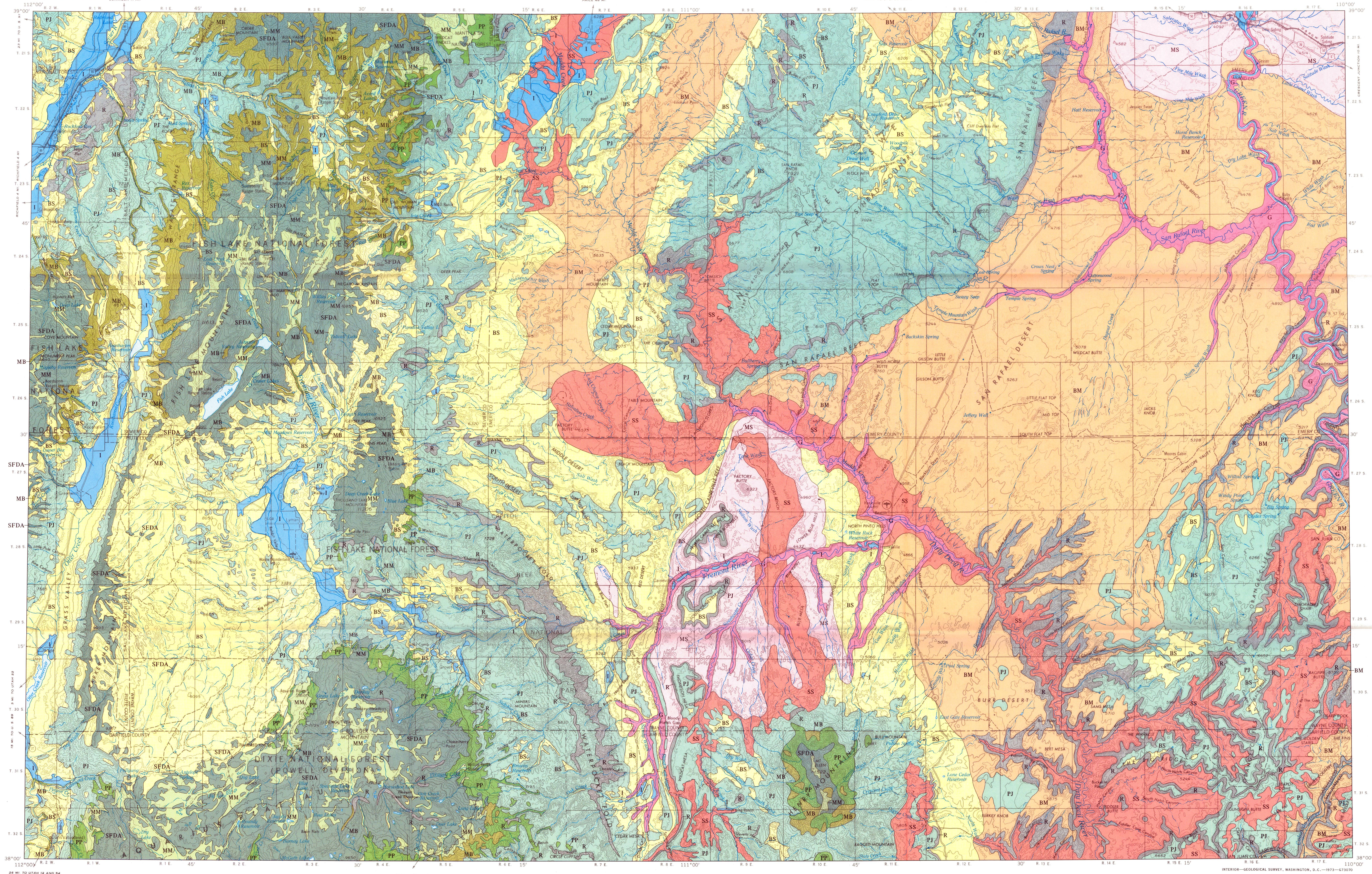
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

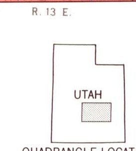
FOLIO OF THE
SALINA QUADRANGLE, UTAH
MAP I-591-P



