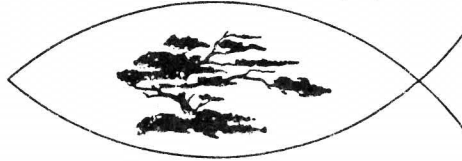


33rd Northwest Fish  
Culture Workshop



Salishan Lodge

SH  
151  
.N671  
1950-  
1981  
Index

Einar Wold, Chairman  
National Marine Fisheries Service  
847 N.E. 19th Ave., Suite 350  
Portland, OR 97232

503-230-5406

Program Committee:

Einar Wold  
Roy Wahle  
Bob Vreeland  
Bob Smith  
Mike DeLarm

November 30, 1982

Dear Fellow Fish Culturists:

This index contains separate author and subject references to material presented at the Northwest Fish Culture Conferences/Workshops from 1950 through 1981.

This publication is an expansion of the earlier index by Wally Hublou in 1966 and the 1967-1971 index provided by "Bud Ellis" in 1972. To provide continuity, the same categories identified earlier have been used in this latest index.

I wish to thank Robert Z. Smith and Robyn Mann for their assistance in organizing and processing the materials.

Sincerely,

Einar Wold  
Chairman

PROPERTY OF THE LIBRARY  
COLUMBIA RIVER INTER-TRIBAL  
FISH COMMISSION

729 N.E. Oregon, Suite 200  
Portland, Oregon 97232  
(503) 731-1304 • Fax (503) 238-3557





# NORTHWEST FISH CULTURE CONFERENCE

## HISTORICAL RECORD

| YEAR | LOCATION               | HOST AGENCY                     | CHAIRMAN        |
|------|------------------------|---------------------------------|-----------------|
| 1950 | Portland, Oregon       | Fish & Wildlife Service         | Perry           |
| 1951 | Wenatchee, Washington  | Fish & Wildlife Service         | Burrows         |
| 1952 | Seattle, Washington    | Washington Dept. of Fisheries   | Ellis           |
| 1953 | Portland, Oregon       | Fish Commission of Oregon       | Cleaver         |
| 1954 | Seattle, Washington    | Fish & Wildlife Service         | Rucker          |
| 1955 | Portland, Oregon       | Oregon Game Commission          | Rayner          |
| 1956 | Seattle, Washington    | Washington Dept. of Game        | Millenbach      |
| 1957 | Portland, Oregon       | Fish & Wildlife Service         | Johnson, H.E.   |
| 1958 | Seattle, Washington    | Washington Dept. of Fisheries   | Ellis           |
| 1959 | Portland, Oregon       | Fish Commission of Oregon       | Jeffries        |
| 1960 | Olympia, Washington    | Washington Dept. of Game        | Johansen        |
| 1961 | Portland, Oregon       | Oregon Game Commission          | Jensen          |
| 1962 | Longview, Washington   | Fish & Wildlife Service         | Burrows         |
| 1963 | Olympia, Washington    | Washington Dept. of Fisheries   | Ellis           |
| 1964 | Corvallis, Oregon      | Oregon State University         | Fryer           |
| 1965 | Portland, Oregon       | Fish & Wildlife Service         | Halver          |
| 1966 | Portland, Oregon       | Fish Commission of Oregon       | Hublou          |
| 1967 | Seattle, Washington    | University of Washington        | Donaldson, L.R. |
| 1968 | Boise, Idaho           | Idaho Fish & Game Department    | Cuplin          |
| 1969 | Olympia, Washington    | Washington Department of Game   | Johansen        |
| 1970 | Portland, Oregon       | Oregon Game Commission          | Jensen          |
| 1971 | Portland, Oregon       | Fish & Wildlife Service         | Smith, M.A.     |
| 1972 | Seattle, Washington    | Washington Dept. of Fisheries   | Noble           |
| 1973 | Wemme, Oregon          | Fish Commission of Oregon       | Jeffries        |
| 1974 | Seattle, Washington    | University of Washington        | Salo            |
| 1975 | Otter Crest, Oregon    | Oregon State University         | Donaldson, J.R. |
| 1976 | Twin Falls, Idaho      | University of Idaho             | Klontz          |
| 1977 | Olympia, Washington    | Washington Department of Game   | Morrow          |
| 1978 | Vancouver, Washington  | Fish & Wildlife Service         | Leith           |
| 1979 | Portland, Oregon       | Oregon Dept. of Fish & Wildlife | Jeffries        |
| 1980 | Courtenay, B.C. Canada | Fisheries & Oceans Canada       | Sandercock      |
| 1981 | Olympia, Washington    | Washington Dept. of Fisheries   | Ashcraft        |



