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**Annotated Bibliography
Task B.1.**

**for the
Seawater Demineralization
Feasibility Investigation**

Annotated Bibliography - Task B.1.

For the

**Seawater Demineralization Feasibility Investigation
Contract No. SE459AA**

by

**R.W. Beck, Inc.
800 N. Magnolia Ave, Suite 300
Orlando, Florida 32803-3274**

FINAL

**St. Johns River Water Management District
P.O. Box 1429
Highway 100 West
Palatka, Florida**

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INTRODUCTION

This annotated bibliography is part of the scope of work for the St. John's River Water Management District (SJRWMD) Demineralization Feasibility Study, and is specifically presented in fulfillment of the requirements of Task B.1 of the project as required by the SJRWMD and detailed in Contract No. SE459AA. That task requires the preparation of an annotated bibliography representing the body of knowledge concerning demineralization technology, concentrate disposal, permitting and economics related to seawater demineralization in the United States.

The bibliography is the result of a literature search and review of existing publications, papers, reports, articles, and other literature specifically related to demineralization technology in the United States. PB Water, as a subconsultant to RW Beck, searched more than 20 major sources of information, finding over 140,000 references relating to desalination. A list of these major sources is included below.

Sources Investigated for Annotated Bibliography	
Source	# of References
AWWARF	347
American Membrane Technology Association	50
Browser Searches for: Desalination	28,500
Concentrate Disposal	57,500
Reverse Osmosis	50,700
Bureau of Reclamation	70
Cole Parmer	10
Daily News of LA	76
Desalination	352
Desalination Directory Online	1,353
Electric Power Research Institute (EPRI)	56
Filtration & Separation	28
Florida Department of Environmental Protection	48
Florida State University Library System	583
GPO Access	56
LA Times	256
Long Beach Press Telegram	115
National Technical Information Service	128
Oceanit Desalination Technology	11
San Jose Mercury News	86
Seawater Desalination in California	52
Seawater Desalination in Texas	7
St. Petersburg Times	56
Tech Papers Online	293
Water Management Districts in Florida	6
Water Online News	35
Water Technology Online	62
Total	140,780

Of these sources of information, the most relevant documents were added to this annotated bibliography. An example decision tree used in the selection of abstracts for this bibliography is, as follows:

1. Is the article about a desalination project in the U.S.?
2. If no, does it have practical applications for the U.S.?
3. Is the article more than 10 years old?
4. If yes, is it still appropriate for modern technology?
5. Is the article already included in the bibliography prepared by Reiss Environmental? If so, do not include since it will be duplicate.
6. Does the article have an abstract?
7. Is the technology pertinent to Florida applications?
8. Which of the subject categories does the article fit?
9. Is it desirable to obtain the entire article?
10. If so, can the article be obtained at a reasonable cost?

The titles of publications and papers that were considered applicable in the US, or relevant to Florida and recent enough to still be pertinent were included in the bibliography. Those with available abstracts were entered in the electronic database in their entirety. For those without available abstracts, the author's name, publication title, and date were entered in the "without abstracts" reporting category. Each article was given a subject category code so that entries can be found in the electronic database by searching various categories.

For presentation purpose, the database is alphabetized by author, as is the standard for reference formats. Multiple author listings are further arranged by publication date.

BIBLIOGRAPHY CONTENTS

The bibliography was developed using Microsoft Access software. Included in this annotated bibliography are 285 entries most relevant to today's desalination technology and related issued are included. Nearly 209 of these most relevant articles have abstracts provided. Each bibliographic entry contains the name of the author, the title of the publication, the date and an abstract of the document. The abstracts used are those written by the author of the publication. Only 76 entries considered pertinent did not have abstracts. The available information such as author, title and date of the publication were provided for these.

The bibliographic database functions as a sortable matrix, based on a system of 8 topics (subject areas), whose corresponding code numbers can be tracked. Each bibliographic entry has been annotated with up to three of these subject codes that best represent its content. The code representing the most significant subject area is shown first, then the second most significant subject area shown second and so on for the third subject area. Through queries and report functions of the database, the user may search the database and create summary tables of bibliographic entries containing specific codes. Because

many of the documents are associated with multiple codes, they can be easily cross-referenced, allowing the user to find articles based on a variety of relevant subjects.

USER GUIDE

The data was entered using Microsoft Access 2000 as the electronic search engine. The database is programmed to use all the procedures associated with this software. The database structure has two tables: *tblCode* and *tblSTJOHN*. The *tblCode* listed in Table 1 contains the topic codes, identifying subject and number of bibliographic entries per code.

Table 1: Topics and Bibliographic Entries by Subject

Topic Number	Topic/Subject Area	Number of Bibliographic Entries
1	Florida-Specific Reference	63
2	Desalination Technology	237
3	Concentrate Disposal Technology	39
4	Concentrate Toxicity/Environmental Impacts	21
5	Protocols, Models, and Methodologies	159
6	Regulations and Permitting	49
7	Desalination Economics	102
8	Media Coverage	32

Description of Reports

There are a total of eleven reports, three based on table data and eight based on queries. Table 2 contains the report names and its association with tables and queries.

Below is a description of the database content:

- *TblSTJOHN*: This table contains information such as: author, date of publication, title, codes, publication, and abstract.
- Author query contains all the names of the authors within the database.
- Publication query contains all the publications in alphabetical order.
- All Publication Report is a printable form of all the information contained in the database, sorted by author and date.

- Publication w/Abstract Report is a printable form of all the information contained in the database with abstracts, sorted by author and date and is included as Attachment A.
- Publication w/No Abstract Report is a printable form of all the information in the database without the abstract and is included as Attachment B.
- Topic #1 refers to all the publications related to Florida-Specific Reference.
- Topic #2 refers to all the publications related to Desalination Technology.
- Topic #3 refers to all the publications related to Concentrate Disposal Technology
- Topic #4 refers to all the publications related to Concentrate Toxicity/Environmental Impacts.
- Topic #5 refers to all the publications related to Protocols, Models, and Methodologies.
- Topic #6 refers to all the publications related to Regulations and Permitting.
- Topic #7 refers to all the publications related to Desalination Economics.
- Topic #8 refers to all the publications related to Media Coverage.

Table 2: Report Names and Association with Table and Queries

Report	Table	Query
All Publication Report	tblSTJOHN	None
Publication w/Abstract Report	tblSTJOHN	None
Publication/ No Abstract Report	tblSTJOHN	None
Topic #1 Report	None	Topic #1 Query
Topic #2 Report	None	Topic #2 Query
Topic #3 Report	None	Topic #3 Query
Topic #4 Report	None	Topic #4 Query
Topic #5 Report	None	Topic #5 Query
Topic #6 Report	None	Topic #6 Query
Topic #7 Report	None	Topic #7 Query
Topic #8 Report	None	Topic #8 Query

Attachment A

Publications Abstracts Report

Attachment B

Publications with No Abstracts Report