

Flora of the Mono Lake Basin

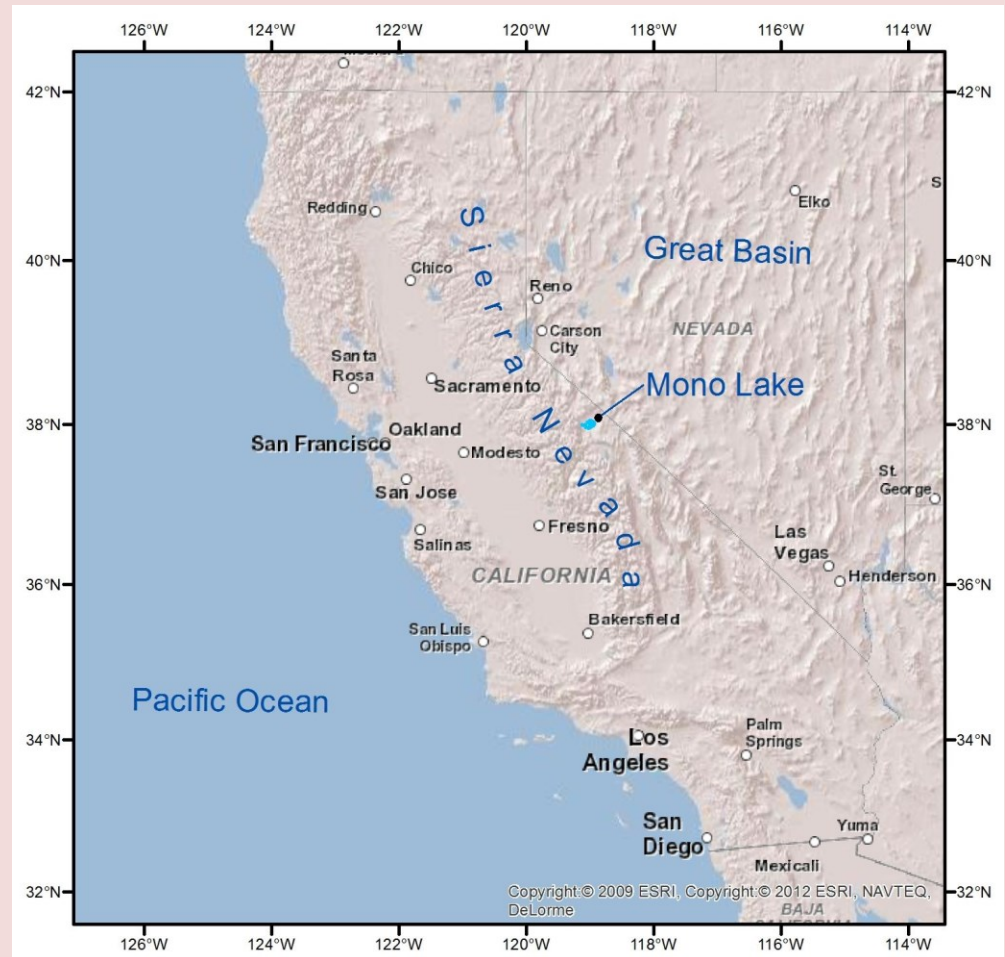
Tom Schweich, Research Associate, UC/JEPS



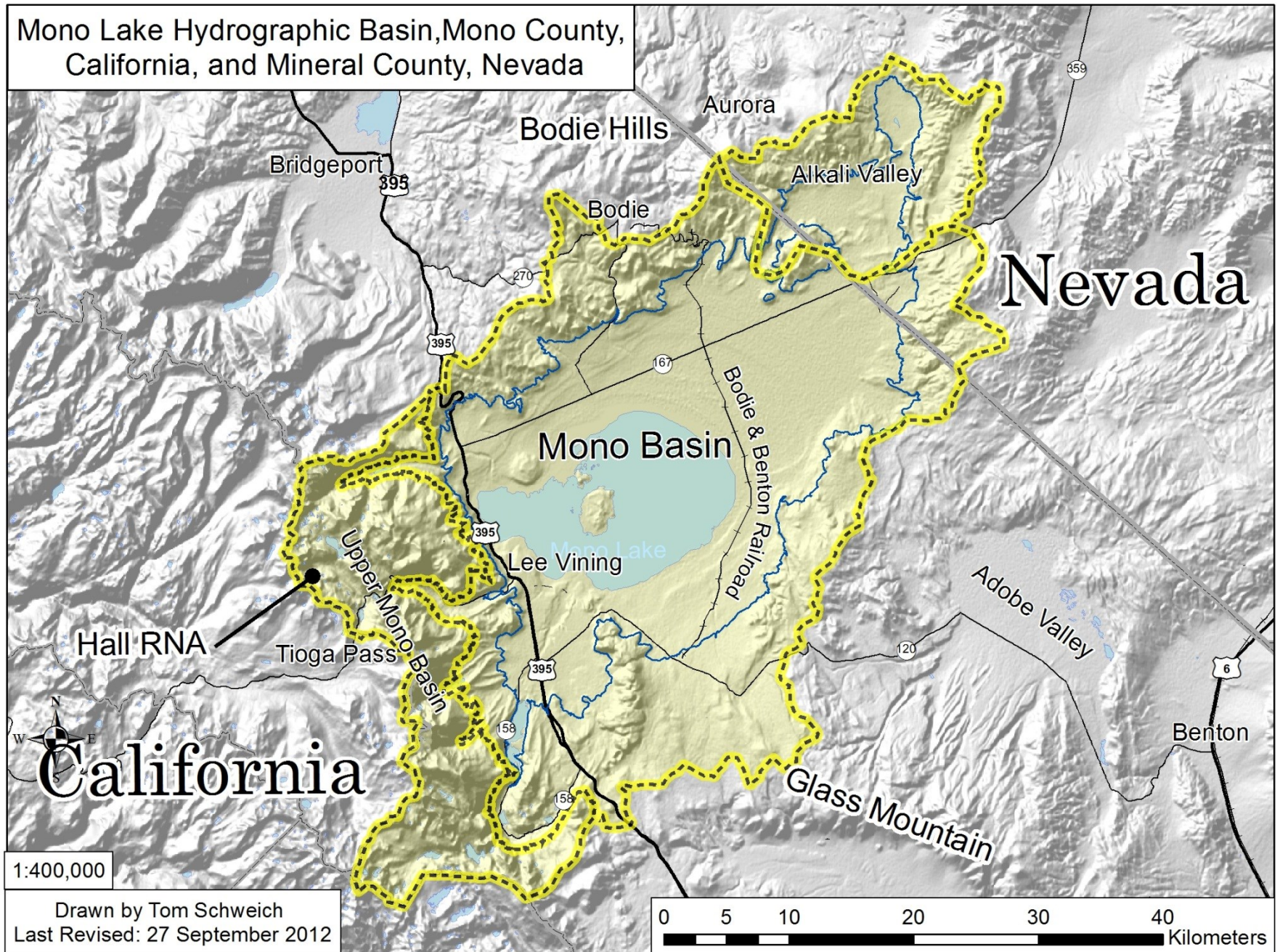
Nevada Native Plant Society, March 6, 2014
East Bay Chapter, CNPS, September 25, 2013
Berkeley Botany Lunch, November 30, 2012

Mono Lake is in eastern California at the edge of the Great Basin

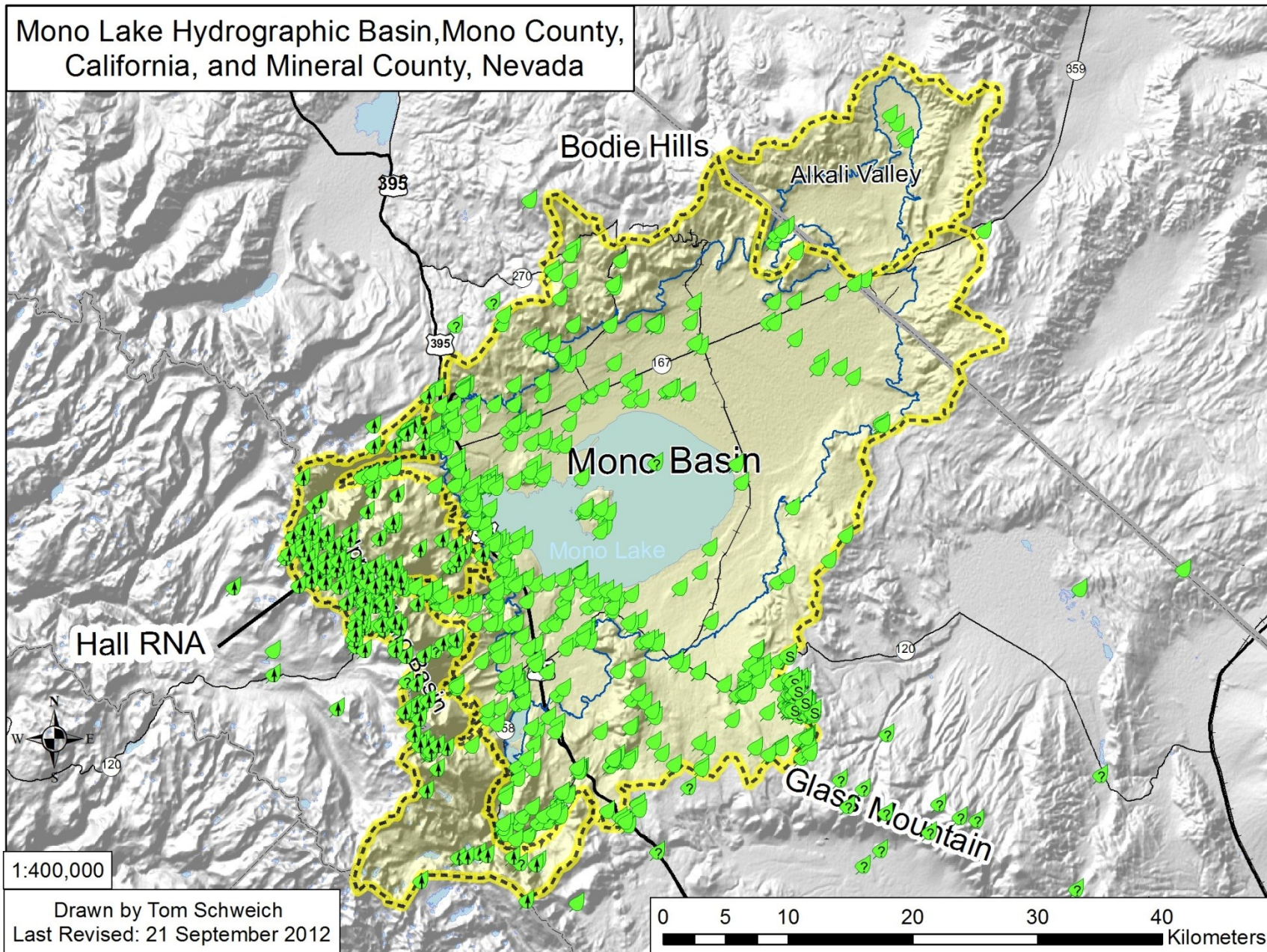
- Directly east of the San Francisco Bay Area.
- 180 miles as the California gull (*Larus californicus*) flies.
- 232 miles by road over Tioga Pass.
- 150 miles south of Reno.
- Alkaline Lake.
 - pH: ≈ 10
 - Carbonates and sulfates in addition to chlorides.
- Elevation 6378 ft.
 - Higher than Lake Tahoe (elev. 6224 ft.)