# AUTHOR INDEX

| <u>NAME</u>                             | <u>REPORT TITLE</u>  | <u>YEAR</u> |
|---|--|-------------|
| ABBOTT, ROBERT R.                       | THE TRAINING OF TROUT WITH SOUND STIMULUS  | 1969        |
|   | SEE KOSKI, <u>ET.AL.</u>   | 1970        |
|   | SEE SALO   | 1970        |
|   | TRAINING FISH WITH UNDERWATER SOUND --<br>PRACTICAL SUGGESTIONS  | 1972        |
| ADAMS, BRYANT L.                        | SMOLT CHARACTERISTIC DEPENDENT ON WATER<br>TEMPERATURE   | 1971        |
| AINSWORTH, B.D. JR.                     | PROGRESS REPORT ON RAPID RIVER SALMON HATCHERY   | 1968        |
| ALLEE, BRIAN J.                         | DEVELOPMENT OF GRAVEL INCUBATION HATCHERIES<br>FOR CHUM, PINK, AND SOCKEYE SALMON ON THE<br>QUINAUT INDIAN RESERVATION                                   | 1972        |
|   | ARTIFICIAL PROPAGATION OF QUINAUH SOCKEYE SALMON   | 1973        |
|   | SEE FERGUSON, GREG   | 1975        |
|   | SEE RILEY, KATHY   | 1975        |
|   | DEVELOPMENT OF A COHO SALMON ( <i>Oncorhynchus kisutch</i> )<br>BROODSTOCK HOLDING SYSTEM FOR A COMMERCIAL OCEAN<br>REARING PROGRAM AT OREGON AQUA-FOODS | 1980        |
| ALLEE, BRIAN J. &<br>ROBERT W. ANDERSON | USE OF SODIUM THIOSULFATE DECHLORINATED<br>MUNICIPAL WATER IN SALMON CULTURE   | 1975        |
| AMEND, DONALD F.                        | IN-VIVO EFFECTS OF FEEDING CERTAIN SULFONAMIDES<br>TO SPRING CHINOOK SALMON -- A PROGRESS REPORT   | 1961        |
|   | THE USE OF MERCURIALS IN THE HATCHERY - A<br>PROGRESS REPORT   | 1965        |
|   | MERCURIALS IN THE HATCHERY: ABSORPTION,<br>DISTRIBUTION, AND RETENTION OF TIMSAN (ETHYL<br>MERCURY PHOSPHATE) IN RAINBOW TROUT                           | 1966        |
|   | A NEW VIRUS FROM CULTUS LAKE   | 1967        |
|   | EXPERIMENTAL CONTROL OF COLUMNARIS DISEASE<br>WITH A NEW NITROFURAN DRUG   | 1968        |
|   | SEE DR. SERVIZI <u>ET.AL.</u>  | 1968        |
|   | A PROGRESS REPORT ON FURANACE  | 1969        |
|   | WHATS NEW IN EGG DISINFECTANTS   | 1970        |

