanthisma gracile (Nutt.) Morgan & Hartman; SLENDER SLEEP-DAISY; U-3; Kindscher 2448; scattered in dry upland and dry riparian sites.

Xanthium strumarium L.; ROUGH COCKLEBURR; W-3; Kindscher 2449; lake edge.

Betulaceae - Birch Family

Alnus oblongifolia Torr.; ARIZONA ALDER; W-1; Kindscher 2901 rare, only located lake edge on the south side of the lake near cliffs.

Boraginaceae - Borage Family

Hackelia ursina (Greene ex A. Gray) I.M. Johnst.; CHIHUAHUAN STICKSEED; U-2; Kindscher 4149; found only in dense shaded sites in riparian areas and moist sites.

Lappula occidentalis (S. Wats.) Greene; SPINY SHEEPBUR; U-3; Kindscher 2892; dry upland sites, often disturbed.

Lithospermum cobrense Greene; COBRE GROMWELL; U-2; Kindscher 3075; scattered in open upland sites.

Lithospermum incisum Lehmann; FRINGED GROMWELL; U-3; Kindscher 3076; dry upland sites.

Lithospermum macromeria J. Cohen; GIANT-TRUMPETS; N-2; Kindscher 2534; shady moist sites, primarily in canyons.

Lithospermum multiflorum Torrey ex Gray; PURPLE GROMWELL; N-3; Kindscher 2653; shady moist sites.

Oreocarya suffruticosa (Torrey) Greene {*Cryptantha cinerea*}; JAMES' CAT EYE; U-2; Kindscher 2600; uncommon on slopes in moist canyons.

Brassicaceae - Mustard Family

Boechera fendleri (S. Watson) W.A. Weber, {*Arabis fendleri*}; ROCK-CRESS; N-2; Kindscher 2812; upland sites, primarily in ponderosa pine habitats.

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Capsella bursa-pastoris (L.) Medik.; SHEPHERD'S PURSE; U-3; Kindscher 2819; disturbed area near lake.

**Descurainia sophia* (Linnaeus) Webb ex Prantl; BLUNT TANSYMUSTARD; U-3; Kindscher 4042; riparian areas, especially sandy or gravelly.

Draba mogollonica Greene; MOGOLLON MOUNTAIN DRABA; U-1; Kindscher & Lacey 4402; rare, thin soils, moist canyon and rock outcrop sites below lake.

Erysimum capitatum (Douglas ex Hooker) Greene; WALLFLOWER; U-2; Kindscher 2921; scattered in upland sites.

Hesperidanthus linearifolius (Gray) Rydberg, {*Schoenocrambe linearifolia*}; FLAXLEAF PLAINSMUSTARD; U-3; Kindscher 2577; scattered in upland sites.

Lepidium densiflorum Schrad.; PEPPERGRASS; U-3; Kindscher 2430; scattered in upland sites.

**Nasturtium officianale* R. Brown.; WATERCRESS; W-1; Kindscher 2397; found only in flowing water below the dam and at springs just above the lake near the Upper Edge Campground.

Noccaea fendleri (Gray) Holub subsp. *fendleri*, {*Thlaspi fendleri*}; FENDLER'S PENNYCRESS; U-3; Kindscher 2795; steep, shady slopes on in canyons.

Pennellia longifolia (Benth.) Rollins; LONG-LEAF THELYPODY; U-3; Kindscher 3011; scattered upland sites.

Physaria gooddingii Rollins & Shaw; GOODDING'S BLADDERPOS, {*Lesquerella gordonii*}; U-1; Kindscher 4119; this rare species was only found in the wash that parallels the road to the main fishing dock.

Physaria gordonii (A. Gray) O'Kane & Al-Shehbaz; GORDON'S BLADDERPOD, {*Lesquerella gordonii*}; U-2; Kindscher 4272; uncommon on dry rocky slopes.

Rorippa sinuata (Nutt.) A. S. Hitchcock; SPREADING YELLOW-CRESS; W-3; Kindscher 2495; wetland sites around lake and just below.

Thelypodium wrightii A. Gray; WRIGHT'S THELYPODY; U-1; Kindscher 4153; scattered in upland sites.

Tomostima cuneifolia (Nuttall ex Torrey & Gray) Al-Shehbaz, Koch, & Jordon-Thaden, {*Draba cuneifolia*}; WEDGELEAF WHITLOW-GRASS; U-3; Kindscher 2827; moist, shady rock outcrops, particularly in canyons.

Cactaceae - Cactus Family

Cylindropuntia imbricata (Haworth) F.M. Knuth var. spinosior (Engelmann) Baker, Cloud-H. & Majure; WALKING-STICK CHOLLA, {*Opuntia spinosior*}; R-1; Kindscher 4035; rare as it only occurs in the driest, rocky, south-facing locations.

Echinocereus coccineus Englelm.; SCARLET HEDGEHOG CACTUS; R-2; Kindscher 2605; rare, only on dry, sunny rock outcrops.

Escobaria vivipara (Nuttall) Britton & Rose {*Coryphantha vivipara*}; SPINY STAR; U-2; Kindscher 4287; rare, only found in very dry rocky habitats.

Opuntia phaeacantha Engelm.; PLAINS PRICKLY-PEAR; U-2; Kindscher 2656; scattered in dry, rocky sites.

