

Supplemental Map Information (User Report)

Project ID: R06Y07P02

Project Title or Area: Wasatch Front, Utah

List of 7'5 USGS quadrangles in Project Area: Coyote Point, Rozel, Golden Spike Monument, Thatcher Mountain SW, Public Shooting Grounds, Bear River City, Brigham City, Rozel Point, Messix Peak, East Promontory, Mouth of Bear River, Whistler Canal, Willard, Indian Cove, Pokes Point, Willard Spur, Plain City SW, North Ogden, Promontory Point, Fremont Island, Ogden Bay, Roy, Ogden, Antelope Island North, Clearfield, Kaysville, Antelope Island, Saltair NE, Farmington, Bountiful Peak, Antelope Island South, Saltair, Salt Lake City North, Fort Douglas, Farnsworth Peak, Magna, Salt Lake City South, Sugar House, Lark, Midvale, Draper, Jordan Narrows, Lehi, Saratoga Springs, Pelican Point, Orem, Soldiers Pass, Lincoln Point, Provo, Springville, Goshen Valley North, West Mountain, Spanish Fork.

Source Imagery (type, scale and date):

One meter resolution, 1997-8 black and white digital orthographic quarter quadrangles (DOQQ)

Collateral Data (include any digital data used as collateral):

1997-8 NAPP 1:40,000 scale black and white dia-positive transparencies

1981 NASA 1:65,000 CIR dia-positive transparencies

Alternative Futures for Utah's Wasatch Front: bioregional planning for the maintenance and conservation of open space (Toth 2002).

Bear River Migratory Bird Refuge Comprehensive Management Plan (1997 USFWS)

Classification of Wetlands and Deepwater Habitats of the United States (Cowardin, et.al. 1979)

Hydrologic Characteristics of the Great Salt Lake, Utah: 1847-1986 (Arnow 1990)

Hydric Soils of the United States (1987 USDA)

National List of Plants That Occur in Wetlands (1988 USDI)

Original NWI wetland delineations and classification 1980.

U.S. Department of Agriculture Soil Surveys, Utah Agricultural Experiment Station. County Surveys and Publishing date:

Box Elder County, Utah, Eastern Part 1975

Davis-Weber Area, Utah, 1968

Morgan Area and part of Weber, Utah, 1980

Salt Lake Area, Utah, 1972

Utah County, Utah, 1972

USGS 1:24,000 Digital Raster Graphics (DRG) 1983 and 1992

USGS digital elevation model (DEM)

Water Resources Data (USDI 1997)

Inventory Method (original mapping, map update, techniques used):

On screen update of existing National Wetland Inventory (NWI) digital wetland data utilizing 1997-8 black and white DOQQ's.

Classification (Cowardin wetlands, riparian, uplands, hydrogeomorphic, etc.):

Only the Cowardin et. al. wetland delineations and classifications were included in the project.

Data Limitations:

General description of the Project Area:

- **Geography:** The Wasatch Front project area is located primarily in the Intermountain Semi-desert and Desert Province (Bailey 1995). Physiographically this area is referred to as the Great Basin and the northern Colorado Plateau in Utah. It is characterized by semiarid sagebrush covered plains in numerous separate interior basins. Many mountain ranges rise steeply from these plains. There is a heavy accumulation of alkaline and saline salts in the lower parts of the basins. There are few perennial streams located in the area. The summers are hot and the winters only moderately cold in the Intermountain region.

Average annual temperature is 4° to 13° C (40° to 50° F). Total annual precipitation averages 125 to 500 mm (5 to 20 inches) with almost no rain during the summer except in the mountains.

- Vegetation, soils, land use: The dominant vegetation of the lower elevations of this province is sagebrush (Artimisia spp.). Other important plants found in this area are shadscale (Atriplex confertifolia) and rabbitbrush (Chrysothamnus spp.). All these shrubs tolerate alkali conditions to varying degrees. In areas where salt concentration is very high, the vegetative community is dominated by greasewood (Sarcobatus vermiculatus) and saltgrass (Distichlis spicata). The dominant vegetation in the mountainous areas are ponderosa pine (Pinus ponderosa) and Douglas-fir (Pseudotsuga menziesee).

All basin and lowland areas are dominated by Aridisols while Mollisols are found at higher elevations. Narrow bands of Entisols are located along stream flood plains. Extensive areas of salt flats and playas without soils are found in the lower parts of the basins that have interior drainage.

