attention, and the final segment (Chapter 13, 23p.)
wraps up to overall problems of management, man-
made stress, control and restoration. One thing
that would make this volume a good textbook for
any university course dealing with the coastal en-
vironment is the thoughtful provision of a couple
of pages at the end of each chapter, summarizing
the key points. The work is thoroughly recom-

Rhodes W. Fairbridge
Columbia University
New York

Handbook of Dredging Engineering, J.B. Herbich,
028360-5.

The Handbook of Dredging Engineering is an
extension and update of the book Coastal and
Deep Ocean Dredging authored by Dr. Herbich
and published in 1975. This new handbook con-
tains a majority of the available information re-
lying to dredging for easy reference by engineers,
scientists and managers of dredging companies
and federal and state regulatory agencies. It will
also be a valuable reference or text for academic
courses dealing with coastal process and dredging
engineering in curricula for ocean and civil en-
gineering.

The book opens with a brief history of dredging,
description of the major dredging literature sources
and a brief review of basic fluid mechanics. Dredg-
ing involves the removal of sediment from navi-
gational channels, ports and harbors and the
placement of the sediment or dredged material at
inland or offshore disposal sites. Dredged material
is located at the bottom of water bodies such as
rivers, lakes, waterways, bays or oceans, and its
removal frequently involves the use of a centrif-
gugal pump (dredge pump) to move the sediment/water slurry. There is extensive discussion of
dredge pumps including theory, application, per-
formance, and cavitation. This is followed by a
discussion of dredging equipment including me-
chanical and hydraulic dredges. Sediment char-
acteristics and their transport through pipelines
is addressed. Cutterhead dredging, ocean dredg-
ing, beach replenishment and low cost mainte-
nance dredging are described as part of a dredging
methods discussion.

Extensive discussions of dredged material
placement and disposal and the environmental
effects of dredging are contained in two chapters
with contributions from experts in areas of con-
 fined disposal facilities, water quality aspects, open
water disposal, dredged material islands for wild-
life and dredging contracts. Current dredging in-
strumentation and automation technology are
discussed including expert contributions on au-
tomation, surveys and production meters. Finally,
planning of dredging projects is addressed which
includes bidding costs, federal projects, environ-
mental impact statements and other require-
ments. Appendices describe conversion factors,
physical properties, government regulations,
dredging engineering manuals, containment area
example calculations and a description of the U.S.
Army Corps of Engineers’ Dredging Research
Program.

A subject and author index and a detailed table
of contents make for easy access to subjects of
interest to the reader of this well organized hand-
book. Ten experts in their specialty field related
to dredging have contributed to the text to aug-
ment Dr. Herbich’s acknowledged expertise in
dredging. Some of the material is the result of his
25-year involvement in dredging through the an-
nual Dredging Engineering Shortcourse, annual
Dredging Seminar in cooperation with the West-
ern Dredging Association, the Center for Dredg-
ing Studies at Texas A&M University, and his
teaching of a graduate level marine dredging
course. The handbook is well written and supple-
mented with numerous graphs, and it will be a
valuable reference for industry, government and
academic institutions.

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College Station, Texas