Campanulacea – Bellflower Family

Lobelia cardinalis Linnaeus subsp. *graminea* (Lamarck) McVaugh. CARDINAL FLOWER; W-1; Johnson 50; observed historically in a wetland habitat.

Cannabaceae - Hemp Family

Humulus lupulus L. var. *neomexicanus* A. Nelson & Cockerell; NEW MEXICO HOP; W-1; Kindscher 2739; rare, only along lake on south side, next to cliffs.

Caprifoliaceae - Honeysuckle Family

Lonicera albiflora Torr. & Gray; WESTERN WHITE HONEYSUCKLE; N-3; Kindscher 2845; scattered along shaded cliffs and canyons.

Valeriana arizonica Gray; ARIZONA VALERIAN; N-2; Kindscher 2489; uncommon, only in very shady, moist soil locations below cliffs.

Caryophyllaceae - Pink Family

Cerastium arvense L. subsp. *strictum* (Linnaeus) Ugborogho; FIELD CHICKWEED; U-3; Kindscher 2385; shady areas in Ponderosa pine habitat.

Cerastium nutans Raf. var. *obtectum*; NODDING CHICKWEED; U-3; Kindscher 3003; shady areas in ponderosa pine habitat.

Drymaria leptophylla (Chamisso & Schlechtendal) Fenzl ex Rohrbach; PLUMEWEED; U-2; Kindscher 2883; in shade of ponderosa pine, but often in dry or disturbed sites.

Drymaria molluginea (Lagasca) Didrichsen; SLIM-LEAF DRYMARY; U-2; Kindscher 2708; in shade of ponderosa pine, but often in dry or disturbed sites.

Silene antirrhina L.; SLEEPY CATCHFLY; U-2; Kindscher 2869; only found in very disturbed sites near the lake in shade.

Silene laciniata Cav. var. *greggii* (A. Gray) C.L. Hitchc. & Maguire; CARDINAL CATCHFLY; N-2; Kindscher 2633; uncommon, found in deep shade, usually on steep slopes, under ponderosa pine.

Ceratophyllaceae – Hornwort Family

Ceratophyllum demersum L.; COON'S TAIL; W-2; Kindscher 4455; in shallow water in the lake.

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Cleomaceae - Beeplant Family
Cleomella serrulata (Pursh) Roalson & Hall; ROCKY MOUNTIAN BEEPLANT, {*Cleome serrulata*}; U-2; Kindscher 4336; flood plains areas.
Polanisia dodecandra (L.) D.C.; RED-WHISKER CLAMMYWEED; U-3; Kindscher 2552; on thin soils in the Gila conglomerate and other rocky substrates.

Convolvulaceae - Morning Glory Family
**Convolvulus arvensis* L.; BINDWEED; U-3; Kindscher 2562; disturbed areas in parking lots around the lake.
Convolvulus equitans Bentham; DAGGER BINDWEED; U-2; Kindscher 4250; uncommon, dry, rocky sites.
Cuscuta campestris Yuncker; FIELD DODDER; R-2; Kindscher 2701; uncommon in weedy sites.
Dichondra brachypoda Wooton & Standley; NEW MEXICO PONY'S-FOOT; W-1; Kindscher 3035; rare, only seen in one location, a large patch underneath a juniper very close to the lake.
Evolvulus sericeus Swartz; SILVER MORNING-GLORY; U-3; Kindscher 3097; rocky soils.
Ipomoea costellata Torrey; CRESTED MORNING GLORY; U-3; Kindscher 2769; upland sites, often rocky.
Ipomoea cristulata H. Hall; TRANS-PECOS MORNING GLORY; U-3; Kindscher 2616; moist shady sites in riparian areas and in ponderosa pine habitats.
Ipomoea hederacea (L.) Jacquin; IVY-LEAFED MORNING GLORY; U-3; Kindscher 2543; moist soils of floodplains and disturbed sites.
Ipomoea plummerae Gray; HUACHUCA MOUNTAIN MORNING GLORY; U-2; Kindscher 4244; uncommon perennial in open shady wooded habitats.

Comandraceae – Bastard Toadflax Family
Comandra umbellata (L.) Nutt.; BASTARD TOADFLAX; U-1; Kindscher 4238; dry, rocky sites.

Cucurbitaceae - Cucumber Family
Cucurbita foetidissima Humb., Bonp., & Kunth; BUFFALO GOURD; U-3; Kindscher 2822; roadsides and disturbed sites, often in floodplains.
Echinopepon wrightii (Gray) S. Wats.; WRIGHT'S BALSAM-APPLE; W-3; Kindscher 2709; shady sites in riparian areas.
Sicyos laciniatus L.; STREAMSIDE BUR-CUCUMBER; W-3; Kindscher 2631; shady sites in riparian areas.