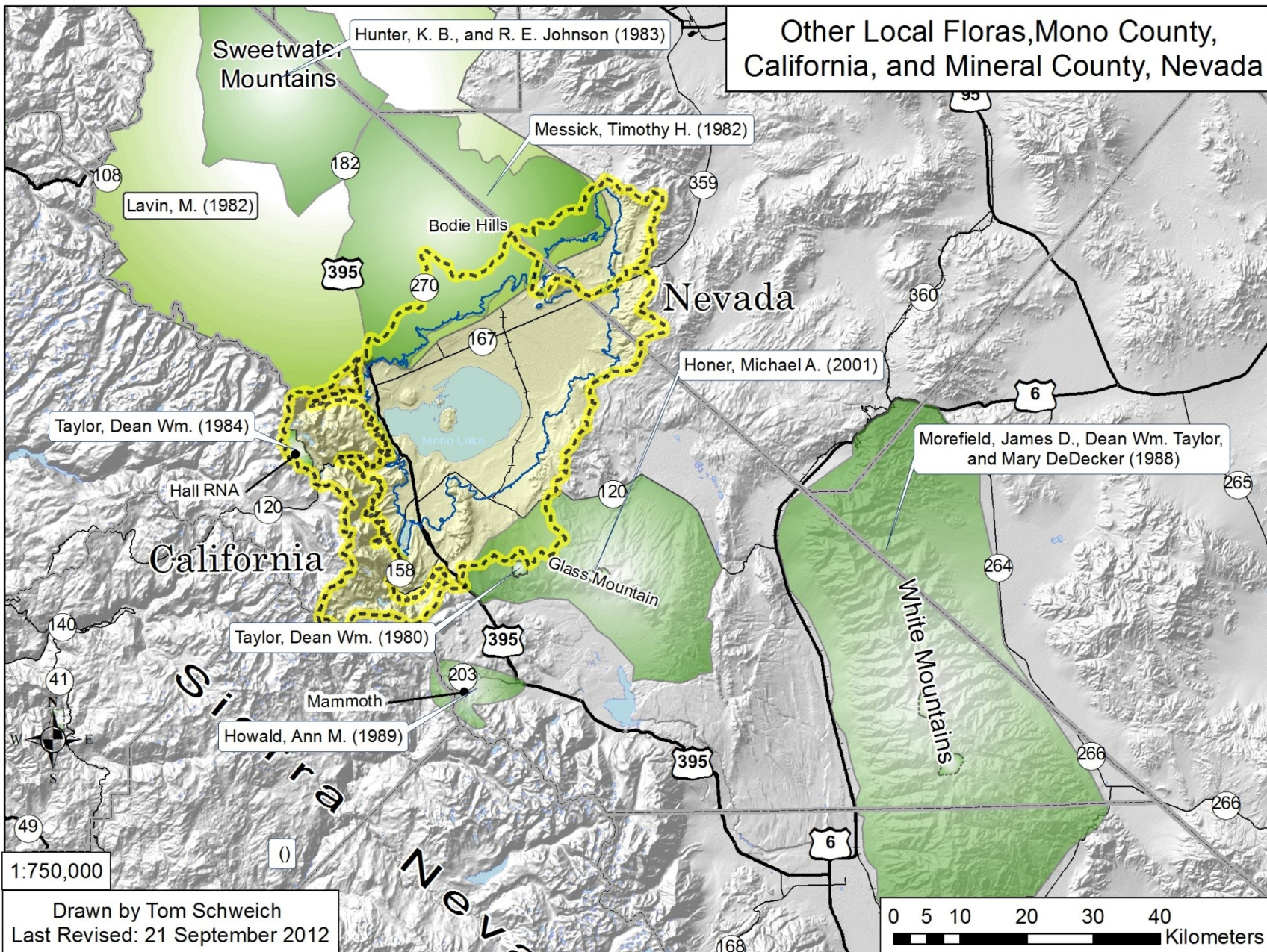


Mono Lake Hydrographic Basin, Mono County, California, and Mineral County, Nevada



Mono Lake Hydrographic Basin, Mono County, California, and Mineral County, Nevada





Other Local or Regional Floras

- **Winkler, David W. 1977.** An Ecological Study of Mono Lake, California. Institute of Ecology Publication No. 12. Davis, California: University of California, June 1977.
 - The Mono Basin Research Group
 - About 200 collections around the lake
 - Dudley Herbarium at California Academy of Sciences.
- **Dean Taylor's** collections and lists from 1980, 1981, and 1984.
- **Messick, T. H. 1982.** Flora and phytogeography of the Bodie Hills of Mono County, California and Mineral County, Nevada, USA. M. A. Thesis. Arcata, California: Humboldt State University.
- **Lavin, Matt, 1983.** Floristics of the Upper Walker River, California and Nevada. Great Basin Naturalist. 43(1), January 1983.
- Hall, Clarence A., Jr and Victoria Doyle-Jones, 1988. The Mary DeDecker Symposium, University of California, White Mountain Research Station.. Plant Biology of Eastern California.
 - **Howald, Ann M. 1989.** Vegetation and Flora of the Mammoth Mountain Area. pp. 48-96
 - **Morefield, James D., Dean Wm. Taylor, and Mary DeDecker. 1988.** Vascular Flora of the White Mountains of California and Nevada: An Updated, Synonymized Working Checklist. pp. 310-364
- **Howald, Ann M. 2000.** Part I. Valentine Camp. A Flora of Valentine Eastern Sierra Reserve. MSE Environmental Report Number 16. Santa Barbara, California: University of California, Santa Barbara, 2000.
- **Honer, Michael A. 2001.** Vascular Flora Of The Glass Mountain Region, Mono County, California. Aliso. 20(2):75-105. Master's thesis, RSA
- **Taylor, Dean Wm. 2010,** Flora of the Yosemite Sierra.

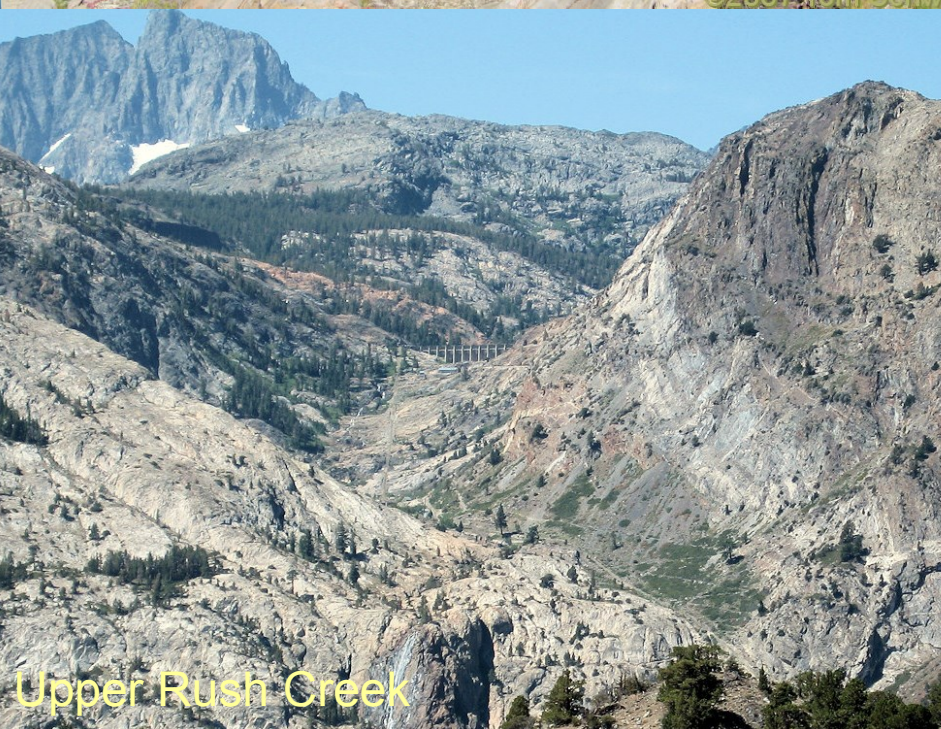


Harvey Monroe Hall RNA

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Saddlebag Lake



Upper Rush Creek

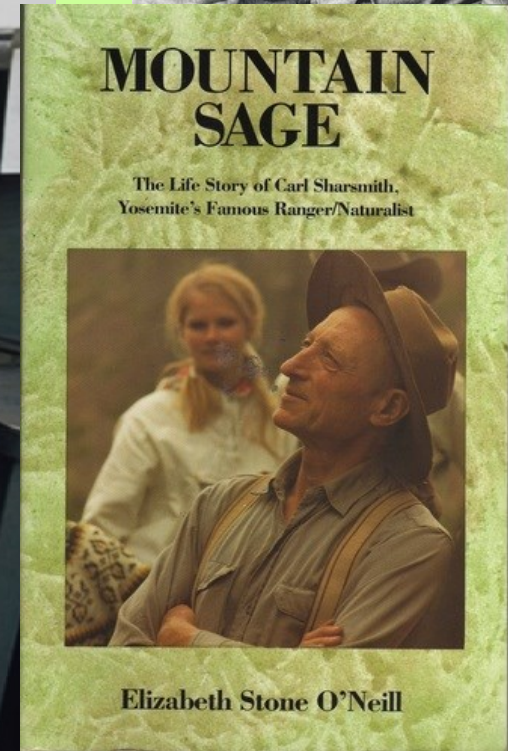
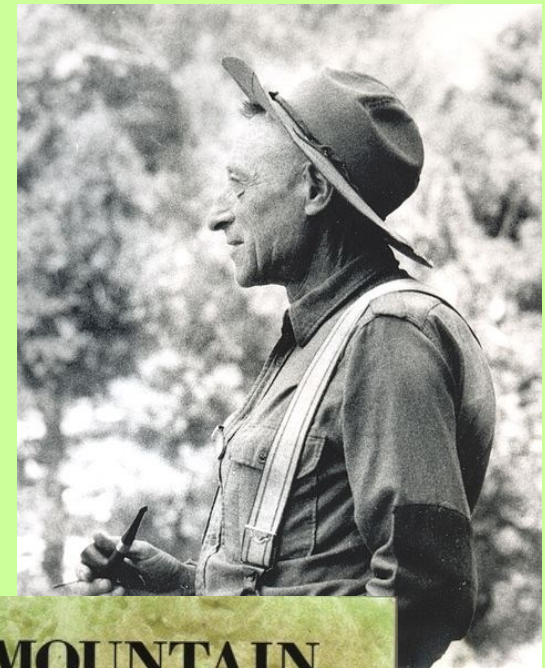


Mount Dana, from Bennettville

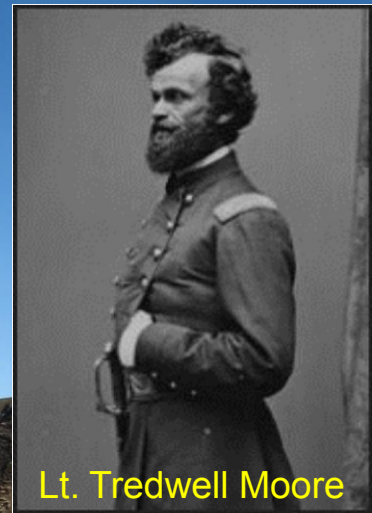
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Carl Sharsmith

- Many, many collections throughout the Yosemite Sierra – never published.
- 399 collections in the Upper Mono Basin
- 89 collections in the (lower) Mono Basin.