Base from U.S. Geological Survey, 1956–62
Roads as of 1972

SCALE 1:250 000
5 0 5 10 15 20 25 MILES
5 0 5 10 15 20 25 KILOMETERS

CONTOUR INTERVAL 200 FEET
WITH SUPPLEMENTARY CONTOURS AT 100-FOOT INTERVALS
DATUM IS MEAN SEA LEVEL
1973 MAGNETIC DECLINATION FOR THIS SHEET VARIES FROM 15°00' EASTERLY FOR THE CENTER OF THE WEST EDGE TO 14°30' EASTERLY FOR THE CENTER OF THE EAST EDGE MEAN ANNUAL CHANGE IS 0°02'30" WESTERLY



QUADRANGLE LOCATION

VEGETATION MAP OF THE SALINA QUADRANGLE, UTAH

By
Robert J. Hackman
1973

EXPLANATION

VEGETATION UNIT	ELEVATION (ft)	COMMON PLANT SPECIES	REMARKS
Mountain meadow MM	9,000 to 11,600	Sedge (*Carex* spp.) Bluebunch wheatgrass (*Agropyron spicatum*) Bluegrass (*Poa longiligula*) Cinquefoil (*Potentilla* spp.) Sagebrush (*Artemisia* spp.) Dandelion (*Taraxacum* sp.) Yarrow (*Achillea lanulosa*) Owl clover (*Orthocarpus luteus*) Timothy (*Phleum alpinum*) Buttercup (*Ranunculus calthaeflorus*) Lousewort (*Pedicularis groenlandica*) Bistort (*Polygonum bistortoides*) Clover (*Trifolium* sp.) Alpine sunflower (*Hymenoxys grandiflora*) Sky pilot (*Polemonium viscosum*) Primrose (*Primula parryi*) Marshmarigold (*Caltha leptosepala*) Gentian (*Gentiana* spp.) Spreading phlox (*Phlox diffusa*) Lodgepole lupine (*Lupinus parviflorus*) Paintbrush (*Castilleja lauta*) Shooting star (*Dodecatheon* spp.) Pussytoes (*Antennaria* spp.) Sedum (*Sedum stenopetalum*) Penstemon (*Penstemon whippleanus*)	Sagebrush, grasses, and sedges form most of ground cover. Only larger meadows are mapped separately from the Spruce, fir, Douglas-fir, and aspen forest (unit SFDA).
Spruce, fir, Douglas-fir, and aspen forest SFDA	8,500 to 11,000	Trees Englemann spruce (*Picea englemannii*) Subalpine fir (*Abies lasiocarpa*) Douglas-fir (*Pseudotsuga menziesii*) Quaking aspen (*Populus tremuloides*) Blue spruce (*Picea pungens*) Balsam fir (*Abies concolor*) Understory plants Pinegrass (*Calamagrostis rubescens*) Elk sedge (*Carex geyeri*) Arnica (*Arnica cordifolia*) Common juniper (*Juniperus communis*) Huckleberry (*Vaccinium* spp.) Bladder fern (*Cystopteris fragilis*) Bladderpis (*Lesquerella* spp.) Larkspur (*Delphinium occidentale*) Monkshood (*Aconitum bakeri*) Prairie flax (*Linum lewisii*) Alumroot (*Heuchera parvifolia*) Buffaloberry (*Shepherdia canadensis*) Firewood (*Epilobium angustifolium*) Painted cup (*Castilleja confusa*) Green-orchid (*Habenaria hyperborea*)	Englemann spruce and subalpine fir dominate the upper part of this unit and Douglas-fir and aspen the lower part with considerable mixing of species in middle part. Only the upper part of this forest, mainly Englemann spruce and subalpine fir, is included in this unit in the Henry Mountains.
Ponderosa pine forest[1] PP	7,500 to 9,000; locally as low as 5,000	Trees Ponderosa pine (*Pinus ponderosa*) Understory plants Mountain muhly (*Muhlenbergia montana*) Arizona fescue (*Festuca arizonica*) Slender wheatgrass (*Agropyron trachycaulum*) Oatgrass (*Danthonia* sp.) Serviceberry (*Amelanchier alnifolia*) Mountain mahogany (*Cercocarpus montanus*) Bitterbrush (*Purshia tridentata*) Mariposa lily (*Calochortus nuttalli*) Horsetail (*Equisetum kansanum*) Coralroot (*Corallorrhiza multiflora*) Catchfly (*Silene lyalli*) Black chokecherry (*Prunus melanocarpa*) Vetch (*Vicia americana*) Tobacco (*Nicotiana attenuata*) Penstemon (*Penstemon* spp.) Sweetroot (*Osmorhiza obtusa*) Goldenrod (*Solidago petradoria*)	Trees form open stands with thick understory. The upper part of this unit in the Henry Mountains includes Douglas-fir and aspen.
