

1. Record Nr.	UNINA9910416110303321
Titolo	Great Salt Lake Biology : A Terminal Lake in a Time of Change / / edited by Bonnie K. Baxter, Jaimi K. Butler
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2020
ISBN	3-030-40352-1
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (X, 527 p. 160 illus., 140 illus. in color.)
Disciplina	574.52636 979.242
Soggetti	Aquatic ecology Microbial ecology Invertebrates Biotic communities Freshwater & Marine Ecology Microbial Ecology Ecosystems Biologia aquàtica Ecologia aquàtica Llacs Llibres electrònics Utah
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1: Water Development, Consumptive Water Uses, and Great Salt Lake -- Chapter 2: Climate Change and Great Salt Lake -- Chapter 3: Relationships between Humans and Great Salt Lake: Dynamics of Change -- Chapter 4: Microbialites of Great Salt Lake -- Chapter 5: Unexpected complexity at salinity saturation: microbial diversity of the north arm of Great Salt Lake -- Chapter 6: Invertebrates and phytoplankton: is salinity the driving factor? -- Chapter 7: Great Salt Lake Artemia: Ecosystem Functions and Services with a Global Reach -- Chapter 8: Importance of Great Salt Lake to Pelagic Birds: Eared Grebes,

Phalaropes, Gulls, Ducks, and White Pelicans -- Chapter 9: Great Salt Lake Shorebirds, Their Habitats and Food Base -- Chapter 10: American White Pelicans of Gunnison Island, Great Salt Lake, Utah -- Chapter 11: Amphibians and Reptiles of Antelope Island, Great Salt Lake, Utah -- Chapter 12: Shoreline Plants of Great Salt Lake -- Chapter 13: Invasive plants of Great Salt Lake wetlands: what, where, how, and why? -- Chapter 14: Mercury Bioaccumulation and Biomagnification in Great Salt Lake Ecosystems -- Chapter 15: The Rozel Point Tar Seeps and Their Impact on the Local Biology -- Chapter 16: Great Salt Lake as an astrobiology analogue for ancient Martian hypersaline aqueous systems.

Sommario/riassunto

Great Salt Lake is an enormous terminal lake in the western United States. It is a highly productive ecosystem, which has global significance for millions of migrating birds who rely on this critical feeding station on their journey through the American west. For the human population in the adjacent metropolitan area, this body of water provides a significant economic resource as industries, such as brine shrimp harvesting and mineral extraction, generate jobs and income for the state of Utah. In addition, the lake provides the local population with ecosystem services, especially the creation of mountain snowpack that generates water supply, and the prevention of dust that may impair air quality. As a result of climate change and water diversions for consumptive uses, terminal lakes are shrinking worldwide, and this edited volume is written in this urgent context. This is the first book ever centered on Great Salt Lake biology. Current and novel data presented here paint a comprehensive picture, building on our past understanding and adding complexity. Together, the authors explore this saline lake from the microbial diversity to the invertebrates and the birds who eat them, along a dynamic salinity gradient with unique geochemistry. Some unusual perspectives are included, including the impact of tar seeps on the lake biology and why Great Salt Lake may help us search for life on Mars. Also, we consider the role of human perceptions and our effect on the biology of the lake. The editors made an effort to involve a diversity of experts on the Great Salt Lake system, but also to include unheard voices such as scientists at state agencies or non-profit advocacy organizations. This book is a timely discussion of a terminal lake that is significant, unique, and threatened.