Mono Lake from Mono Pass



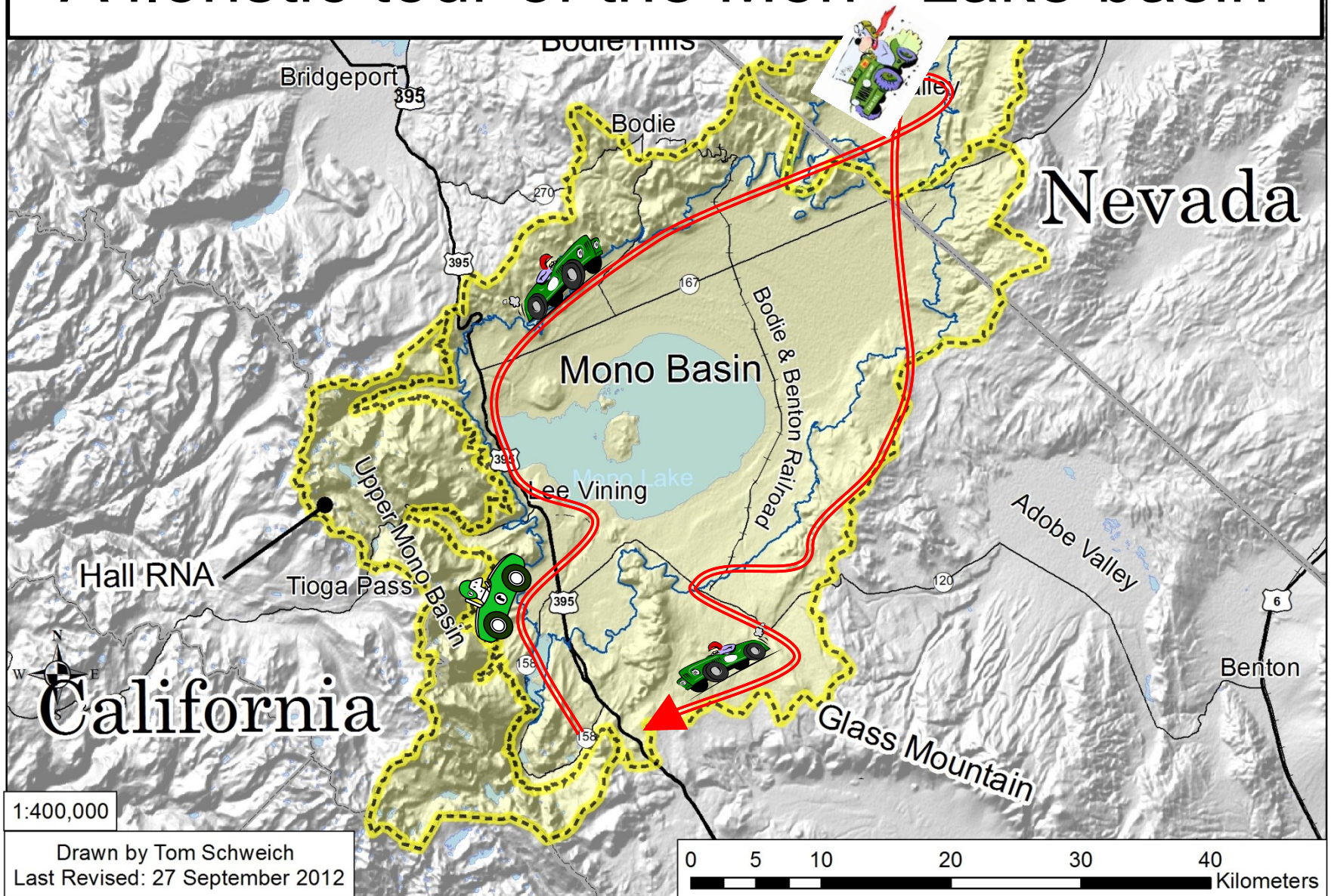
Lt. Tredwell Moore



Photo: jabert on Panoramio

- First recorded discovery of Mono Lake was by Lt. Tredwell Moore in 1852.

A floristic tour of the Mono Lake basin



June Lake



a)

Gull Lake



Gentianopsis holopetala (A. Gray) H. H. Iltis
Agropyron cristatum (L.) Gaertn.

©2003 Tom Schweich



Madia glomerata Hook.

- Petersen Tract, near June Lake

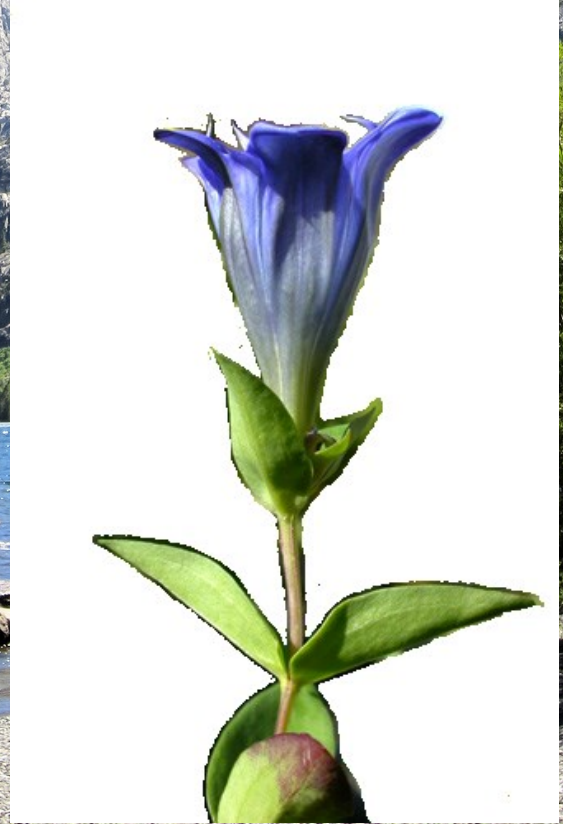


Snow Ponds, above the June Lake Loop



Arctostaphylos patula Greene, west slope of
Reversed Peak, above Silver Meadows

Silver Lake



Grant Lake



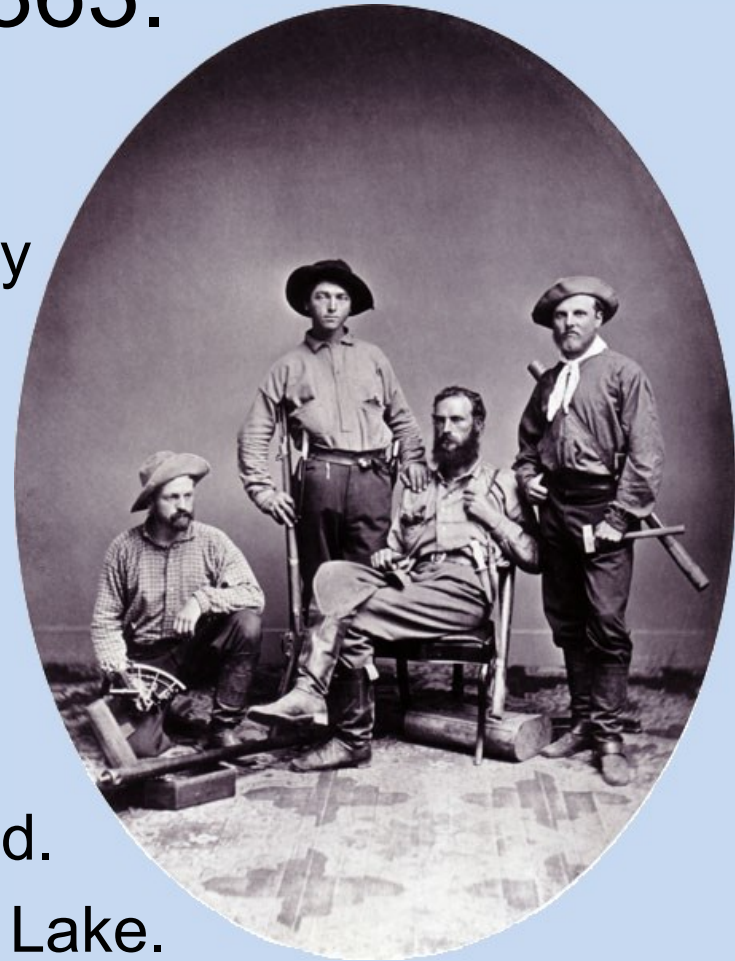
Pumice Valley

- Cain Ranch just left of center in the middle ground.
- Probable location of California Geological Survey Camp 120.



Geological Survey of California in the Mono Basin, July 7-12, 1863.

- July 7, 1863, Mono Pass via Bloody Canyon to Camp 120 near what was later Cain Ranch.
- July 8, 1863, Mono Craters.
- July 9, traveled 10 miles north to Camp 121 at the northwest corner of Mono Lake.
- July 10th, overnight on Paoha Island.
- July 11th, northwest shore of Mono Lake.
- July 12th, traveled from Mono Lake to Aurora, Nevada.



Eriophyllum monoense Rydb. (1915)

- = *Eriophyllum lanatum* (Pursh) J. Forbes var. *integrifolium* (Hook.) Smiley.

- Collected as *Bahia lanata* DC.
- W. H. Brewer, #1823 (GH427152, UC31687, UC31733)
- July 8, 1863
- Locations found: Dry Creek, Mono Craters, Pumice Valley, Sagehen Peak.



Photo: Steve Matson, Sonora Pass.

Hulsea vestita A. Gray

- W. H. Brewer, Coll. No. 1824, July 8, 1863 (GH9263, UC32860)
- “Very dry volcanic ashes near summit of volcanic mountains south of Mono Lake,” i.e., Mono Craters .
- CA Rare Plant Status: Not listed



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Cymopterus cinerarius A. Gray



Mono Craters
Collector: W.
H. Brewer,
#1825
(JEPS15980,
UC1714553)
8 Jul 1863.
Not rare; too
common.

Bloody Canyon and Walker Lake



Chesnut and Drew



Acc. 90-105 - Science Service, Records, 1920s-1970s, Smithsonian Institution Archives

Victor K. Chesnut



Elmer R. Drew

- Victor K. Chesnut, and Elmer R. Drew
- Assume sent by E. L. Greene
- Left Berkeley June 16, 1889, collected in Hetch Hetchy and Yosemite area, crossing over to Mono Lake.
- From July 18-21, 1889, collected in Bloody Canyon, the foot of Bloody Canyon, near Mono Lake, and at Mono Lake.
- Fifty-three vouchers are at UC.
- After leaving the Mono Basin, they returned to Berkeley by way of Soda Springs (July 22), and Tuolumne Canyon (July 25).
- Chesnut went on to a career at Montana State University, and Drew at Stanford.

Aliciella monoensis J.M.Porter & A.G.Day.



Pumice Valley from Bohler Canyon



Photo: Steve Matson, Lime Kiln, Mono Basin.

- Phytotaxa 15:15-25. 2011.
- Type Information. Collector(s): J.M.Porter & L.E.Machen 12239.
- Locality: 0.4 km W of Hwy 395 on Oil Plant Road, ca. 2060 m., Latitude: 37.9°N, Longitude: 119.1°W.