Euphorbiaceae - Spurge Family
Acalypha neomexicana Müller Argoviensis; THREE-SEED MERCURY; U-3; Kindscher 2512; disturbed areas and moist soils.
Euphorbia bilobata Engelm.; BLACK-SEED SPURGE; U-3; Kindscher 2751; disturbed sites and this soils in Gila conglomerate.
Euphorbia chamaesula Boissier; MOUNTAIN SPURGE; U-3; Kindscher 2496; meadows and deeper soil sites, often associated with ponderosa pine.
Euphorbia cuphosperma (Engelm.) Boissier; TOOTHED SPURGE; U-3; Kindscher 2610; disturbed sites in floodplain or deeper soils.
Euphorbia maculata L.; SPOTTED SANDMAT SPURGE; U-3; Kindscher 2595; disturbed sites, usually dry.
Euphorbia nutans Lag.; EYEBANE; U-2; Kindscher 4155; disturbed sites, often moist.
Euphorbia revoluta Englelm.; CURL-LEAF SPURGE; R-2; Kindscher 2597; thin soils in Gila conglomerate.
Euphorbia serpyllifolia Pers.; THYME-LEAF SPURGE; U-3; Kindscher 2729; disturbed sites, usually dry.
Euphorbia stictospora (Englemann) Small; SLIM SEED SPURGE; U-2; Kindscher 4163; disturbed sites, usually dry.
Tragia ramosa Torr.; BRANCHED NOSEBURN; U-3; Kindscher 4038; rocky, dry soils.

Fabaceae - Pea Family
Acmispon wrightii (A. Gray) Brouillet; DEERVETCH, {*Lotus wrightii*}; U-3; Kindscher 2654; dry rocky slopes.
Astragalus allochrous Gray; WOOTON'S MILKVETCH; U-2; Kindscher 2639; scattered in upland sites.
Astragalus humistratus Gray; GROUNDCOVER MILKVETCH; U-2; Kindscher 2508; scattered in upland sites.
Astragalus tephrodes Gray; SILVERLINE MILKVETCH; U-2; Bleakly 5571; scattered in upland sites.
Calliandra humilis Bentham var. *humilis*; DWARF STICK-PEA; U-3; Kindscher 2791; rocky upland sites.
Cologania angustifolia Kunth; LONG-LEAF COLOGANIA; U-3; Kindscher 1111; shady locations often in ponderosa pine habitats.
Dalea albiflora Gray; ORD'S PRARIE CLOVER; U-2; Kindscher 2704; rocky sites, often associated with tuff from white volcanic ash.
Dalea brachystachya A. Gray; FORT BOWIE PRAIRIE CLOVER; U-1; Kindscher 4159; one location, scattered plants in rocky area near dam.
Dalea exigua Barneby; CHIHUAHUAN PRAIRIE CLOVER; U-1; Kindscher 4158; rare, in a few dry rocky sites.
Dalea filiformis Gray; SONORAN PRAIRIE CLOVER; U-3; Kindscher 2916; thin soils, often in Gila conglomerate.
Dalea leporina (Aiton) Bullock; FOXTAIL PRAIRE CLOVER; U-3; Kindscher 2676; scattered in dry upland, rocky sites.
Dalea occidentalis (Britton & Kearney) Isely; NEW MEXICO PRAIRIE CLOVER; U-3; Kindscher 2420; scattered in upland sites.

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Dalea polygonoides Gray; SIX-WEEKS PRAIRIE CLOVER; U-3; Kindscher 2824; thin soils, often in Gila conglomerate.
Desmanthus cooleyi (Eaton) Trel.; COOLEY'S BUNDLEFLOWER; U-2; Kindscher 4093; rocky, upland sites.
Desmodium grahamii Gray; GRAHAM'S TICK-TREFOIL; U-3; Kindscher 2565; shady, upland sites.
Desmodium procumbens (Millspaugh) A.S. Hitchcock var. *neomexicanum* (A. Gray) H. Ohashi; NEW MEXICO TICK-TREFOIL; U-3; Kindscher 2750; very dry, thin-soiled upland sites.
Desmodium rosei Schub.; ROSE'S TICK-TREFOIL; U-3; Kindscher 2421; very dry, thin-soiled upland sites.
Lathyrus graminifolius (S. Wats.) White; GRASS-LEAF SWEET PEA; N-2; Kindscher 2922; deeply, shady sites in Ponderosa pine habitat.
Lupinus argenteus Pursh; SILVERY LUPINE; N-3; Kindscher 2501; moist soils in ravines, meadows, or under ponderosa pines.
Macroptilium gibbosifolium (Ortega) A. Delgado; BUSH-BEAN; U-3; Kindscher 2431; rocky upland sites.
**Medicago lupulina* L.; BLACK MEDIC; U-3; Kindscher 2547; disturbed sites near the lake.
**Melilotus albus* Medik.; WHITE SWEET CLOVER; U-3; Kindscher 2848; disturbed sites near the lake.
**Melilotus officinalis* (L.) Pallas; YELLOW SWEET CLOVER; U-3; Kindscher 2849; disturbed sites near the lake.
Pediomelum tenuiflorum (Pursh) Egan; SLENDER SCURF-PEA; U-1; Kindscher 2574; only one location observed, a few plants near the highway, in shade of ponderosa pine.
Phaseolus maculatus Scheele; SPOTTED BEAN {*Phaseolus metcalfii*}; U-3; Kindscher 2860; in cracks of Gila conglomerate rock outcrops.
Phaseolus scabrellus Bentham ex S. Watson, {*P. pedicellatus*}; SONORAN BEAN; U-*3;* Kindscher 2537; scattered in upland habitats.
Rhynchosia texana Torrey & Gray; TEXAS SNOUTBEAN; U-3; Kindscher 2401; rocky upland sites.
Robinia neomexicana Gray; NEW MEXICO LOCUST; N-3; Kindscher 2402; shady moist locations along the south shore of the lake and in canyons.
Vicia leucophaea Greene; MOGOLLON VETCH; N-2; Kindscher 2874; deeply, shady sites in ponderosa pine habitat.