## AUTHOR INDEX

|   |  |      |
|---|--|------|
| AMEND, DONALD F.<br>CON'T.                                | PREVENTION AND CONTROL OF INFECTIOUS<br>HEMATOPOIETIC (IHN) VIRUS DISEASE IN<br>RAINBOW TROUT                          | 1974 |
|   | SEE GRISCHKOWSKY, ROGERS   | 1974 |
| AMEND, DONALD F. &<br>JOHN L. FRYER<br>K.S. PILCHER       | THE ABSORPTION OF SULFAMETHAZINE BY SPRING<br>CHINOOK SALMON WHEN INCORPORATED IN FISH-MEAT<br>AND OREGON PELLET DIETS | 1962 |
| AMEND, DONALD F. &<br>JOHN L. FRYER                       | PRODUCTION TRAILS UTILIZING SULFONAMIDE DRUGS<br>FOR THE CONTROL OF 'COLDWATER DISEASE' IN<br>JUVENILE SILVER SALMON   | 1963 |
| AMOS, KEVIN H.  | SEE YASUTAKE, W.T.   | 1980 |
| AMOS, KEVIN H. &<br>G.W. KLONTZ                           | A PRELIMINARY REPORT ON THE CONTROL OF BACTERIAL<br>KIDNEY DISEASE IN CHINOOK SALMON                                   | 1975 |
| ANDERSON, ALTON R.  | MARINE FISH FATS IN SALMON TEST DIETS  | 1966 |
| ANDERSON, DOUG  | BASIC HEMATOLOGY FOR FISH CULTURIST  | 1965 |
|   | 1967 LAB. TRIALS AND TESTS OF THE FURUN-<br>CULOSIS ORAL VACCINE PROGRAM   | 1967 |
| ANDERSON, ROBERT D. &<br>LAUREN DONALDSON                 | WINTER RUN STEELHEAD TROUT RETURNS TO THE<br>UNIVERSITY OF WASHINGTON  | 1971 |
| ANDERSON, ROBERT W.                                       | SEE ALLEE, BRIAN J.  | 1975 |
| APPLEBY, ANDY   | '78 BROOD GREEN RIVER COHO POND LOADING/SIZE<br>AT RELEASE STUDY   | 1981 |
| ARP, ARTHUR H.  | COST ACCOUNTING OF SALMON PRODUCTION IN<br>COLUMBIA RIVER HATCHERY EVALUATION STUDY                                    | 1969 |
|   | SUCCESSFUL PROPAGATION OF COHO SALMON IN AN<br>UPPER COLUMBIA RIVER HATCHERY   | 1969 |
| ASHLEY, LAWRENCE M.                                       | THE ROLE OF HISTOPATHOLOGY IN FISH NUTRITION<br>STUDIES WITH REMARKS ON TROUT HEPATOMAS.                               | 1960 |
|   | WOUND HEALING IN ASCORBIC ACID DEFICIENT SALMONIDS   | 1968 |
| ASHLEY, L.M. &<br>J.E. HALVER<br>C.E. SMITH<br>R.R. SMITH | ASCORBIC ACID DEFICIENCY SYNDROM IN COHO SALMON  | 1967 |
| BAILY, D.D.   | SEE MACQUARRIE, D.W.   | 1980 |
| BAILY, JACK E.  | INCUBATION OF PINK SALMON EGGS IN A SIMULATED<br>INTERTIDAL ENVIRONMENT.   | 1964 |
|   | PINK SALMON FRY PRODUCTION IN ALASKA   | 1972 |

## AUTHOR INDEX

|   |   |      |
|---|---|------|
| BAKER, HARRY W. JR.                         | FEEDING EXPERIMENTS WITH CUTTHROAT TROUT  | 1956 |
|   | CUTTHROAT FEEDING EXPERIMENT LOT 7-CT   | 1957 |
|   | 318 DAYS OF CONTINUOUS PELLET FEEDING TO RAINBOW TROUT  | 1957 |
|   | BROOD STOCK FEEDING AND ASSOCIATED MORTALITIES  | 1961 |
| BAKER, IAN                                  | SEE STOSS, J.   | 1981 |
| BAKER, R.J. &<br>M.S. KNITTEL<br>J.L. FRYER | MEASUREMENT OF COPPER STRESS IN SALMONIDS BY INCREASED SUSCEPTIBILITY TO A BACTERIAL INFECTION  | 1979 |
| BANKS, JOE L.                               | EFFECT ON DIFFERENT REARING TEMPERATURES ON GROWTH OF CHINOOK FINGERLINGS   | 1969 |
|   | COMPARATIVE RESPONSE OF CHINOOK AND STEELHEAD TO VARIATIONS IN THE ABERNATHY DRY DIET   | 1970 |
|   | CONTROLLED TEMPERATURE REARING OF FALL CHINOOK SALMON   | 1973 |
|   | METHODS OF HANDLING AND TRANSPORTATING GREEN FALL CHINOOK EGGS  | 1975 |
| BANOWETZ, GARY M.                           | THE IMMUNDIAGNOSIS OF BACTERIAL KIDNEY DISEASE  | 1974 |
| BARGER, LARRY                               | THE BOGACHIEL WINTER STEELHEAD SEMINATURAL REARING POND   | 1969 |
| BARNABY, J.T.                               | SAFETY  | 1958 |
| BARNEY, ELMO B.                             | DIET TRAILS INVOLVING THE USE OF OREGON MOIST PELLETS FOR FEEDING FINGERLING FALL CHINOOK, STEELHEAD, AND KAMLOOPS TROUT AT COLEMAN STATION | 1962 |
|   | THE SUCCESSFUL USE OF CO <sub>2</sub> ANAESTHESIA FOR SPAWNING FALL CHINOOK SALMON  | 1971 |
| BARRETT, DON                                | SEE JOHNSON, A. KENNETH   | 1975 |
| BAUER, JERRY A.                             | UMPQUA HATCHERY-REARED UMPQUA SPRING CHINOOK  | 1965 |
|   | RETURNS OF UMPQUA RIVER SPRING CHINOOK AND SUMMER STEELHEAD   | 1966 |
|   | WHAT HAS ARTIFICIAL PROPAGATION DONE FOR THE UMPQUA RIVER PROGRAM   | 1968 |
|   | PROGRESS REPORT ON CONTRIBUTION OF HATCHERY PRODUCED SPRING CHINOOK AND SUMMER STEELHEAD TO THE NORTH UMPQUA RIVER                          | 1969 |

