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# West Desert Basin

## Industrial Water

### 18.1 INTRODUCTION

This section discusses the present and future uses of water for industrial purposes in the West Desert Basin. For this report, industrial water use is defined as water used in mining and manufacturing operations including the production of steel, chemicals, paper, and other products. It includes processing, washing, and cooling operations as well as employee use. Also included, to the extent that they can be identified, are such activities as gravel washing and ready-mix concrete production.

There is no single agency or entity in Utah that regulates the development or use of industrial water, although its use must conform to existing state laws for water rights, pollution control, and other regulations. The single biggest obstacle in identifying the basin's total industrial water use is the proprietary status with which many industries classify their water use statistics.



Morton Salt Corporation

### 18.2 SETTING

The primary industrial water use in the basin is for mineral extraction from Great Salt Lake. Six mining companies (AKZO Salt of Utah, Magnesium Corporation of America, Morton Salt, IMC Kalium Ogden Corp., (formerly Great Salt Lake Minerals), North American Salt Company and Mineral Resources International) annually use an estimated 170,961 acre-feet of Great Salt Lake water to extract salt, magnesium, potassium sulfate, magchloride, and other minerals from the lake. This water is diverted to shallow evaporation ponds where over time it is evaporated until the remaining brines have mineral concentrations sufficient to move on to the next step in the mineral extraction process.

Although the use of water by industry is small, it serves many uses and carries a high value. Water is used to generate power, as a solvent, for temperature control, for cleaning, to transport waste or other materials, and for aesthetics.

### 18.3 CURRENT AND PROJECTED INDUSTRIAL WATER USE

The State Engineer's Office has surveyed and published statewide industrial water-use data for several years. Although the State Engineer's Office maintains confidentiality of the quantity of water used by individual industrial water users,

the office has reported the collective 1995 total industrial water use in the West Desert Basin from privately held water rights as 13,760 acre-feet/year. The 1995 data on privately held industrial water rights is shown in Table 18-1. The majority of the privately developed industrial water comes from surface water sources. Kennecott Corporation exports 10,000 acre-feet per year to its Bingham canyon mining operation in the Jordan River Basin.

It is estimated that approximately 260 acre-feet of culinary water from existing public community water systems is used annually for industrial purposes. This figure represents about 4 percent of the existing culinary water use and is almost entirely in Tooele County, primarily in Tooele Valley.

At the present time, Box Elder County is involved in a study to develop ways to stimulate economic growth in western Box Elder County, primarily the Grouse Creek/Etna area. The study has identified several industries which have expressed an interest in developing facilities in the Lucin area (south of Grouse

Creek) if an adequate water supply was available. These industries include: a rocket manufacturer, a tire-burning power plant, and a cement manufacturer. The development of any one, or more, of these industries in the Lucin area would significantly increase the amount of industrial water used in the Box Elder County sub-basin.

Water planners and managers need to provide for the future construction of treatment and distribution facilities to accommodate an expected increase in industrial water demand. In contrast to residential and commercial water uses which grow somewhat uniformly with population, future industrial use is difficult to predict. Future industrial uses could decline as industry types change or industries employ water conservation programs. For this report it has been assumed that industrial water use will grow in proportion to the increasing population. Without an accurate prediction of the new kinds of industries that will develop, it is not possible to make an accurate prediction of industrial water growth.

Table 18-1 <b>PRESENT INDUSTRIAL WATER USE</b> acre-feet/year		
	fresh	saline
Self Supplied Industrial water	3,760	243,700 <sup>1</sup>
Exported from Tooele County by Kennecott Corp.	10,000	0
Public Water Supply - Culinary Systems	260	0
<b>TOTAL</b>	<b>14,020</b>	<b>243,700</b>
1. Includes 170,900 acre-feet diverted from the Great Salt Lake in Tooele County for mineral extraction and 62,800 acre-feet of Great Salt Lake water diverted in Weber County for mineral extraction		