Fagaceae - Oak Family
Quercus gambelii Nutt.; GAMBEL'S OAK; N-2; Kindscher 2503; shady canyons with ponderosa pine.
Quercus grisea Leibmann; GRAY OAK; U-3; Kindscher 2459; very common in upland sites.

Gentianaceae - Gentian Family
Frasera speciosa Douglas ex Grisebach; ELKWEED; N-2; Kindscher 2497; moist, shady north-facing slopes.
Pneumonanthe affinis (Grisebach) Greene, {*Gentiana affinis*}; PLEATED GENTIAN; N-*1;* Kindscher 2834; rare, only found in two locations that were moist slopes in deep shade under ponderosa pine.

Geraniaceae - Geranium Family
**Erodium cicutarium* (L.) L'Hér.; REDSTEM STORK'S BILL; U-3; Kindscher 2514; disturbed sites along trails and roads.
Geranium caespitosum James; FREMONT'S GERANIUM; U-3; Kindscher 2428; moist areas in shade or near the lake.

Grossulariaceae - Gooseberry Family
Ribes aureum Pursh; GOLDEN CURRANT; N-2; Kindscher 2485, scattered in moist, shady sites.

Halorgaceae - Water Milfoil Family
**Myriophyllum sibiricum* Komarov; SHORTSPIKE WATERMILFOIL; W-3; Kindscher 3079; in lake water.

Hydrangeaceae - Hydrangea Family
Fendlera rupicola Gray; CLIFF FENDLERBUS; U-2; Kindscher 2648; scattered in rocky, shady upland sites.

Hydrophyllaceae - Waterleaf Family
Phacelia neomexicana Thurber ex Torrey; NEW MEXICO SCORPIONWEED; U-2; Kindscher 4247; uncommon in shady upland sites.

Juglandaceae - Walnut Family
Juglans major (Torr.) Heller; ARIZONA WALNUT; U-3; Kindscher 2839; in canyons and moist ravines.

Lamiaceae - Mint Family
Agastache pallidiflora (Heller) Rydb. var. *neomexicana* (Briquet) R. Sanders; NEW MEXICO GIANT *HYSSOP; N-1;* Kindscher 2588; very uncommon on steep, north-facing slopes near the lake.
Hedeoma oblongifolia (Gray) Heller var. *oblongifolia*; THYME-LEAF FALSE-PENNYROYAL; U-2; Kindscher 2664; scattered in moist rocky upland sites.
**Marrubium vulgare* L.; HOREHOUND; U-3; Kindscher 2478; in very disturbed areas,with much human traffic near the lake.
Mentha canadensis L.; PEPPERMINT; W-3; Kindscher 2548; wet soils around the lake and wetland areas.
Monarda citriodora Cervantes ex Lagasca var. *austromontana* (Epling) Turner; LEMON BEEBALM; U-3; Kindscher 2851;

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floodplains, areas of deeper soil, and disturbed areas around the lake.
Monarda fistulosa L. var. *menthifolia* (Graham) Fernald; WILD BERGAMOT; N-3; Kindscher 2850.
Monarda pectinata Nutt.; PLAINS BEEBALM; U-3; Kindscher 2851; floodplains, areas of deeper soil, and disturbed areas around the lake.
Salvia reflexa Hornemann; LANCE-LEAFED SAGE; U-2; Kindscher 4285; scattered in upland sites.
Salvia subincisa Bentham; SAWTOOTH SAGE; U-3; Kindscher 2576 in upland sites.

Linaceae - Flax Family
Linum aristatum Engelm.; BRISTLE FLAX; U-3; Kindscher 4011; in sunny dry upland sites.
Linum lewisii Pursh; PRAIRIE FLAX; N-2; Kindscher 2794; on moist, north-facing slopes near the lake.

Loasaceae - Loasa Family
Mentzelia multiflora Nutt. (A. Gray); GOLDEN BLAZINGSTAR; U-3; Kindscher 2549; in dry sandy or gravelly sites in riparian areas.

Lythraceae - Loosestrife Family
**Lythrum salicaria* L.; PURPLE LOOSESTRIFE; W-1; Kindscher 2571; around the lake edge, primarily on the south side; occasionally managed.

Malvaceae - Mallow Family
Anoda cristata (L.) Schlectendal; SPURRED ANODA; U-2; Kindscher 2558; occasional in shady floodplain areas or moist soils near lake.
**Malva neglecta* Wallroth; DWARF CHEESEWEED; U-3; Kindscher 2655; common in disturbed areas of moist soil near the lake.
Sida neomexicana Gray; NEW MEXICO FAN-PETAL; U-3; Kindscher 2878; dry, open sites.
Sphaeralcea fendleri Gray; FENDLER'S GLOBEMALLOW; U-3; Kindscher 3017, very common around the lake in upland and riparian sites.