## AUTHOR INDEX

|  |  |      |
|--|--|------|
| BAUER, JERRY A.<br>CON'T                               | PROGRESS REPORT ON CONTRIBUTION OF HATCHERY<br>PRODUCED SPRING CHINOOK AND SUMMER STEELHEAD<br>IN NORTH UMPQUA RIVER                           | 1970 |
|  | HATCHERY CONTRIBUTION OF ANADROMOUS FISH TO<br>THE NORTH UMPQUA RIVER  | 1971 |
|  | USE OF HATCHERY STEELHEAD IN THE MANAGEMENT<br>OF THE NORTH UMPQUA RIVER   | 1972 |
| BECKER, CLARENCE D.                                    | SEE KATZ, MAX  | 1960 |
|  | SEE KATZ, <u>ET. AL.</u>   | 1960 |
| BEININGEN, KIRK T.                                     | SEE WYATT, WILLIS J.   | 1969 |
| BELL G.R. &<br>W. GRIFFIOEN<br>O. KENNEDY              | MORTALITIES OF PEN-REARED SALMON ASSOCIATED WITH<br>BLOOMS OF MARINE ALGAE   | 1974 |
| BELL, THOMAS G.  | LASER AND FREEZE MARKING OF SALMONIDS AND<br>CRUSTACEANS FOR IDENTIFICATION  | 1971 |
| BELL, THOMAS G. &<br>GEORGE A. PADGETT<br>R.K. FARRELL | FREEZE AND LASER MARKING   | 1970 |
| BENVILLE, PETE JR.                                     | TOXICITY STUDIES OF DIMETHYLSULFOXIDE ON<br>SILVER SALMON  | 1964 |
| BERNIER, ADRIAN F.                                     | A TEST OF OXYGEN UNDER PRESSURE IN TROUT<br>DISTRIBUTION   | 1960 |
| BIGEJ, RICHARD G.                                      | EVALUATION OF PROTEIN LEVELS IN A HATCHERY DIET  | 1957 |
|  | DEVELOPMENT OF EFFECTIVE POND ALGICIDES  | 1957 |
|  | THRESHOLD TEMPERATURES FOR THE NORMAL DEVELOPMENT<br>OF BLUEBACK SALMON  | 1958 |
|  | DIET TRIALS WITH PASTEURIZED AND AUTOLYZED<br>SALMON PRODUCTS  | 1960 |
|  | A PROGRESS REPORT ON THE 1961 DIET TRIALS  | 1961 |
| BILLI, JAMES L.  | A QUANTITATIVE COMPARISON OF PERITONEAL WASHES AND<br>FECES FOR DETECTIVE INFECTIOUS PANCREATIC<br>NECROSIS (IPN) VIRUS IN CARRIER BROOK TROUT | 1967 |
| BILTON, H.T.   | RETURNS OF ADULT COHO SALMON FROM ACCELERATED AND<br>NORMALLY REARED JUVENILES RELEASED FROM ROSEWALL<br>CREEK, BRITISH COLUMBIA               | 1979 |
|  | EFFECTS OF SIZE AND TIME OF JUVENILE RELEASE<br>ON ADULT COHO RETURNS  | 1980 |