Mountain brush[1] (chaparral) MB	7,000 to 9,000	Shrubs Scrub oak (*Quercus gambelii*) Mountain mahogany (*Cercocarpus montanus*) Serviceberry (*Amelanchier alnifolia*) Snowbush (*Ceanothus velutinus*) Bitterbrush (*Purshia tridentata*) Cliffrose (*Cowania mexicana*) Chokecherry (*Prunus virginiana*) Rose (*Rosa* spp.) Big sagebrush (*Artemisia tridentata*) Grasses Bluebunch wheatgrass (*Agropyron spicatum*) Needle-and-thread (*Stipa comata*) Junegrass (*Koeleria cristata*) Annual bromes (*Bromus* spp.)	Unit is widespread on mountain slopes in the northwest part of the quadrangle. Ponderosa pine occurs sporadically.
Pinyon-juniper woodland[1] PJ	5,000 to 7,500; locally as high as 9,000	Trees Colorado pinyon (*Pinus edulis*) Utah juniper (*Juniperus osteosperma*) One-seed juniper (*Juniperus monosperma*) Understory plants Bitterbrush (*Purshia tridentata*) Mountain mahogany (*Cercocarpus montanus*) Galleta grass (*Hilaria jamesii*) Western wheatgrass (*Agropyron smithii*) Cheatgrass (*Bromus tectorum*) Prickly-pear cactus (*Opuntia polyacantha*) Russian thistle (*Salsola kali*) Wild onion (*Allium textile*) Mariposa lily (*Calochortus* spp.) Columbine (*Aquilegia pallens*) Hollygrape (*Mahonia repens*) Jewel flower (*Streptanthus cordatus*) Lupine (*Lupinus brevicaulis*) Hedgehog cactus (*Echinocereus fendleri*) Phlox (*Phlox longifolia*) Balsamroot (*Balsamorhiza sagittata*) Dragonhead (*Modavica parviflora*) Penstemon (*Penstemon* spp.) Mountain sagebrush (*Artemisia frigida*)	A very open forest with trees 10-30 feet high. Shrubs, grasses, and other herbaceous plants form a generally sparse understory, although the shrubs may occasionally form dense stands on sites with high moisture content.
Big sagebrush[1] BS	5,000 to 7,500; locally as high as 10,000	Shrubs Big sagebrush (*Artemisia tridentata*) Rabbitbrush (*Chrysothamnus* sp.) Horsebrush (*Tetradymia* spp.) Winterfat (*Eurotia lanata*) Snakeweed (*Gutierrezia sarothrae*) Apache plume (*Fallugia paradoxa*) Grasses Galleta grass (*Hilaria jamesii*) Blue grama (*Bouteloua gracilis*) Bluebunch wheatgrass (*Agropyron spicatum*) Squirreltail (*Sitanion hystrix*)	Soils are well drained, generally sandy, and nonsaline.
Blackbrush-Mormon tea scrub[1] BM	4,000 to 6,000	Shrubs Blackbrush (*Coleogyne ramosissima*) Mormon tea (*Ephedra* sp.) Fourwing saltbush (*Atriplex canescens*) Yucca (*Yucca* sp.) Snakeweed (*Gutierrezia sarothrae*) Sand sagebrush (*Artemisia filifolia*) Rabbitbrush (*Chrysothamnus* sp.) Prickly pear (*Opuntia* spp.) and other cacti Grasses Galleta grass (*Hilaria jamesii*) Blue grama (*Bouteloua gracilis*) Needle-and-thread (*Stipa comata*) Feather grass (*Stipa neomexicana*) Three-awn (*Aristida fendleriana*)	Desert areas of sandy, generally nonalkaline soils.
Shadscale scrub[1] SS	4,000 to 6,000	Shadscale (*Atriplex confertifolia*) Fourwing saltbush (*Atriplex canescens*) Bud sagebrush (*Artemisia spinescens*) Spiny horsebrush (*Tetradymia spinosa*) Snakeweed (*Gutierrezia sarothrae*) Spiny hopsage (*Grayia spinosa*) Nuttall saltbush (*Atriplex nuttalli*) Winterfat (*Eurotia lanata*)	Desert areas of impervious saline soils.
Mat saltbush MS	4,000 to 5,000	Mat saltbush (*Atroplex corrugata*) Wild buckwheat (*Eriogonum* spp.) } Wet seasons only Curly grass (*Hilaria jamesii*) } Grey molly (*Kochia vestita*)	Saltbush grows sparsely, mostly in fine-grained alluvium in dry washes and in large areas underlain by shale. Soil is dry, impervious, and saline.
Greasewood[1] G	4,000 to 5,000	Greasewood (*Sarcobatus vermiculatus*) Shadscale (*Atriplex confertifolia*) Sagebrush (*Artemisia* spp.) Rabbitbrush (*Chrysothamnus* sp.) Gumweed (*Grindelia* spp.) Salt grass (*Distichlis stricta*) Alkali sacaton (*Sporobolus airoides*) Tansy mustard (*Descurainia* sp.) Goosefoot (*Chenopodium* spp.) Tarmarix (*Tamarix gallica*)	Greasewood is a phreatophyte that grows in highly saline soils. It is present on terraces above permanent streams and along intermittent stream channels.
Irrigated land I			
Barren rock R			