Montiaceae – Miner's Lettuce Family
Phemeranthus parviflorus (Nuttall) Kiger; NEW MEXICO FLAMEFLOWER; R-2; Kindscher 2893; only found in very dry sites, especially thin soils associated with Gila conglomerate rock outcrops.

Nyctaginaceae - Four O'clock Family
Boerhavia coccinea Mill.; SCARLET SPIDERLING; R-2; Kindscher 3080; uncommon in dry, sunny, rocky soil.
Boerhavia purpurascens Gray; PURPLE SPIDERLING; R-2; Kindscher 2902; in thin-soiled, rocky outcrops of Gila conglomerate.
Mirabilis albida (Walter) Heimerl; WHITE FOUR O'CLOCK; U-2; Kindscher 4148; scattered in upland sites.
Mirabilis coccinea (Torrey) Bentham & Hooker f.; SCARLET FOUR O'CLOCK; U-2; Kindscher 2396; scattered in rocky sites.
Mirabilis longiflora L.; SWEET FOUR O'CLOCK; U-3; Kindscher 4248; in moist sites of floodplains and canyons.
Mirabilis multiflora (Torrey) Gray; COLORADO FOUR O'CLOCK; U-3; Kindscher 2773 in pinyon-juniper habitat, often in the shade of trees.
Mirabilis oxybaphoides (Gray) Gray; SPREADING FOUR O'CLOCK; U-3; Kindscher 2732; in shady ponderosa pine habitats.

Oleaceae - Olive Family
Forestiera pubescens Nutt.; NEW MEXICO OLIVE; U-3; Kindscher 2475; in shady canyons.
Menodora scabra Gray; ROUGH MENODORA; U-2; Kindscher 2918; in rocky, sunny upland sites.

Onagraceae - Evening Primrose Family
Epilobium ciliatum Raf.; FRINGED WILLOW-HERB; W-3; Kindscher 2424; wet soils around lake and riparian areas.
Oenothera caespitosa Nutt. ex Fraser subsp. *marginata* (Nuttall ex Hooker & Arnott) Munz; TUFTED EVENING PRIMROSE; U-3; Kindscher 2583; scattered, often rocky, upland sites
Oenothera curtiflora W.L. Wagner & Hoch; VELVET-WEED; U-3; Kindscher 2613.
Oenothera elata Kunth subsp. *hirsutissima* (Gray ex S. Watson) Dietrich; HOOKER'S EVENING PRIMROSE; W-3; Kindscher 2854; moist soils around lake and riparian areas.
Oenothera podocarpa (Wooton & Standley) W.L. Wagner & Hoch; HARLENQUIN BUSH; U-3; Kindscher 2833; scattered near lake.
Oenothera laciniata Hill; CUT-LEAF EVENING PRIMROSE; U-3; Kindscher 4251; upland, disturbed areas.
Oenothera suffrutescens (Sprengel) W. L. Wagner & Hoch; SCARLET BEE-BLOSSOM; U-3; Kindscher 2516 scattered sites in moist soils near lake.

Orobanchaceae - Broomrape Family
Castilleja integra Gray; WHOLELEAF INDIAN PAINTBRUSH; U-3; Kindscher 2384; scattered in dry, upland sites, usually

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sunny.
Orthocarpus purpureoalbus Gray ex S. Wats.; PURPLE OWL-CLOVER; U-2; Kindscher 2718; occasional in upland sites.

Oxalidaceae - Wood-Sorrel Family
Oxalis decaphylla Humb. Bonpl. & Kunth; TEN-LEAF WOOD-SORREL; N-3; Kindscher 2535; very shady riparian and canyon areas.
Oxalis metcalfei (Small) Knuth.; VIOLET WOOD-SORREL; N-3; Kindscher 2855; very shady riparian and canyon areas.

Papaveraceae - Poppy Family
Argemone pleiacantha Greene; ROUGH PRICKLYPOPPY; U-3; Kindscher 2559; rocky, sandy areas of floodplains and near lake.
Corydalis aurea Willd.; GOLDEN SMOKE; U-3; Kindscher 2388; moist slopes near lake and in canyons.

Phrymaceae – Lopseed Family
Erythranthe guttata (A.P. de Candolle) Nesom, {*Mimulus guttatus*}; SEEP MONKEYFLOWER; W-2; Kindscher 2479; wet soils around lake and in wetland areas.

Plantaginaceae - Plantain Family
Collinsia parviflora Douglas; BLUE-EYED-MARY; U-2; Kindscher 2593; occasional in upland moist seepy areas, associated with Gila conglomerate.
Penstemon barbatus (Cavanilles) Roth subsp. *barbatus*; BEARDLIP PENSTEMON; U-3; Kindscher 2625; scattered, in moist shady locations.
Penstemon virgatus Gray var. *virgatus*; BLUE BEARDTONGUE; U-3; Kindscher 2689; in rocky upland, often shady, sites.
**Plantago major* L.; COMMON PLAINTAIN; U-3; Kindscher 2628; in disturbed areas with moist soil, around the lake.
**Veronica anagallis-aquatica* L.; WATER SPEEDWELL; W-3; Kindscher 2490 in wet soils around the lake and in wetland areas.
Veronica peregrina Linnaeus var. *xalapensis* (Kunth) Pennell; PURSLANE SPEEDWELL; W-3; Bleakly 5578; in disturbed areas with moist soil, around the lake.