South Mono Lake Tufa

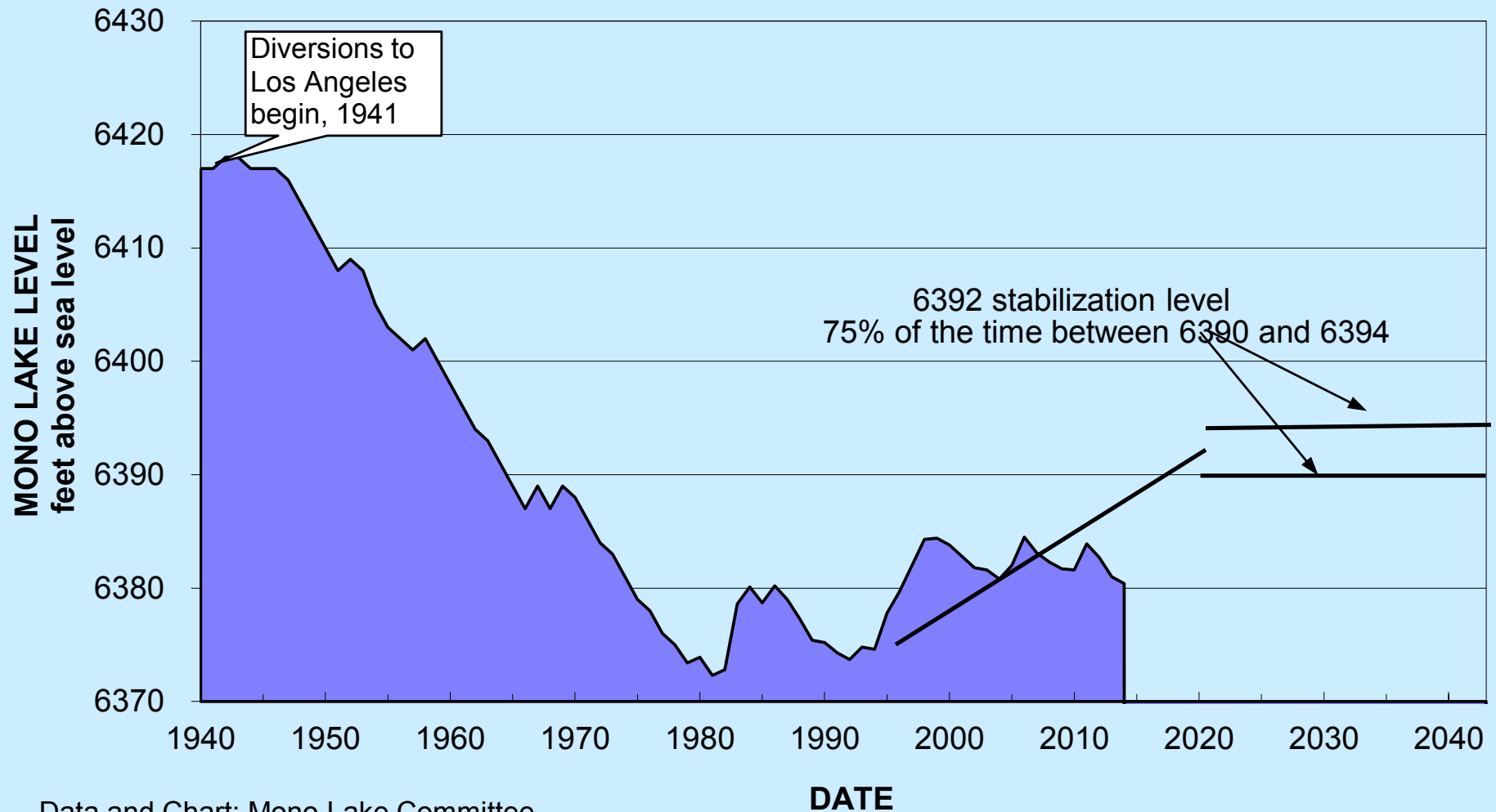


Lake-side habitat

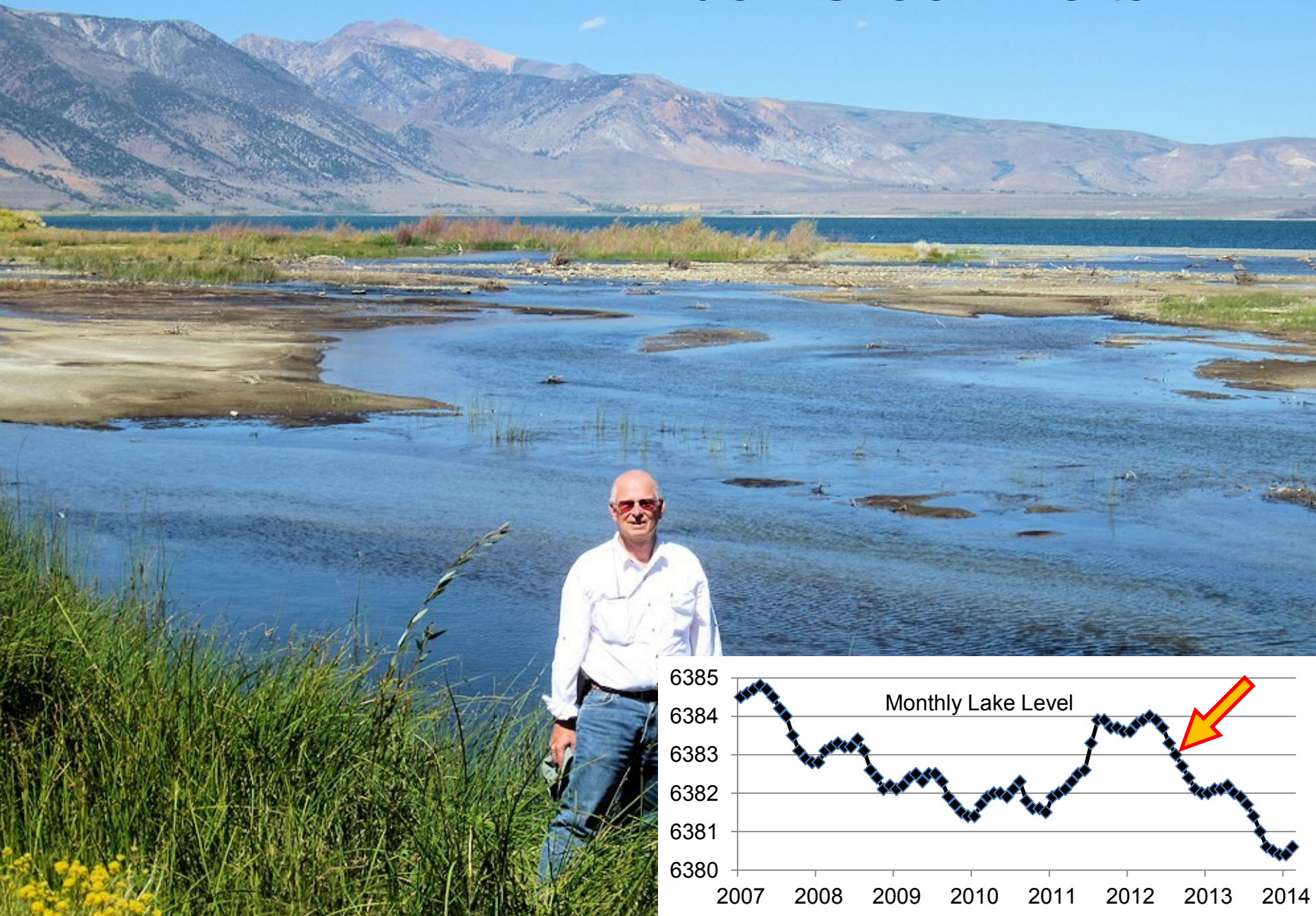


- No well-developed alkali flats.
 - Fluctuation of lake level
 - Fresh water rinsing of pumice sand soils (fresh water flux)

Lake level has not yet returned to State Water Board mandated levels.



Rush Creek Delta



Heliotropium curvassiacum L. Seaside Heliotrope

- Jepson (1940, p. 300) cites the occurrence of Seaside Heliotrope at Walker Lake, Mono County, California, giving the collection as Shockley #437, June 1885 (JEPS67989).
- Other floras repeated this citation.
- Only collection of this taxon in the Mono Basin.
- Another voucher of Shockley #437 (UC78866) by way of the Brandegee herbarium, with collection location of Walker Lake, Mineral County, Nevada,
- Tom Schweich, with Kim Kersh, #717, Rush Creek Delta, August 30, 2010 (UC1980416, CAS1131425).



Lee Vining Canyon

- *Chrysolepis sempervirens* (Kellogg) Hjelmq. Bush Chinquapin.
- *Cornus sericea* L. ssp. *sericea*. (Syn: *Cornus stolonifera* Michaux) Creek Dogwood
- *Keckiella breviflora* (Lindl.) Straw var. *glabrisepala* (D. D. Keck) N. H. Holmgren. Bush Beardtongue.
- *Solanum xanti* A. Gray. Chaparral Nightshade.

Three species of orchid



Tioga Lodge, formerly Mono Lake Post Office
and Hammond Station



Delta of Andy Thompson Creek



Mill Creek



Myosotis laxa Lehm.
Bay Forget-Me-Not.



Miss Maud Minthorn made 77 collections in 1908 in the “vicinity of Lundy.”



Copper Mountain



©2011 Tom Schweich

- Only limestone in the Mono Basin
- Collections of *Physaria kingii*, a limestone endemic (DWT #6511), and *Galium sparsiflorum* (DWT #6512)

Rattlesnake Gulch in Mono Diggin's is a great location name for a collection



- Cord Norst is credited with discovering gold here on July 7, 1859.

Stabilized sand dunes below former shoreline



- Habitat of *Tetradymia tetrameres* (S. F. Blake) Strother.
- Also *Atriplex canescens* (Pursh.) Nutt. var. *canescens* Four-wing Saltbush.

Windblown sand and volcanic detritus at the foot of the Bodie Hills



- *Oenothera caespitosa* Nutt. ssp. *marginata* (Hook. & Arn.) Munz. Tufted Evening Primrose.
- *Camissonia parvula* (Torr. & A. Gray) P. H. Raven. Lewis River Suncup.

Bodie Hills



- Tim Messick collected *Madia gracilis* along the road at left.



Eriogonum caespitosum Nutt.

Matted Buckwheat.

Also collected here by Jack L. Reveal

Coll. No. 887, 22 May 2013
©2014 Tom Schweich



Lewisia rediviva ssp. *minor*



Eremogone kingii var. *glabrescens*

Cusickiella douglasii



Coll. No. 970, 22 May 2013
©2014 Tom Schweich



Trifolium andersonii var. *beatleyae*



Lomatium nevadense var. *nevadense*

Coll. No. 960, 22 May 2013
©2014 Tom Schweich

Perideridia bolanderi ssp. *bolanderi*



May 2013
sich



Navarretia breweri



Ionactis alpina (Nutt.) Greene.
(Syn: *Aster scopulorum* A. Gray)

Lava Ankle-Aster

Also collected here by Jack L. Reveal



Erigeron eatonii var. *sonnei*

Coll. No. 968, 22 May 2013
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Senecio integerrimus var. *exaltatus*
Columbia Ragwort.



Coll. No. 872, 22 May 2013
©2014 Tom Schweich

Stenotus acaulis (Nutt.) Nutt.
Cushion Goldenweed.



Coll. No. 971, 22 May 2013
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Bodie



Not in Mono Lake basin ... unfortunately.

The east side is very dry and wind-blown



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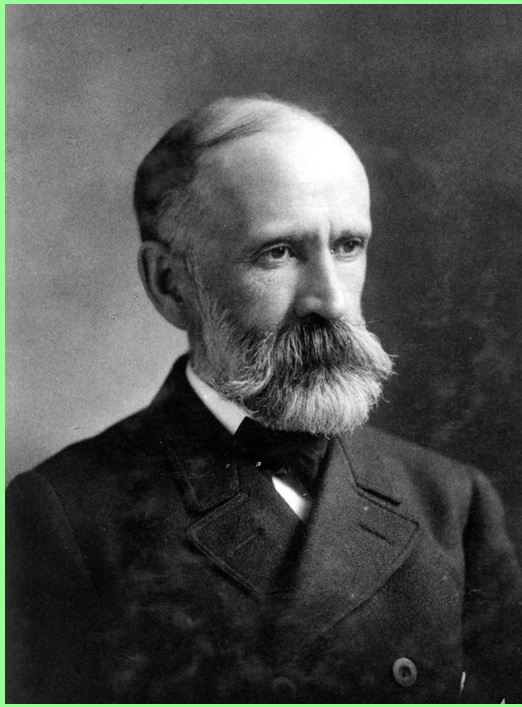
- Shorelines on Cedar Hill; beach strands becoming sand dunes.





Looking north across Alkali Valley.

- Russell (1894): Mono Lake did not extend into Alkali Valley.
- Reheis, et al. (2002): Mono Lake spilled over into the Lahontan basin through the north end of Alkali Valley



Israel Russell

- Israel Cook Russell, LL.D. (1852–1906) was an American geologist and geographer
- Between 1881 and 1885 he worked in the Mono Lake area.
- Originally employed for work surveying and building the Bodie Railway connecting the Mono Mills with Bodie
- Stayed for four years and wrote the seminal work Quaternary History of Mono Valley, California (1884).