- Natural history or important cultural features:

Description of wetland habitats:

- Organize by Cowardin classification type:

Table 1. Plant Species Observed in Project Area

Palustrine Intermittently Flooded: PEMJ

Distichlis spicata, salt grass

Allenrolfea occidentalis, pickleweed

Palustrine Temporary Emergents: PEMA

Phleum pratense, timothy

Eleocharis spp., spikerush

Distichlis spicata, inland salt grass

Sporobolus airoides, alkali sacaton

Hordeum jubatum, foxtail barley

Verbena hastata, blue vervain

Polygonum spp., smartweed

Rumex spp., dock

Calystegia sepium, hedge bindweed
Asclepias speciosa, showy milkweed
Spartina gracilis, alkali cord grass
Phragmites australis, common reed
Allenrolfea occidentalis, pickleweed

Palustrine Saturated Emergents: PEMB

Eleocharis spp., spikerush
Carex spp., sedge
Typha spp., cattail
Iris missouriensis, wild iris

Palustrine Seasonal Emergents: PEMC

Carex spp., sedge
Eleocharis spp., spikerush
Juncus spp., rush
Juncus balticus, saltrush
Asclepias incarnata, marsh milkweed
Polygonum spp., smartweed
Scirpus spp., bulrush
Puccinellia airoides, Nuttall alkali grass
Spartina gracilis, alkali cord grass
Typha spp., cattail
Sueda spp., seepweed
Triglochin maritimum, arrowgrass
Iris missouriensis, wild iris

Palustrine Semi-permanent Emergents: PEMF

Scirpus americanus, threesquare bulrush
Scirpus spp., bulrush
Typha spp., cattail

Palustrine Semi-permanent Aquatic Bed: PABF

Ceratophyllum spp., coontail
Ruppia maritima, widgeon grass

Palustrine Temporary Scrub-shrub: PSSA

Tamarix ramosissima, saltcedar
Tamarix chinensis, Chinese tamarisk
Atriplex nuttalli, Nuttall saltbush

Populus spp., cottonwood

Salix spp., willow

Palustrine Temporary Forested: PFOA

Acer negundo, boxelder

Populus spp., cottonwood

Table 2. Observed wetland vegetation table

A. EMERGENT

<u>Distichlis spicata</u> inland	salt grass
<u>Carex</u> spp.	sedge
<u>Eleocharis</u> spp.	spikerush
<u>Iris missouriensis</u>	wild iris
<u>Allenrolfea occidentalis</u>	pickleweed
<u>Hordeum jubatum</u>	foxtail barley
<u>Juncus</u> spp.	rush
<u>Juncus balticus</u>	salt rush
<u>Verbena hastata</u>	blue vervain
<u>Calystegia sepium</u>	hedge bindweed
<u>Phragmites australis</u>	common reed
<u>Polygonum</u> spp.	smartweed
<u>Rumex</u> spp.	dock
<u>Scirpus</u> spp.	bulrush
<u>Scirpus americanus</u> threesquare	bulrush
<u>Asclepias speciosa</u>	showy milkweed
<u>Asclepias incarnata</u>	marsh milkweed
<u>Spartina gracilis</u>	alkali cord grass
<u>Typha</u> spp.	cattail
<u>Sporobolus airoides</u>	alkali sacaton
<u>Puccinellia airoides</u>	Nuttall alkali grass
<u>Sueda</u> spp.	seepweed
<u>Triglochin maritimum</u>	arrowgrass

B. AQUATIC BED

<u>Ceratophyllum</u> spp.	coontail
<u>Ruppia maritima</u>	widgeon grass

C. SCRUB-SHRUB

Tamarix ramosissima

Tamarix chinensi

Populus spp.

Salix spp.

Atriplex nuttalli

saltcedar

Chinese tamarisk

cottonwood

willow

Nuttall saltbush

D. FORESTED

Acer negundo

Populus spp.

boxelder

Cottonwood

- Wetland classification codes and corresponding community type(s):

NWI CODE WATER REGIME	COWARDIN DESCRIPTION	COMMON DESCRIPTION	REPRESENTATIVE VEGETATION
R2UB (F,G,H)	Riverine, lower perennial, unconsolidated bottom	Meandering rivers, low gradient	Unconsolidated bottom
R2US (A,C)	Riverine, lower perennial, unconsolidated shore	Mud, sand, or gravel bars	Unconsolidated shore
R3UB (F,G,H)	Riverine, upper perennial unconsolidated bottom	Mountain streams, major drainage areas	Unconsolidated bottom
R4SB (A,C,J)	Riverine, intermittent, streambed	Small streams, creeks, or irrigation ditches	Streambed
L2AB (F,G)	Lacustrine, littoral aquatic bed	Shallow lake marshes	<u>Ruppia maritima</u> (widgeon grass) <u>Ceratophyllum</u> spp. (coontail)
L2US (A,C,J)	Lacustrine, littoral, unconsolidated shore	Dry alkaline lake beds	Unconsolidated shore
PUB (F,G,H)	Palustrine, unconsolidated bottom	Open water, gravel pits	Unconsolidated bottom
PAB (F,G,K)	Palustrine, aquatic bed	Deep basins, impoundments, sewage treatment ponds, beaver ponds	<u>Ruppia maritima</u> (widgeon grass) <u>Ceratophyllum</u> spp. (coontail)