[1] In favorable areas along permanent streams, the following species are commonly present:
Willow (*Salix* spp.)
Narrowleaf cottonwood (*Populus angustifolia*) below 7,000 feet
Fremont cottonwood (*Populus fremontii*) below 7,500 feet
Aspen (*Populus tremuloides*) above 7,000 feet
Birch (*Betula fontinalis*)
Dogwood (*Cornus stolonifera*) above 5,000 feet
Tufted hairgrass (*Deschampsia caespitosa*) above 7,000 feet
Rushes (*Juncus* spp.)
Sedges (*Carex* spp.)
Western wheat grass (*Agropyron smithii*)
Bluegrass (*Poa* spp.) above 5,000 feet

REFERENCES

The map was compiled from the sources listed below, supplemented by interpretation of aerial photographs and limited field observations.

Branson, F. A., 1965, Maps of native vegetation zones and irrigated lands in the Green and San Juan Divisions, upper Colorado River basin, plates 7 and 9, *in* Iorns, W. V., Hembree, C. H., and Oakland, G. L., Water resources of the upper Colorado River Basin – Technical report: U.S. Geol. Survey Prof. Paper 441, 370 p.
Cannon, H. L., 1960, The development of botanical methods of prospecting for uranium on the Colorado Plateau: U.S. Geol. Survey Bull. 1085-A, 56 p.
Dixon, Helen, 1935, Ecological studies of the high plateaus of Utah: Bot. Gaz., v. 97, no. 2, p. 272-320.
Hunt, C. B., Averitt, Paul, and Miller, R. L., 1953, Geology and geography of the Henry Mountains region, Utah: U.S. Geol. Survey Prof. Paper 228, 234 p.
Munz, P. A., 1959, A California Flora: Berkeley, California Univ. Press, 1,681 p.
Tidestrom, Ivar, 1925, Flora of Utah and Nevada: U.S. Natl. Mus., Natl. Herbarium Contr., v. 25.
U.S. Department of Agriculture, Forest Service, 1960, Timber survey maps, Fishlake National Forest.
________1967, Timber survey maps, Dixie National Forest.

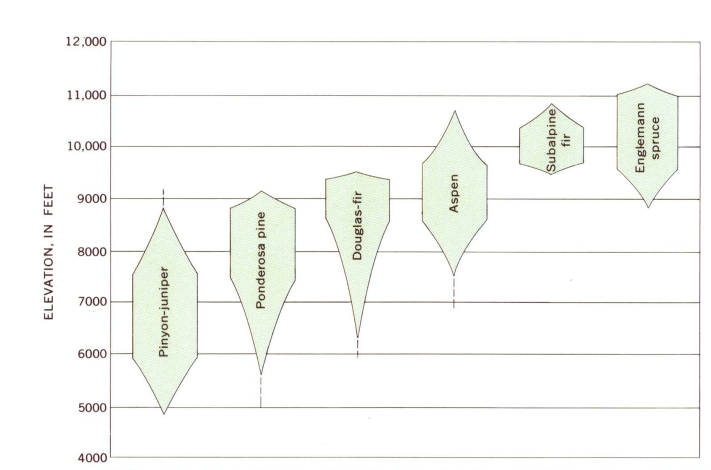


DIAGRAM SHOWING APPROXIMATE ELEVATION RANGE OF MAJOR TREE TYPES IN THE SALINA QUADRANGLE

For sale by U.S. Geological Survey, price 75 cents