ANCHORITE
PASS
ELEV 7626

Anchorite Pass, Mineral County, Nevada



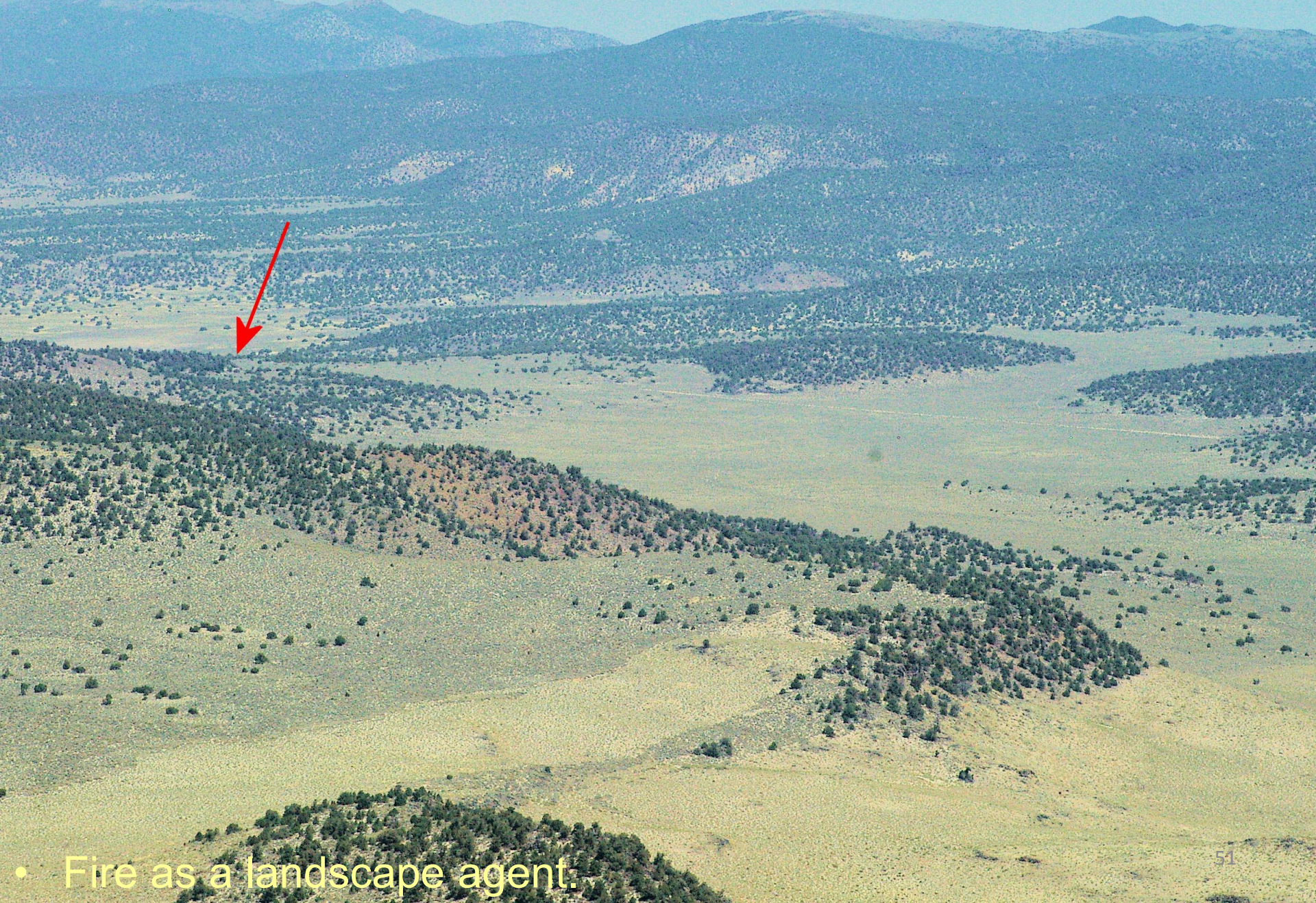
Looking west across the Mono Basin from Anchorite Pass ...

Adobe Hills Spillway



- Pleistocene Lake Mono overflowed to south through Adobe Valley and Benton to the Owens River.
- Ledge of sandstone with fresh-water snail shells
- *Ipomopsis congesta*, typically found in the high passes, Koip Pass, Parker Pass, and Tioga Crest.

Adobe Hills spillway from Cowtrack Mountain



- Fire as a landscape agent.

White Mountains



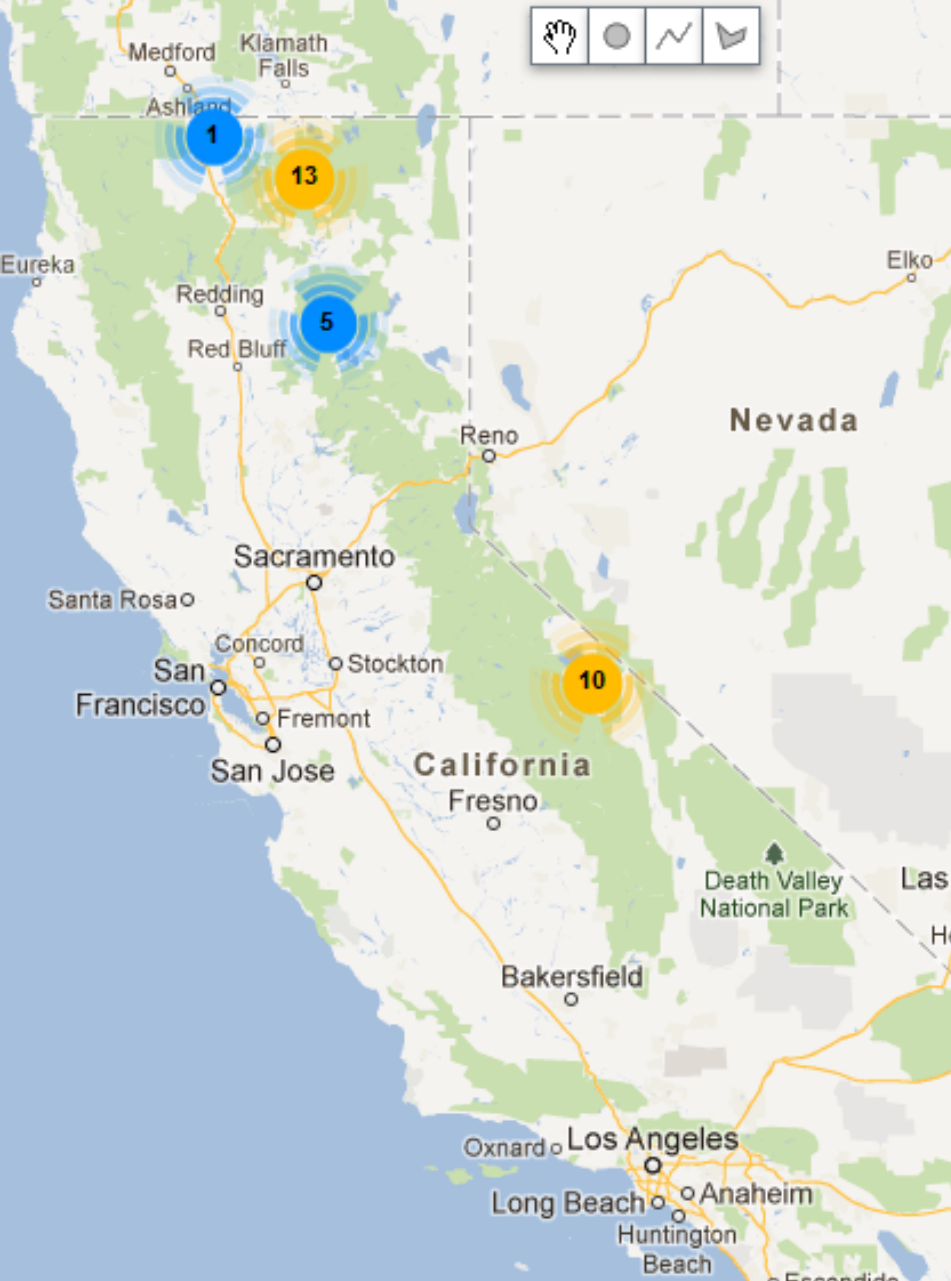
Mono Lake from Cowtrack Mountain



Sagehen Meadow



Typical mosaic of vegetation on the southeast side.



Penstemon cinicola D. D. Keck
Not: *Penstemon rydbergii* var. *oreocharis*

Big Sand Flat



- View west from Sagehen Summit on CA Highway 120.
- A half mile wide by 3½ miles long.
- Formed by faulting on the northwest side.

Lupinus duranii and *Mimulus nanus* var.
mephiticus(?) in Big Sand Flat, July 2009



Lupinus duranii Eastw.

- Type: Victor Duran, #3343, July 15, 1932, Big Sand Flat.
- Common in deep volcanic sand soils.
- CA Rare Plant Rank: 1B.2.



Astragalus monoensis Barneby

- Type: H.D. Ripley & R.C. Barneby, #5833, June 20, 1943, Valley N of Mammoth (sic) E of Inyo Crater Lake.
- Found at Smokey Bear Flat, Airfield Flat, Big Sand Flat.
- CA Rare Plant Rank: 1B.2



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Jeffrey pine forests around Mono Mills were logged to supply Bodie, 1877-1932

- Discovery of gold in 1859 by a group of prospectors, including W. S. Bodey
- Bodie Railway & Lumber Company (1881)
- Local ranching to supply the miners
- Artificial duck ponds at Rush Ck.
- Sheep (!)



Mentzelia monoensis J. M. Brokaw & L. Hufford

- Type Locality: Highway 120 north of Mono Mills.
- J. M. Brokaw #367, 16 June 2007.
- CA Rare Plant Rank: 4.3.

I've found *M. congesta* when looking for *M. monoensis*.



Eatonella nivea (D.C. Eaton) A. Gray

If this is “White False Tickhead,” what is True Tickhead?



Long Valley caldera



Deadman Summit and rim of the Long Valley Caldera on the south.



Bald Mountain

©2003 Tom Schweich

- Faulted, confused terrain.
- Sand flats, internal drainage.

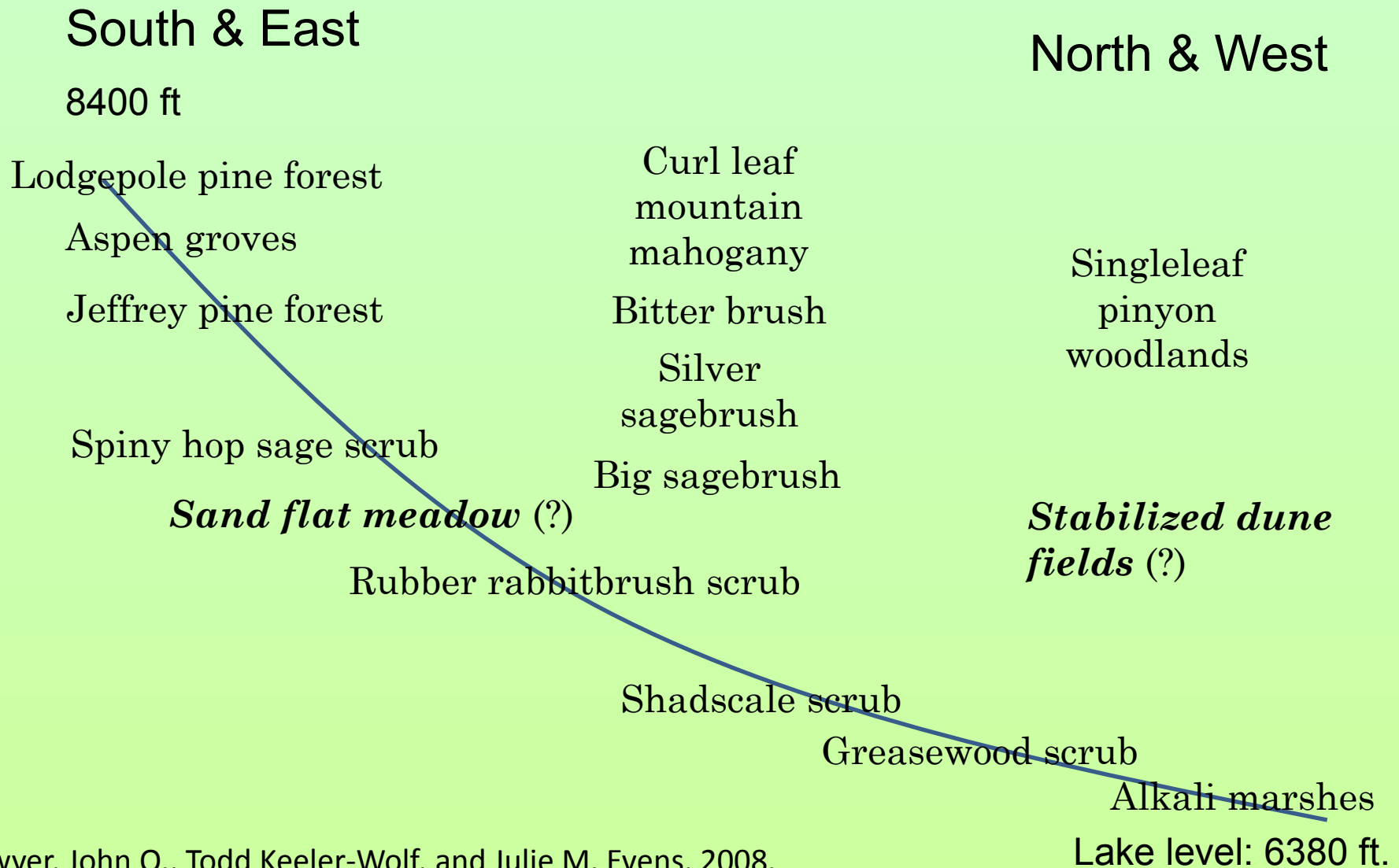
Lupinus monoensis Eastwood
J. T. Howell, #14498, August 10, 1938, Near
Crestview (= *Lupinus breweri* var. *grandiflorus*).⁶⁴