Polemoniaceae - Phlox Family
Ipomopsis aggregata (Pursh) V.E. Grant; SCARLET GILIA; U-3; Kindscher 4043; in upland sites, in ponderosa pine habitats.
Ipomopsis macombii (Torr. ex Gray) V. Grant; MACOMB'S SKYROCKET; U-2; Kindscher 2838; uncommon in upland sites, in ponderosa pine habitats.
Leptosiphon nuttallii (Gray) J.M. Porter & L.A. Johnson; NUTTALL'S LINANTHUS; U-2; Kindscher 2551; scattered in mature ponderosa pine habit, often on steep slopes.

Polygalaceae - Milkwort Family
Hebecarpa obscura (Bentham) J.R. Abbott, {*Polygala obscura*}; VELVET-SEED MILKWORT; U-3; Kindscher 2553. In moist soil of shady upland sites.
Monnina wrightii Gray; PYGMY-FLOWER; U-2; Kindscher 2685; in moist soil of shady upland sites.

Polygonaceae - Buckwheat Family
Eriogonum abertianum Torr. in Emory; ABERT'S WILD BUCKWHEAT; R-3; Kindscher 2917; in thin soil of rocky, upland sites.
Eriogonum alatum Torr.; WINGED WILD-BUCKWHEAT; U-1; Kindscher 4025, dry, upland sites, often on tuff.
Eriogonum jamesii Bentham var. *jamesii*; JAMES'S WILD BUCKWHEAT; R-3; Kindscher 2763; in thin soil of rocky, upland sites.
Eriogonum pharnaceoides Torr.; WIRESTEM BUCKWHEAT; R-3; Kindscher 2832; in upland rock outcrops of Gila conglomerate.
Eriogonum wrightii Torr. ex Bentham var. *wrightii*; BASTARD-SAGE; U-3; Kindscher 3022; in very dry, rocky upland sites.
Persicaria lapathifolia (L.) Gray; CURLYTOP KNOTWEED; W-3; Kindscher 2858; wet soils, lake edge and wetland areas.
**Persicaria maculosa* Gray; LADY'S THUMB; W-3; Kindscher 2891; wet soils, lake edge and wetland areas.
**Polygonum aviculare* L.; YARD KNOTWEED; W-3; Kindscher 2629; disturbed areas with packed soil, along roads and trails.
**Rumex crispus* L.; CURLY DOCK; W-3; Kindscher 2865; disturbed sites of moist soil near the lake.
Rumex fueginus Philippi; GOLDEN DOCK; W-2; Kindscher 2660; wet soils, lake edge and wetland areas.
Rumex mexicanus Meisner; WILLOW DOCK; W-3; Kindscher 4013; wet soils, lake edge and wetland areas.

Portulacaceae - Purslane Family
Portulaca halimoides L.; KISS-ME-QUICK; R-3; Kindscher 3026; thin soils of rock outcrops.
**Portulaca oleracea* L.; GARDEN PURSLANE; U-3; Kindscher 2877; disturbed soils of riparian areas and waste ground.

Primulaceae - Primrose Family
Androsace septentrionalis L.; NORTHERN ROCK-JASMINE; U-2; Kindscher 2806; thin soils of rocky, upland, shady habitats.

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Ranunculaceae - Buttercup Family
Clematis ligusticifolia Nutt.; WESTERN VIRGIN'S BOWER; N-2; Kindscher 2821; moist soil along lake edge.
Delphinium scopulorum Gray; BEAN-LEAF LARKSPUR; N-2; Kindscher 2677; moist, shady sites in ponderosa pine habitat.
Halerpestes cymbalaria (Pursh) Greene, {*Ranunculus cymbalaria*}; BUTTERCUP; W-3; Kindscher 2400.
Myosurus minimus L.; TINY MOUSETAIL; W-3; Kindscher 2852; wet soils of disturbed, riparian areas.
Ranunculus aquatilis L. var. *diffusus*; WHITE WATER CROWFOOT; W-1; Adams 36; rare, historic observation, floating in the lake.
Thalictrum fendleri Engelm. ex Gray; FENDLER'S MEADOW-RUE; N-3; Kindscher 2873; moist soils of ponderosa pine habitat.

Rhamnaceae - Buckthorn Family
Frangula betulifolia (Greene) V. Grubov; BIRCH-LEAF BUCKTHORN; N-3; Kindscher 2504; in moist canyons.

Rosaceae - Rose Family
Cercocarpus breviflorus Gray.; MOUNTAIN MAHOGANY; U-3; Kindscher 2523; rocky uplands, often shady.
Fallugia paradoxa (D. Don) Endl. ex Torr.; APACHE-PLUME; U-3; Kindscher 2540; moist, rocky sites, usually shady and in canyons.
**Malus domestica* (Suckow) Borkhausen APPLE; U-1; Kindscher 2847; rare, lake edge on south side; likely seedling from human dispersal.
Potentilla rivalis Nutt.; BROOK CINQUEFOIL; W-3; Kindscher 2863; wet soils of floodplains.
Potentilla thurberi Gray; THURBER'S CINQUEFOIL; N-3; Kindscher 2573; moist upland locations in ponderosa pine habitat.
**Prunus persica* (L.) Batsch.; PEACH; U-1; Kindscher 2864; rare, lake edge on south side; likely seedling from human dispersal.
Prunus serotina var. *rufula* (Wooton & Standley) Ehrhart; CHOKECHERRY; N-1; Kindscher 2483; rare, in moist shady canyons.
Rosa woodsii Lindley subsp. *woodsii*; WOOD'S ROSE; N-2; Kindscher 2403; north-facing slope and canyons near the lake on the south side.

