

COLUMBIA RIVER WATER MANAGEMENT REPORT

WATER YEAR 2000

CHARTER

PREFACE

SUMMARY

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

I. INTRODUCTION

- A. PURPOSE
- B. BASIN DESCRIPTION
- C. WATER RESOURCES DEVELOPMENT
- D. TYPES OF RESERVOIR PROJECTS
- E. ANNUAL REGULATION CYCLE

II. HYDROMETEOROLOGY

- A. OBSERVATIONS
 - 1. Weather
 - 2. Snowpack
 - 3. Surface Water Supply Index
 - 4. Streamflow
 - 5. Flood Events
 - a. Winter Floods
 - b. Spring Floods
- B. FORECASTS
 - 1. Runoff Volumes
 - 2. Long-Range Peaks
 - 3. Daily Streamflows

III. RESERVOIR REGULATION

- A. SYSTEM OPERATION
- B. PROJECT OPERATION
 - 1. Mica Dam
 - 2. Revelstoke Project
 - 3. Keenleyside Project (Arrow Lakes)
 - 4. Libby Project
 - 5. Kootenai River at Bonners Ferry
 - 6. Duncan Project
 - 7. Kootenay Lake
 - 8. Columbia River at Birchbank
 - 9. Hungry Horse Project
 - 10. Flathead River at Columbia Falls
 - 11. Kerr Project
 - 12. Albeni Falls Project
 - 13. Grand Coulee Project
 - 14. Mid-Columbia PUD Projects
 - 15. Yakima Project
 - 16. Jackson-Palisades Project
- B. PROJECT OPERATION (continued)
 - 17. Ririe Project

18. American Falls Project
19. Little Wood Project
20. Owyhee Project
21. Boise Project
22. Malheur Project
23. Payette Project
24. Snake River at Weiser
25. Powder Project
26. Brownlee Project
27. Dworshak Project
28. Clearwater River at Spalding
29. Lower Snake Project
30. Mill Creek Project
31. Willow Creek Project
32. John Day Project
33. Upper Deschutes River Projects
34. Chief Joseph, McNary, The Dalles, and Bonneville Projects
35. Columbia River at Vancouver
36. Willamette Basin Projects
37. Western Washington Projects
38. Oregon Coastal Projects

IV. FUNCTIONAL ACCOMPLISHMENTS

- A. FLOOD DAMAGES
- B. ELECTRIC ENERGY
 1. Power Operations
 2. The West Coast Power Market
 3. The Power Rate Case
 4. Power Subscription
 5. A Regional Transmission Organization
 6. The Transmission Rate Case
 7. International Issues
 8. BPA Financial Condition
 9. Anticipating the Future
- C. IRRIGATION
- D. NAVIGATION
- E. RECREATION
- F. WATER QUALITY
 1. Total Dissolved Gas Monitoring
 2. Water Temperature Monitoring
 3. Reports
 4. Other Water Quality Activities
- G. FISHERY OPERATIONS
 1. Actual Operation
 2. Spill and Flows for Fish
 3. Juvenile Fish Runs
 4. Adult Fish Runs

V. COLUMBIA RIVER WATER MANAGEMENT GROUP

VI. COLUMBIA RIVER TREATY

VII. CONSTRUCTION AT MAJOR PROJECTS

APPENDICES

- A. Glossary
- B. Abbreviations
- C. Pertinent Data on Selected Projects
- D. Charts

TABLES

- 1 Monthly Precipitation Totals by Sub-basin
- 2 Accumulated Monthly Precipitation Totals by Sub-basin
- 3 Basin Average Monthly Temperatures
- 4 Oregon Surface Water Supply Index (SWSI)- see NRCS web site
- 5 Streamflow as Percent of Monthly Normal
- 6 Mean Annual Discharges and Percentages of Normal
- 7 Modified Discharge and Runoff, Columbia River at Grand Coulee, WA
- 8 Modified Discharge and Runoff Snake River at Lower Granite, WA
- 9 Modified Discharge and Runoff Columbia River at The Dalles, OR
- 10 Modified Discharge and Runoff Willamette River at Salem, OR
- 11 Winter Flood Peaks
- 12 Spring Flood Peaks
- 13 Forecast and Observed Runoff Volume
- 14 Unregulated Runoff Volume Forecasts
- 15 Monthly Forecasts vs. Actual Runoff, 1970-2000
- 16 Forecast and Observed Peak Flow and Stages
- 17 Summary of Flood Damage Observed and Prevented
- 18 Effect of Reservoir Regulation on Flood Peaks and Damages 1948-2000
- 19 Actual Spill Operations for Juvenile Fish Passage
- 20 Summary of Fish Disposition at Collector Dams
- 21 Juvenile Fish Transport by Project, 1978-2000
- 22 Yearly Adult Fish Counts

FIGURES

- 1 Columbia River and Coastal Basins Map
- 2 Willamette River Basin Map
- 3 Western Washington Map
- 4 Southern Oregon Coastal Basins Map
- 5 Pacific Northwest Reservoir System Schematic
- 6 Seasonal Precipitation for Columbia River Basin, Water Year 2000
- 7 Columbia Basin Snowpack for Water Year 2000
- 8 Generation Received in Water Year 2000