Little Sand Flat and Mono Craters



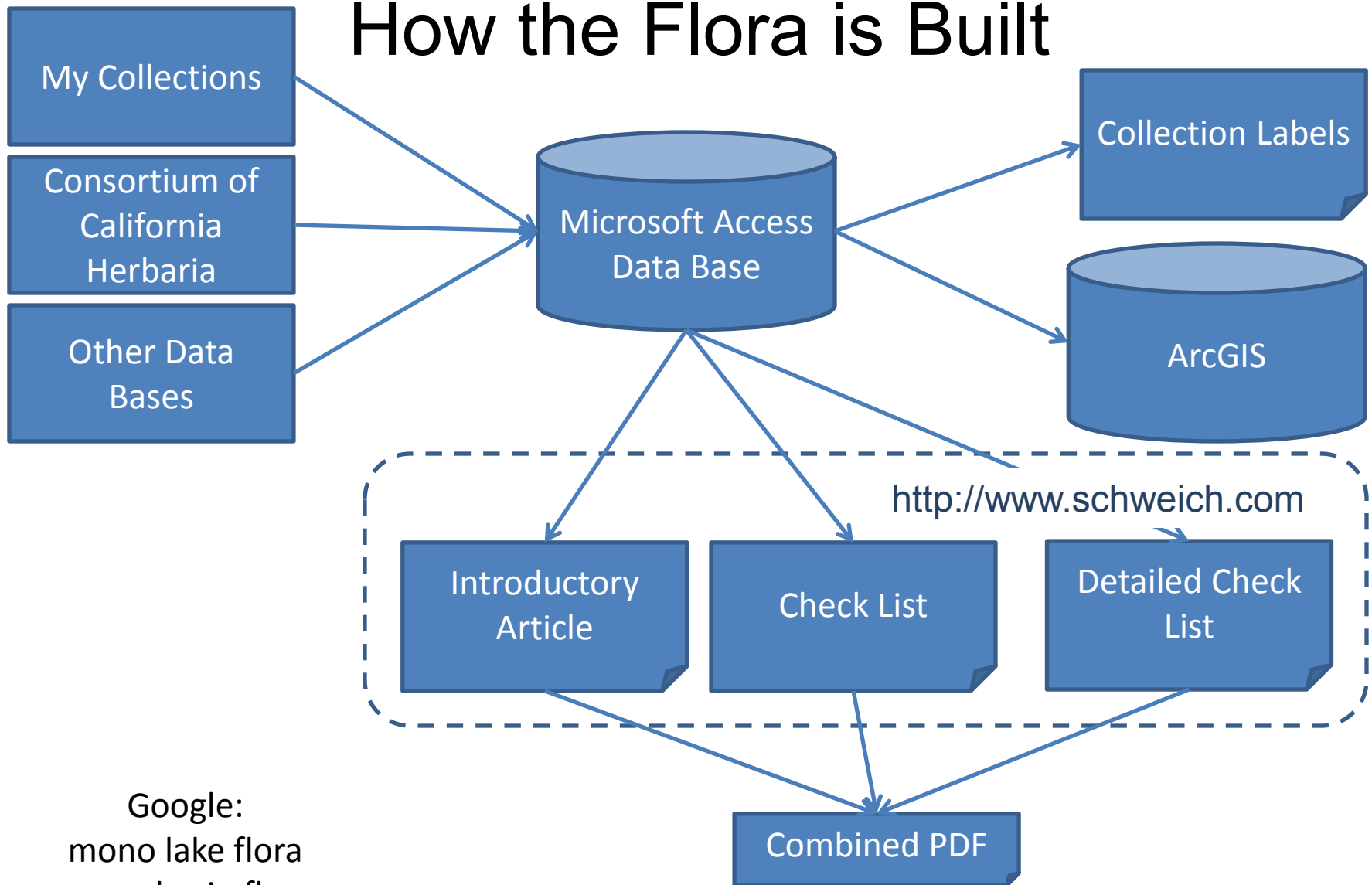
- *Ericameria parryi* var. *aspera*
- *Hulsea vestita* var. *vestita*
- *Phacelia bicolor* var. *bicolor*
- *Phacelia hastata* var. *compacta*
- *Astragalus monoensis*
- *Lupinus duranii*
- *Mimulus nanus* var. *mephiticus*(?)
- *Eriogonum spergulinum* var. *reddingianum*
- *Carex douglasii*

Plant habitats and vegetation



Sawyer, John O., Todd Keeler-Wolf, and Julie M. Evens. 2008.
A Manual of California Vegetation. Second Edition.
Sacramento, CA: California Native Plant Society Press, 2008.

How the Flora is Built

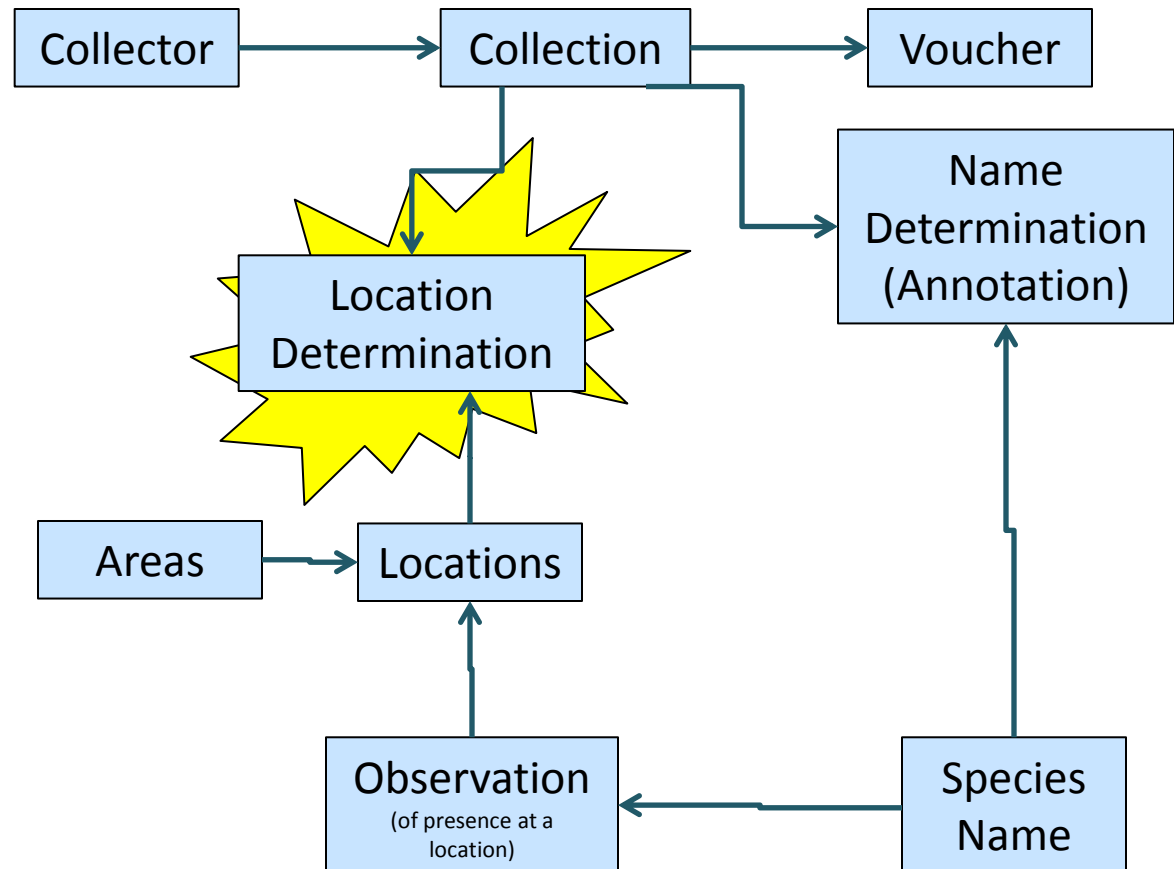


Google:
mono lake flora
mono basin flora

<http://www.schweich.com/checklistCAMnoMonoBasin.pdf>

A typical data model, with the addition of a location determination entity

- Allow multiple “guesses” as to where the collector actually was.
- Only the collector’s description of the collection location entered in the collection entity.
- Never over-write the collector’s location data.
- Apply placename location. I may be more familiar with place names in my area of work than a herbarium curation staff.
- Allow multiple locations for a collection, depending on the purpose of the location determination.



Literature Cited:

- [Jepson, Willis Linn.](#)
[1940.](#)

Other Articles: William
H. Shockley: [1](#) Rush
Creek Delta Trail, East:
[in delta](#) Seaside
Heliotrope: [1](#)

Locations: [Walker Lake.](#)

Seaside Heliotrope (*Heliotropium curassavicum* L.) is found throughout the world and a widespread California native. Its presence or absence at Mono Lake, at the uppermost elevation of its reported natural range, is therefore of interest. Jepson (1940, p. 300) cites the occurrence of Seaside Heliotrope at Walker Lake, Mono County, California, giving the collection as Shockley #437 (JEPS67989). Other floras repeated this citation. For a time this was the only collection of the taxon in the Mono Lake basin, indeed in all of Mono County. But the collection seemed a little suspect, because Walker Lake is very fresh water, while Seaside Heliotrope is typically found in saline or brackish habitat.

Shockley was a mining engineer at Candelaria, and there is no indication that he ever visited Mono Lake, except for the collection. So this collection citation was even a little more suspect. Following a herbarium search, it turns out there is another voucher of Shockley's #437 (UC78866) showing that it was collected at Walker Lake, Mineral County, Nevada. This is probably the correct location of that collection, and therefore there is no historic collection of Seaside Heliotrope in Mono County.

As it happens, though, Kim Kersh and I found Seaside Heliotrope in the Rush Creek Delta on August 30, 2010 (My collection #717, UC1980416). So now we have a good, well-located collection showing that Seaside Heliotrope does occur at Mono Lake and in Mono County.



Rush Creek delta and
Mono Lake.



Flowers of *Heliotropium*
curassavicum on the
Rush Creek delta.

About a quarter mile west of US Highway 395 on Oil Plant Road is the type locality of *Aliciella monoensis* J.M.Porter & A.G.Day (Phytotaxa 15:15-25. 2011). The collectors were J.M.Porter & L.E.Machen, their collection #12239.

These plants have been treated as members of genus *Gilia* until recently, when it was proposed they be moved back





Plant Check List for Mono Basin, Mono County, United States.