Rubiaceae - Madder Family
Hexasepalum teres (Walter) J.H. Kirkbride, {*Diodia teres*}; POOR-JOE; U-2; Kindscher 3059, dry, upland sites
Galium fendleri Gray; FENDLER'S BEDSTRAW; N-3; Kindscher 3029; shady, canyons, usually in rock outcrops.
Galium wrightii Gray; WRIGHT'S BEDSTRAW; N-3; Kindscher 3061; shady, canyons, usually in rock outcrops.
Houstonia wrightii Gray; WRIGHT'S BLUETS; U-3; Kindscher 2898; shady areas of ponderosa pine habitat.
Stenotis greenei (Gray) Terrel & H. Robinson; GREENE'S STAR VIOLET; U-3; Kindscher 4457; moist or protected areas of upland ponderosa pine or pinyon-juniper habitat.

Salicaceae - Willow Family
Populus angustifolia James; NARROWLEAF COTTONWOOD; W-3; Kindscher 2467 in riparian areas.
Populus deltoides W. Bartram ex Marshall var. *fremontii* (S. Watson) Cronquist; FREMONT'S COTTONWOOD; W-3; Kindscher 2482; in riparian areas and lake edge.
Salix exigua Nutt. subsp. *exigua*; COYOTE WILLOW; W-3; Kindscher 2403; in riparian areas and lake edge.
Salix gooddingii Ball; GOODDING'S WILLOW; W-3; Kindscher 2866; in riparian areas and lake edge.
Salix irrorata Andersson; DEWYSTEM WILLOW; W-3; Kindscher 2468; common in riparian areas.
Salix lucida Muhl.; SHINING WILLOW; W-1; Kindscher 2867; only found on lake edge on the south side of the lake.

Sapindaceae - Soapberry Family
Acer negundo L.; BOX ELDER; W-3; Kindscher 2507; riparian areas; dense stand immediately above the lake.

Saxifragaceae - Saxifrage Family
Heuchera novomexicana Wheelock; NEW MEXICO ALUMROOT; N-2; Kindscher 2393; uncommon, on cliffs on the south side of lake, rocky sites in canyons.

Scrophulariaceae - Figwort Family
**Verbascum thapsus* L.; COMMON MULLEIN; U-3; Kindscher 2531; very common in disturbed sites.

Solanaceae - Nightshade Family
Datura quercifolia Humb., Bonp., & Kunth; OAK-LEAF THORN-APPLE; U-2; Kindscher 2706; occasional in disturbed floodplain sites.
Datura wrightii Regel; JIMSON WEED; U-3; Kindscher 2494; moist soils in shade and in canyons.
Physalis foetens var. *neomexicana* (Rydberg) Waterfall ex Kartesz & Ghandi; NEW MEXICO GROUNDCHERRY; U-3; Kindscher 2720; scattered in rocky, disturbed sites.
Physalis hederifolia Gray; IVY-LEAF GROUNDCHERRY; U-3; Kindscher 2885; scattered in dry, rocky soil.
Physalis solanacea (Schlechtendal) Axelius; NETTED GLOBECHERRY; U-2; Kindscher 4150; in riparian and other areas of moist, disturbed soil.

(Continued on page 19)

(Continued from page 18)
Solanum elaeagnifolium Cavanilles; SILVERLEAF NIGHTSHADE; U-3; Kindscher 2555; dry, rocky or sandy floodplain sites.
Solanum jamesii Torr.; WILD POTATO; U-3; Kindscher 2634; moist soil of ponderosa pine habitats.
Solanum novomexicanum (Bartlett) S. Stern, {*Solanum heterodoxon*}; MELON-LEAF NIGHTSHADE; U-3; Kindscher 2788; open, sunny, rocky or sandy floodplain sites.
Solanum ptychanthum Dunal; BLACK NIGHTSHADE; U-3; Kindscher 2556; in disturbed sites with moist soil.

Tamaricaceae - Tamarisk Family
**Tamarix chinensis* Loureiro; SALT-CEDAR; W-1; Kindscher 2663; rare, only in the landfill site created with dredge material from the lake.

Ulmaceae - Elm Family
Ulmus pumila L.; SIBERIAN ELM; U-3; Kindscher 2488; planted with largest trees in parking areas, younger trees near parking areas and lake are apparently from these.

Urticaceae - Nettle Family
Parietaria pensylvanica Muhl. Ex Willd.; PENNSYLVANIA PELLITORY; U-3; Kindscher 4044; in deeply shaded sites, especially of canyons.
Urtica gracilenta Greene; MOUNTAIN NETTLE; W-3; Kindscher 2469; in moist floodplain sites, especially immediately above the lake under *Acer negundo*.