WATER REGIME

PEM
(A,B,C,J,F)

DESCRIPTION

Palustrine,
emergent

COMMON DESCRIPTION

Basins, depressions, marshes,
meadows, springs, seeps, or
vegetated drainage areas

VEGETATION

Allenrolfea occidentalis
(pickleweed)
Sporobolus airoides
(alkali sacaton)
Carex spp.
(sedges)
Distichlis spicata
(inland saltgrass)
Eleocharis spp.
(spikerush)
Asclepias speciosa
(showy milkweed)
Hordeum jubatum
(foxtail barley)
Juncus spp.
(rush)
Phragmites australis
(common reed)
Phleum pratense
(timothy)
Puccinellia airoides
(Nuttall alkali grass)
Polygonum spp.
(smartweed)
Rumex spp.
(dock)
Sueda spp.
(seepweed)
Spartina gracilis
(alkali cord grass)
Triglochin maritimum
(arrow grass)
Scirpus americanus
(common threesquare)
Scirpus spp.
(bulrush)
Typha spp.
(cattail)

WATER REGIME	DESCRIPTION	COMMON DESCRIPTION	VEGETATION
PSS (A,B,C)	Palustrine, scrub-shrub	Willow thicket, river banks or drainage areas	<u>Salix</u> spp. (willow) <u>Tamarix</u> spp. (saltcedar) <u>Atriplex nuttalli</u> (Nuttall saltbush)
PFO (A,B,C)	Palustrine, forested	Cottonwood, riverbanks, floodplains, or drainage areas	<u>Populus</u> spp. (cottonwood) <u>Salix</u> spp. (willow) <u>Acer negundo</u> (boxelder)
PUS (A,C,J)	Palustrine, unconsolidated shore	Salt flats	Unconsolidated shore

Description of other habitats:

- Riparian

- Uplands

List of wetland plant species with indicator status:

Regional specialized conventions:

The Great Salt Lake:

The initial narrative report and photo interpretation project “contoured” the lake and classified the zones according to the available hydrologic data. These zones and classifications will not change in the update. Some wetlands above the 4200’ contour level may change due to wetland vegetation changes. The contour intervals and classification are:

<u>Contour Interval</u>	<u>Classification</u>
4,195-4,200	L2USC
4,194-4,195	L2UBF
4,191-4,194	L2UBG
4,189-4,191	L2UBH
4,189-	L1UBH

Bear River Migratory Bird Refuge:

The water regime on virtually all the refuge is artificially controlled and extremely variable. Because the refuge contains dams, dikes, and water control structures the “K” water regime is used on all wetlands within the refuge. The definition of “K” water regime in Cowardin states: “The amount and duration of flooding is controlled by means of pumps or siphons in combination with dikes or dams. The vegetation growing on these areas cannot be considered a reliable indicator of water regime.”

Miscellaneous:

Open water impoundments less than 20 acres will be PAB with appropriate water regime and “h” modifier.

Open water dugouts less than 20 acres will be PUB with appropriate water regime and “x” modifier.

Other discussion of mapping issues (image quality, water conditions, etc.):

References:

- Arnow T. and D. Stephens. 1990. Hydrologic Characteristics of the Great Salt Lake, Utah: 1847-1986. U.S. Geological Survey water-supply paper; 2332. U.S.G.S., Federal Center, Box 25425, Denver, CO 80225.
- Bailey, R.G., 1995. Description of The Ecoregions of The United States. United States Department of Agriculture, Forest Service.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRue, 1979. Classification of Wetlands and Deepwater Habitats of the United States. United States Department of Interior, U.S. Fish and Wildlife Service, FWS/PBS-81.
- Bear River Migratory Bird Refuge Comprehensive Management Plan, 1997. U. S. Fish and Wildlife Service, U.S. Department of the Interior, 37 pg.
- Hydric Soils of the United States, 1987. U.S. Department of Agriculture, Soil Conservation Service.
- National List of Plant Species That Occur in Wetlands: National Summary, 1988. U.S. Department of Interior, U.S. Fish and Wildlife Service.
- Toth, R.E., T.C. Edwards, Jr., R.J. Lilieholm, D.L. Bell, and E.R. Buteau. 2002. Alternative Futures for Utah’s Wasatch Front: bioregional planning for the Maintenance and conservation of open space. Final Project Report No. 2002-2, Utah Cooperative Fish and Wildlife Research Unit, Utah State University, Logan, UT 84322-5290 USA.
- Water Resources Data Utah, 1997. U.S. Department of Interior, U.S. Geological Survey. Prepared in cooperation with the state of Utah and with other Agencies.