Edited by Tom Schweich

This list is assembled from personal collections, herbarium vouchers, and published lists. In particular, much of the data is provided by the participants of the Consortium of California Herbaria (<http://ucjeps.berkeley.edu/consortium/>).

For a complete list of Locations included in this Area List, see the [Locations Included](#) section, below.

This page is highly summarized. For detail about the distribution of plants, please see: [Detailed Area List for Mono Basin, Mono County, United States.](#)

Equisetaceae

- [] [Equisetum arvense L.](#) Field Horsetail. [LVCyn](#) [LVStn](#)
- [] [Equisetum telmateia Ehrh. ssp. braunii \(Milde\) Hauke.](#) [LVCyn](#)

Pteridaceae

- [] [Aspidotis densa \(Brack.\) Lellinger.](#) Indian's Dream. [L](#)
- [] [Cheilanthes gracillima D. C. Eaton.](#) Lace Lipfern. [LC](#)
- [] [Cryptogramma acrostichoides R. Br.](#) American Rockbrake. [LC](#) [LVStn](#)
- [] [Pellaea breweri D. C. Eaton.](#) Brewer's Cliffbrake. [BdC](#) [L](#)
- [] [Pellaea bridgesii Hook.](#) Bridges' Cliffbrake. [L](#) [LVCyn](#)

Woodsiaceae

- [] [Cystopteris fragilis \(L.\) Bernh.](#) Brittle Bladderfern. [FnK](#) [PSP](#)
- [] [Woodsia scopulina D. C. Eaton.](#) Rocky Mountain Woodsia. [L](#)

Cupressaceae

- [] [Juniperus communis L.](#) Common Juniper. [LVCyn](#)
- [] [Juniperus grandis R. P. Adams.](#) (Syn: *Juniperus occidentalis* Hook. var. *australis* (Vasek) A. & N. Holmgren) Big Western Juniper. [GtL](#) [LC](#) [MB](#)
- [] [Juniperus occidentalis Hook.](#) Western Juniper. [BdC](#) [GtL](#) [L](#) [MB](#) [P6](#)
- [] [Juniperus osteosperma \(Torrey\) Little.](#) Utah Juniper. [CH](#) [MB](#) [ML](#)

Ephedraceae

- [] [Ephedra viridis Cov.](#) Green Ephedra. [BdC](#) [BpC](#) [LVCyn](#) [MB](#)

- [Mono Lake](#), marshy meadow, stems to 5.5' tall by west shore of Mono Lake near outlet of Mill Creek *Carl W. Sharsmith 9219*. 8/18/1991 ([SJSU14674](#)) . .

***Cicuta maculata* L. var. *angustifolia* Hook.** Spotted Water Hemlock. [CalPhotos](#)

- [Bohler Canyon](#), Along the dirt road on the south side of Bohler Canyon, 1.8 mi (3.0 km) by air west of US Highway 395. *Tom Schweich 499*, 8/2/2007 ([UC1973698](#)) .
- [Mono Vista Spring](#), marshy area on the northwestern shore of lake on northwest shore of Mono Lake at Mono Vista Springs *Malcolm A. Nobs and S. Galen Smith 1706*. 9/1/1949 ([UC1191962](#)) . .



***Cymopterus cinerarius* A. Gray.** Gray Springparsley. [CalPhotos](#)

- [Mono Basin](#), Around Jeffrey pines, in pine needles, and other places with more organic matter than typically found in the volcanic cinder sands. Along California Highway 120, 8 miles east of US Highway 395. *Tom Schweich 754*, 6/16/2011 ([UC1980491](#)) .
- [Mono Craters](#), In the open sand flat just north of Mono Craters, 4 miles south of Mono Lake, Mono County, at 6900 feet elevation. *David D. Keck and L. R. Abrams 2901*. 6/20/1934 ([DS242434](#) [DS694432](#)) volcanic gravel with Abronia, Hulsea, Arabis, Eriophyllum, Lupinus, Purshia and scattered Pinus jeffreyi east slope of Mono Craters *L. Constance and R. Bacigalupi 3436*. 7/3/1952 ([UC967285](#)) In pine needle-covered areas beneath Jeffrey pines. 1.4 miles southeast of Crater Mountain, on a small ridge of cinders. *Tom Schweich 703*, 8/16/2010 ([UC1973771](#)) volcanic summit south of Mono Lake *Wm. H. Brewer 1825*. 7/8/1863 ([JEPS15980](#)) .
- [Mono Mills](#), pumice gravel with sand beneath, moist at a depth of ca. 4 inches, surrounded by forest of Pinus jeffreyi sand flat on east side of Mono Craters, along Highway 120 about 10 miles east of junction with Highway 395 *Ann Howald 1926*. 6/24/1995 ([JEPS105490](#)) . .



***Cymopterus flobosus* (S. Watson) S. Watson.** Globe Spring-Parsley. [CalPhotos](#)

- [Larkin Lake](#), Low dunes. Larkin Lake Mono Basin, Trench Canyon (e side, ca 100 m w of Nevada State Line), PLSS location 4N28E14. Coordinates as "...NW1/4 of SE1/4 Sec 14" *Dean Wm. Taylor 16774*. 7/2/1998 ([UC1731440](#)) . .

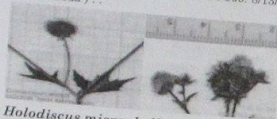
***Cymopterus terebinthinus* (Hook.) Torr. & Gray var. *californicus* (J. M. Coulter & Rose) Jeps.** (Syn: *Pteryxia terebinthina* (Hook.) Coulter & Rose var. *californica* (Coulter & Rose) Math.) [CalPhotos](#)

- [Horseshoe Canyon Moraine](#), Between lateral moraines on Inyo Forest Road 01S31, 1.5 miles south of the Rush Creek Return Ditch Gatehouse, and 2.6 miles north of Reversed Peak. *Tom Schweich 775*, 6/20/2011 (UC (TAS)) . .



Create a PDF that can be printed

- 1 Number of collections: 2. My collection at Pilot Spring. Common on Glass Mountain.
- Big Sand Flat, Mouth of Dry Creek at northeast end of Big Sand Flat, close to California Highway 120. Tom Schueich 685. 7/23/2010 (UC(TAS)).
 - Dry Creek. In the middle reaches of upper Dry Creek, i.e., above Big Sand Flat. Tom Schueich 653. 7/12/2010 (UC1973749).
 - June Lake, Wet meadow. At head of June Lake Freda Delmers 17858. 8/27/1933 (RSA498840).
 - Pilot Spring. 26.4 km southeast of Lee Vining. 15.4 km northwest of Glass Mountain, and 143 km NE of Fresno, California. Tom Schueich 560. 8/13/2008 (Alameda) .



Holodiscus microphyllus Rydb. Ocean Spray. CalPhotos

- Mono Craters, on lava talus Carl W. Sharsmith 5668. 8/27/1948 (SJSU13386) .



Holodiscus microphyllus Rydb. var. microphyllus. Ocean Spray. CalPhotos

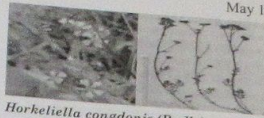
- Sagehen Meadow. Near top of hill north of Sagehen Meadow. Tom Schueich 668. 7/16/2010 (Alameda UC1973697) .

Horkelia fusca Lindl. var. parviflora. (Syn: Horkelia fusca Lindl. ssp. parviflora (Nutt.) D. D. Keck) Smallflower Horkelia. CalPhotos

- Murphy Spring. Drying edge of a wet meadow. Fairly common, beside Bodie Road (CA Hwy 270). 3 miles southwest of Bodie State Historic Park George K. Helmkamp 401. 9/23/1995 (UCR88320) In a wet meadow below California Highway 270 about 0.4 mi (0.6 km) southwest of Murphy Spring. Tom Schueich 689. 7/25/2010 (Alameda UC(TAS)) .

<http://www.schueich.com/arealistdetCAMnoMonoBasin.pdf>

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Horkeliella congonidis (Rydb.) Rydb. Congdon's False Horkelia. CalPhotos

- Lower Horse Meadow, meadow border on granitic substrate with Artemisia tridentata. Iris missouriensis Dean Wm. Taylor 16956. 8/24/1998 (JEPS96937).
- Parker Creek, on moraine hillside, on dry sandy soil associated with Artemisia tridentata. James L. Reveal and Jack L. Reveal 448. 7/29/1962 (UC1338603).
- Pumice Valley, open pumice flat with sparse turf of Carex douglasii and a few shrubs of Artemisia tridentata, Chrysothamnus nauseosus Highway 120 about 0.3 miles east of Hwy 395 Dean Wm. Taylor 16173. 8/3/1997 (JEPS96956).
- Sagehen Meadow. Occasional, fls white. Gently E-sloping heavily grazed dry meadow of soft silty pumice alluvium over granitic bedrock. Uplands of Artemisia tridentata / Purshia tridentata scrub. GLASS MOUNTAIN REGION Sagehen Meadow area; along 4WD road running S from Gaspipe Spring and Hwy 120 as it crosses dry springfed drainages. Appx. 1/2 mi. NE of Sagehen Spr. campground. Michael Honer 975. 6/21/2001 (RSA682390 UC1786792) North edge of meadow. Tom Schueich 694. 7/26/2010 (Alameda UC(TAS)) .



Potentilla anserina L. ssp. anserina. (Syn: Argentina anserina (L.) ssp. egedii A. Love & Ritchie) Silver Weed Cinquefoil. CalPhotos

- June Lake (as a collecting locality). Tom Schueich 999/2011. east end around beach
- Reversed Peak. On the drying shore of natural ponds called "Snow Ponds" by local residents, south flank of Reversed Peak, about 1 mile northwest of Gull Lake. Tom Schueich 562. 8/14/2008 (Alameda UC1953416) .



Potentilla biennis Greene. Biennial Cinquefoil. CalPhotos

- Perennial herb (not shrub), to 4 dm, without stolons; Stem some hairs weakly glandular; Leaflets 3, Petals yellow, 1.5 mm; Carpels numerous on a convex receptacle; Styles attached at tip of sepal (carpel?), 0.6 mm long, widest at base, bumpy; Achene glabrous (Described from Coll. No. 688, 7 Nov 2011).
- Bloody Canyon, Chessnut and Drew 7120/1889 (UC14258).
- June Lake (as a collecting locality). Lewis S. Rose 40730. 7/2/1940 (UC800525 UCR1999) .
- Larkin Lake. Light gray subalkaline mud in Iva axillaris-Muhlenbergia richardsonii meadow bordering large Eleocharis macrostachya lakebed Dean Wm. Taylor 7736. 7/15/1980 (JEPS100238) .
- Murphy Spring. In a watercourse about 0.4 mi (0.6 km) southwest of Murphy Spring. Tom Schueich 688. 7/25/2010 (Alameda UC(TAS)) .
- Rush Creek. Geographic coordinates estimated 29 Jul 2010. In gravel on south side of Rush Creek just below Grant Lake dam. Tom Schueich 524. 8/2/2007 (UC1973756) .



Potentilla breuieri S. Watson. (Syn: Potentilla drummondii Lehm. ssp. breuieri (S. Watson) Erter) CalPhotos

- Bloody Canyon, head Bloody Canyon Unknown 8/16/1894 (UC114329) .

Potentilla gracilis Hook. Slender Cinquefoil. CalPhotos

- Mono Lake, upper Sonoran, granite soil, meadow Lyman Benson 3808. 7/1/1932 (UC511305) .
- Potentilla gracilis Hook. var. elmeri (Rydb.) Jeps.** Comb-Leaf Cinquefoil. CalPhotos
- Lundy, 8000-9000 ft vicinity of Lundy Miss Maud Minthorn 6/20/1908 (UC420588) .