Verbenaceae - Verbena Family
Glandularia wrightii (Gray) Umber; VERBENA; U-3; Kindscher 2835; sunny, rocky, upland slopes.
Verbena menthifolia Bentham; MINT VERVAIN; U-2; Kindscher 3042 scattered in upland sites.
Verbena neomexicana (Gray) Small; NEW MEXICO VERVAIN; U-2; Kindscher 2804; scattered in upland sites.

Violaceae - Violet Family
Viola canadensis L.; VIOLET; N-2; Kindscher 3072; moist sites in canyons.

Viscaceae - Christmas Mistletoe Family
Phoradendron villosum (Nuttall) Nuttall ex Engelmann subsp. *coryae* (Trelease) Wiens; CORY'S MISTLETOE; U-3; Kindscher 2480; upland sites, growing on *Quercus grisea*.
Phoradendron juniperinum Englelm. ex Gray var. *juniperinum*; JUNIPER MISTLETOE; U-3; Kindscher 2457; upland sites, growing on *Juniperus* spp.

Vitaceae - Grape Family
Parthenocissus vitacea (Knerr) Hitchcock; VIRGINIA CREEPER; U-3; Kindscher 2889; lake edge and riparian areas.
Vitis arizonica Engelm.; CANYON GRAPE; W-3; Kindscher 2491; lake edge and riparian areas.

Zygophllyaceae - Creosote-bush Family
Kallstroemia parviflora J.B.S. Norton; WARTY CALTROP; U-2; Kindscher 3062; sunny, dry upland slopes.
**Tribulus terrestris* L.; PUNCTURE VINE; U-3; Kindscher 2557 disturbed areas around parking lots.

Figure 2. Lake Roberts, including Treasure Island, is a 70 acre lake in the Gila National Forest.

Figure 3. Aquatic vegetation, primarily is found on the upper end of the lake.

Figure 4. Wetland habitats ring the lake and occur below the dam.

Figure 5. Disturbed habitats, include this disturbance with mullein, *Verbascum thaspi*, were created for dam reconstruction and the need for fill.

Figure 6. Gila conglomerate rock outcrops support a unique flora at the lake.

Figure 7. Canyons (and cliffs) are moist, shady habitats, like this one on the south side of the lake.

Figure 8. Pinyon-juniper habitat occurs on dry, south-facing, grassy slopes.

Figure 9. Ponderosa Pine stands on north-facing slopes are most and also accumulate some snow in the wintertime.

Figure 10. Hooker's evening primrose, *Oenothera elata*, is found along the lake's edge.

Figure 11. Sweet four o'clock, *Mirabilis longifolia*, is found in shady floodplain sites.

Figure 12. Rothrock's basketflower, *Plectocephalus rothrockii*, is found near the lake in moist, often shady sites.

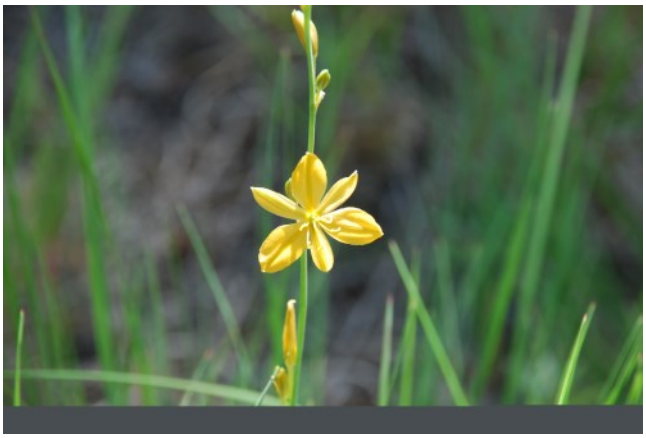

Figure 13. Crag-lily, *Echeandia flavescens*, is found only on moist north -facing slopes.

Figure 14. Tufted milkweed, *Asclepias nummularia* is uncommon in pinyon-juniper habitat.

Figure 15. Fendler's globemallow, *Sphaeralcea fendleri*, is common in open and disturbed sites.

Figure 16. Flaxleaf plains mustard, *Hesperidanthus linearifolius*, is found in shady locations between junipers and pines.

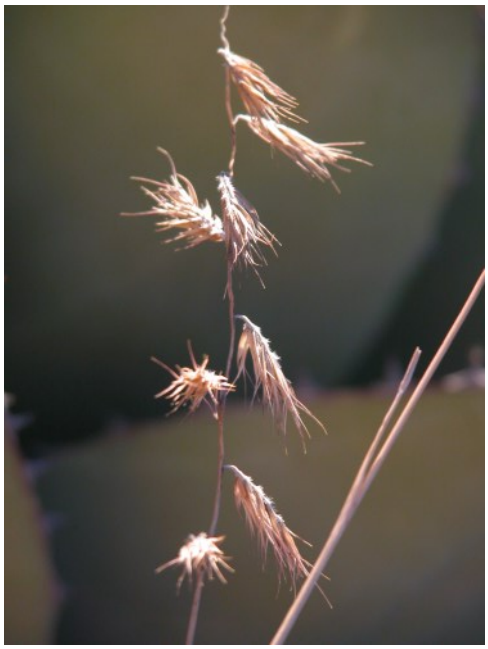

Figure 17. Purple grama, *Bouteloua radicosa*, is only found in thin soil of Gila conglomerate