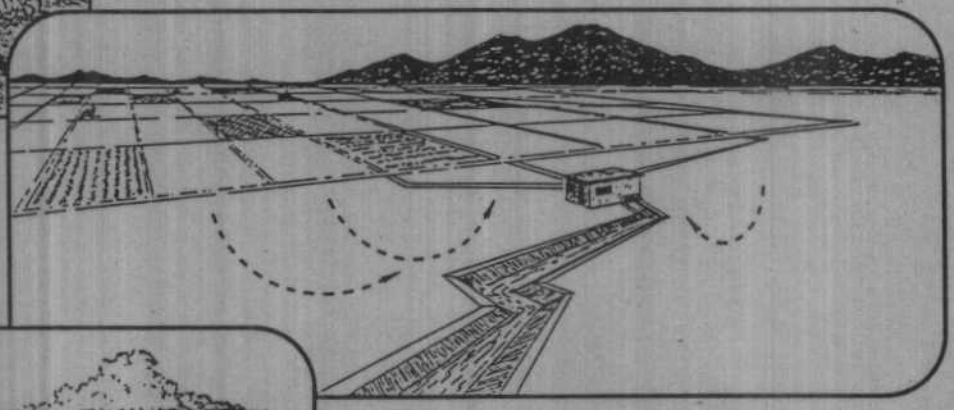
Physical, Chemical, and Biological Data for Detailed Study of Irrigation Drainage in the Salton Sea Area, California, 1988-90



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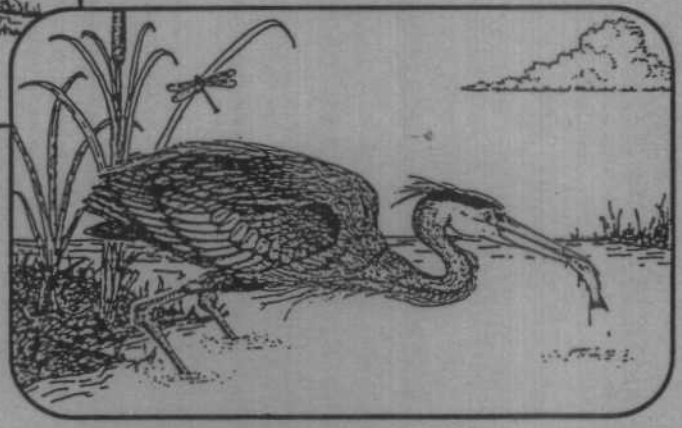

U.S. Geological Survey
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PHYSICAL, CHEMICAL, AND BIOLOGICAL DATA FOR DETAILED STUDY OF IRRIGATION DRAINAGE IN THE SALTON SEA AREA, CALIFORNIA, 1988-90

By Roy A. Schroeder[1], Mick Rivera,[2] *and* others

[1]U.S. Geological Survey
[2]U.S. Fish and Wildlife Service

U.S. GEOLOGICAL SURVEY

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Sacramento, California
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PREFACE

The following individuals (agency affiliations are at the time of this study) participated in the collection and analysis of samples, compilation of data, and preparation of this report.

Roy A. Schroeder, U.S. Geological Survey, San Diego, California, participated in most field operations for the geochemical aspects of the study, did the laboratory experiments for tables 17 and 18, and prepared that part of this report related to tables 1-18 done by the U.S. Geological Survey.

Mick Rivera, U.S. Fish and Wildlife Service, Carlsbad, California, participated in field operations for the biological aspects of the study and prepared that part of this report related to tables 19-24 done by the U.S. Fish and Wildlife Service.

Brenda J. Redfield, U.S. Geological Survey, San Diego, California, compiled and reformatted data tables received in various forms from other agencies, offices, and individuals and assisted in the data-table verification process.

Jill N. Densmore, U.S. Geological Survey, San Diego, California, collected surface-water and ground-water quality data that are presented in tables 2, 4, 5, and 10 and that also were used by her to prepare an M.S. thesis at San Diego State University.

Robert L. Michel, U.S. Geological Survey, Reston, Virginia, obtained the tritium data presented in tables 6 and 16 and included elsewhere with additional water-quality data in various other tables.

Daniel R. Norton, U.S. Geological Survey, Denver, Colorado, analyzed soils and soil extracts that provided the data presented in tables 11-15.

Daniel J. Audet, U.S. Fish and Wildlife Service, Carlsbad, California, was the co-principal investigator with the project chief (Steven L. Goodbred) for collection of the biological data presented in tables 22 and 23.

James G. Setmire, U.S. Geological Survey, San Diego, California, served as project chief for the U.S. Geological Survey's part of this study, collected sediment and water-quality data from the Alamo River delta presented in table 7 and figure 4, and had primary responsibility for preparation of that agency's contribution to the interpretive report.

Steven L. Goodbred, U.S. Fish and Wildlife Service, Carlsbad, California, was project chief for the U.S. Fish and Wildlife Service's part of this study and had primary responsibility for preparation of that agency's contribution to the interpretive report.

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Conversion Factors

Multiply	By	To obtain
acre	0.4047	hectare
acre	4,047	square meter
cubic foot per second (ft^3/s)	0.02832	cubic meter per second
foot (ft)	0.3048	meter
gallon (gal)	3.785	liter
gallon per minute (gal/min)	0.06308	liter per second
inch (in.)	25.4	millimeter
mile (mi)	1.609	kilometer

Temperature is given in degrees Celsius (°C), which can be converted to degrees Fahrenheit (°F) by the following equation:

$$°F=1.8(°C)+32.$$

Isotope composition is expressed in permil (parts per thousand).

Vertical Datum

Sea level: In this report, "sea level" refers to the National Geodetic Vertical Datum of 1929--a geodetic datum derived from a general adjustment of the first-order level nets of the United States and Canada, formerly called Sea Level Datum of 1929.

Abbreviations

L/min - liter per minute
L/hr - liter per hour
µg/L - microgram per liter
µg/g - microgram per gram
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mg/L - milligram per liter
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mm - millimeter
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