<http://www.schueich.com/arealistdetCAMnoMonoBasin.pdf>

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- Sagehen Meadow. With sagebrush. South side of meadow. Tom Schueich 630. 7/5/2010 (UC1973736 UC(TAS))



Potentilla gracilis Hook. var. fastigiata (Nutt.) S. Watson. Slender Cinquefoil. CalPhotos

- Perennial herbaceous; Stem ascending, hairs one length; Leaves palmately compound; Leaflets 7, 12-toothed + half or less to mid-vein, hairs straight spreading (not always or cottony hairy), top and bottom surfaces similarly hairy; Flowers in cymes; longer than sepals. Receptacle not enlarged; Stamens many (13 counted); Style jointed to fruit, 2 mm, slightly tapered; Achenes not fleshy. (Described from Coll. No. 471, 30 Nov 2011).
- Rattlesnake Gulch. Collected in a marshy area of Rattlesnake Gulch, about one-half mile northeast of US Highway 395, and 10 miles north of Lee Vining. Tom Schueich 471. 6/26/2007 (Alameda UC(TAS)) .



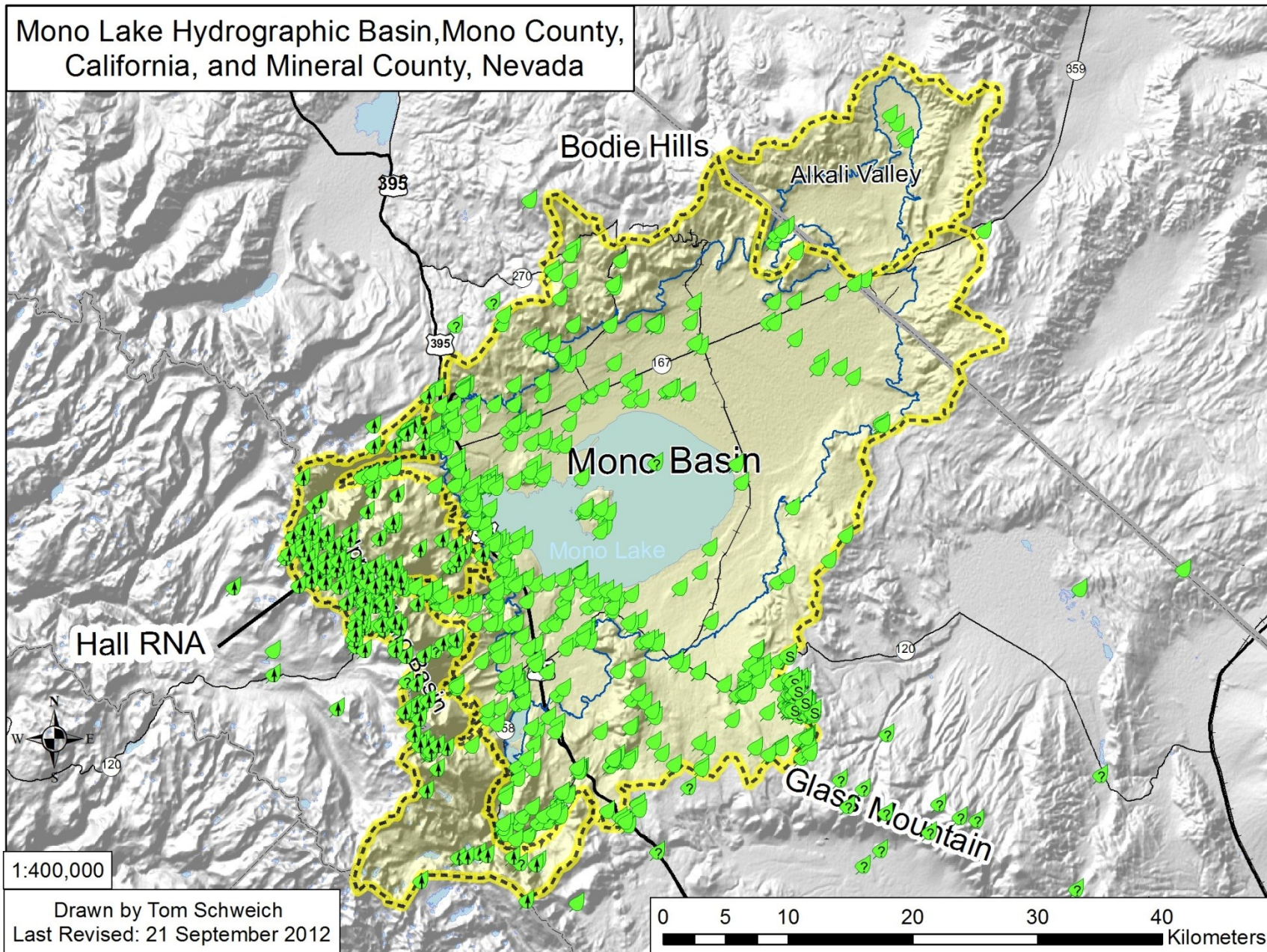
Prunus andersonii A. Gray. Desert Peach. CalPhotos

- Bohler Canyon. Edge of wet meadow along the dirt road on the south side of Bohler Canyon, 1.8 mi (3.0 km) by air west of US Highway 395. Tom Schueich 502. 8/2/2007 (UC1973700) .
- Lee Vining. Sagebrush Scrub Desert, sandy soils. 1 mile south of Lee Vining Lyman Benson 12128. 7/27/1948 (UC1552000) .
- Mill Creek, on plain at lake Near Mill Creek at northwest corner of Mono Lake. R. F. Hoover 5422. 7/8/1941 (UC765501) .
- Mono Basin, Winkler, David W., 1977 Jones & Stokes Associates, 1993.
- Mono Lake, 3 miles north of Mono Lake. Herbert L. Mason 11501. 8/1/1936 (UC1083120) .
- MBRG P-2. Observation per MBRG voucher.

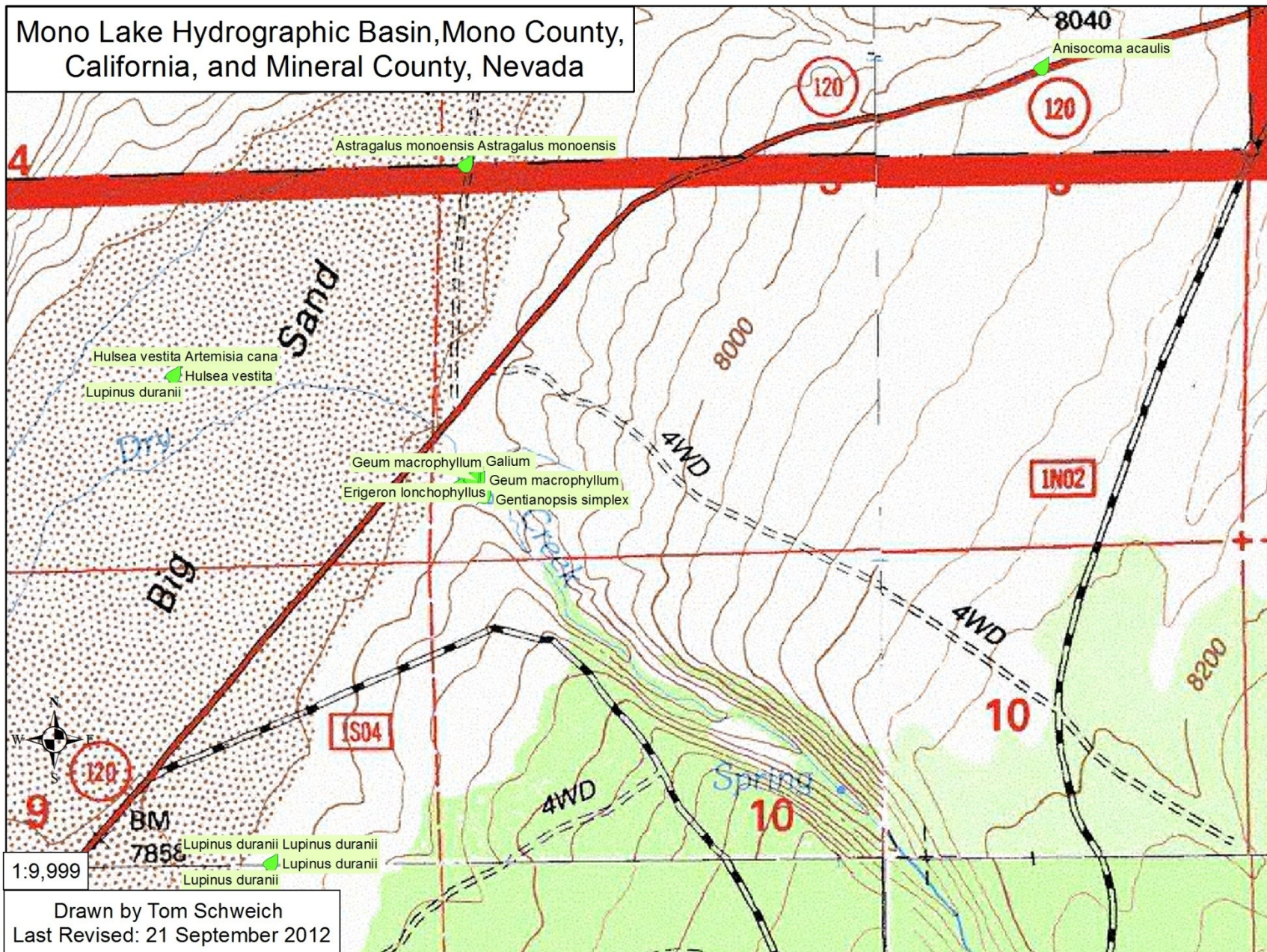
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- Create a PDF and make it available for downloading.
- The links in the PDF still work.

Mono Lake Hydrographic Basin, Mono County, California, and Mineral County, Nevada



Mono Lake Hydrographic Basin, Mono County,
California, and Mineral County, Nevada



Mono Basin Clearinghouse

Building a Digital Library for Better Resource Management

Mono Basin Field Station	Reports & Studies Online	Raw Data, Field Notes, Photos	Historical Information	Legal Documents, Transcripts	Current Ongoing Research	Chronologies & Timelines	Geographic Information Systems	Links
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► Geographic Information Systems

If you have GIS data or know of GIS data on the Mono Basin, please email us at research@monolake.org! Below is a partial listing of what GIS data exists covering the Mono Basin, who has it, and how it is accessible.

DIRECT LINKS TO DATA SOURCES

[Mono Basin plant collection locations by Tom Schweich](#)

USGS contacts:

Carol Ostergren
US Geological Survey National Geospatial Program
3020 State University Drive East, Suite 4003
Sacramento, CA 95819
916-278-9510
916-278-9473 (fax)
costergren@usgs.gov

Drew Decker
USGS Geospatial Liaison for California
NSDI Partnership Office, U.S. Geological Survey
4165 Spruance Road, Suite 200
San Diego, CA 92101
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619-417-2879 cell
619-225-6101 fax
ddecker@usgs.gov

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	Title	Type	Modified	Shared	Size
	Mono Basin Collections	Layer Package	Jul 6, 2012	Everyone	712 KB
	Mono Basin Collections from Shape Files	Web Map	Jul 21, 2012	Not Shared	3 MB
	Mono Lake Watershed plus Collections	Web Map	Jul 10, 2012	Everyone	2 KB
	Mono Lake with conifers and ferns	Web Map	Jul 10, 2012	Not Shared	1 KB
	Mono_Basin_Res_Grp_Sites_Lines	KML	Jul 10, 2012	Everyone	2 KB
	Mono_Basin_Res_Grp_Sites_Points	KML	Jul 10, 2012	Everyone	2 KB
	Mono_Basin_Watershed	KML	Jul 6, 2012	Everyone	129 KB
	Mono_Lake_Basin_and_Collections_20120613	Map Package	Jul 6, 2012	Everyone	41 MB
	Mono_Lake_Collections_Dicots_Ast_Fat	KML	Jul 7, 2012	Everyone	193 KB
	Mono_Lake_Collections_Dicots_Exc_Ast	KML	Jul 7, 2012	Everyone	349 KB
	Mono_Lake_Collections_Ferns_Conifers	KML	Jul 7, 2012	Everyone	21 KB
	Mono_Lake_Collections_Monocots	KML	Jul 7, 2012	Everyone	160 KB

Questions?