## AUTHOR INDEX

|   |   |      |
|---|---|------|
| BILTON, H.T.<br>CON'T   | THE INFLUENCE OF OCEAN AGE OF PARENTS ON<br>FRESHWATER GROWTH OF STEELHEAD PROGENY                                      | 1980 |
| BILTON, H.T. &<br>J.A. VAN TINE   | THE SECOND B.C. COHO SIZE AND TIME OF RELEASE<br>EXPERIMENT: PRELIMINARY RETURNS TO THE<br>QUINSAM HATCHERY             | 1981 |
| BIRKS, E.K.   | SEE EWING, R.D.   | 1981 |
| BITLE, FRED W.  | PELLET FEEDING EXPERIMENT   | 1959 |
|   | TRANSPORTATION OF FISH-PLASTIC BAGS WITH OXYGEN   | 1960 |
|   | RAINBOW TROUT SPAWN TAKING  | 1961 |
|   | USE OF TROXYMITE IN REPAIR OF CONCRETE  | 1962 |
|   | USE OF 'DARAWELD' IN REPAIR OF CONCRETE   | 1962 |
|   | WATER REUSE   | 1966 |
|   | ALARM SYSTEM  | 1969 |
| BJORN, TED  | THE ROLE OF HATCHERIES IN THE FUTURE OF SNAKE<br>RIVER SALMON AND STEELHEAD RUNS  | 1976 |
| BLISS, J.D.   | 1957 DIAMOND LAKE EGG TAKE  | 1957 |
| BOREHAM, A.   | SEE MCLEAN, W.E.  | 1980 |
| BORGESON, DAVID P.  | STATUS OF MICHIGAN'S SALMON PROGRAM   | 1966 |
| BOUCK, GERALD R.  | FEASIBILITY OF STRIPED BASS ( <i>Morone saxatilis</i> )<br>CULTURE IN WELL WATER AT CORVALLIS, OREGON                   | 1976 |
|   | GAS BUBBLE DISEASE RESEARCH: PROGRESS IN 1981   | 1981 |
| BOUCK, GERALD R. &<br>GARY A. CHAPMAN<br>PHILIP W. SCHNEIDER, JR<br>DONALD G. STEVENS | EFFECTS OF HOLDING TEMPERATURES ON REPRODUCTIVE<br>DEVELOPMENT IN ADULT SOCKEYE SALMON<br>( <i>Oncorhynchus nerka</i> ) | 1975 |
| BOUCK, GERALD &<br>M.D. CAIRNS  | DOES OMP DIET INHIBIT REPRODUCTION IN ADULT<br>SOCKEYE SALMON   | 1976 |
| BOUCK, G.R. &<br>D.A. JOHNSON   | INHIBITION OF SALTWATER TOLERANCE IN COHO<br>SALMON ( <i>Oncorhynchus kisutch</i> ) BY DISEASE TREATMENTS               | 1977 |
| BOUCK, GERALD R. &<br>STANLEY D. SMITH  | MORTALITY OF EXPERIMENTALLY DESCALED COHO SALMON<br>SMOLTS IN FRESHWATER AND IN SEAWATER                                | 1977 |
| BRADFORD, W.L.  | SEE CONTE, <u>ET.AL.</u>  | 1961 |
| BRADLEY, TERENCE  | SEE OLSEN, WAYNE H.   | 1980 |

## AUTHOR INDEX

|   |   |      |
|---|---|------|
| BRANNON, ERNEST L.                                  | THE WEIGHT OF SOCKEYE FRY IN RELATION TO PHYSICAL FACTORS DURING DEVELOPMENT  | 1963 |
|   | SUCCESS OF ARTIFICIAL INCUBATION FACILITIES AND SPAWNING CHANNELS WITH FRAZER RIVER SOCKEYE SALMON                                    | 1969 |
|   | SEE NOSHO, TERRY  | 1973 |
| BRANNON, E.L. & L.R. DANALDSON                      | UNIVERSITY OF WASHINGTON ACCELERATED COHO   | 1979 |
| BRITTAIN, C.F.                                      | EGG AND FRY CABINET   | 1956 |
|   | EXPERIMENTAL SALMON HATCHING IN FLOATING SCOWS  | 1958 |
|   | EGG AND FRY CABINET TESTS -- WATER AND AIR TEMPERATURE FLUCTUATIONS   | 1961 |
| BROCK, IRVIN R.                                     | DEVELOPMENT OF A SHEEFISH CULTURE PROGRAM IN ALASKA: EGG TAKE TO FED FRY RELEASE  | 1979 |
|   | UTILIZATION OF 'WASTE' HEAT FOR A FISH HATCHERY IN INFERIOR ALASKA  | 1980 |
| BROWN, WILLIAM G.                                   | COSTS AND RETURNS OF SALMON HATCHERY PRODUCTION ALTERNATIVES  | 1974 |
| BRUHN, DAVID  | HAGERMAN, IDAHO NATIONAL FISH HATCHERY AS A STEELHEAD HATCHERY  | 1979 |
| BRUHN, DAVE & BILL WALSDORF                         | SOME EFFECTS, ON RAINBOW TROUT BROODSTOCK, OF REDUCING WATER TEMPERATURE FROM 59° F. TO 52° F.  | 1975 |
| BRUIN, W.J. & LAURA M. MUMAW<br>JOHN W. NIGHTINGALE | USE OF A CLINOPTILOLITE AMMONIA REMOVAL FILTER IN A RECIRCULATING SALMON REARING FACILITY   | 1979 |
| BRUIN, W.J. & J.W. NIGHTINGALE<br>L.M. MUMAW        | EVALUATION OF FISH GROWTH AND NITROGENOUS WASTE HANDLING IN A RECIRCULATING SALMON REARING FACILITY WITH A CLINOPTILOLITE FILTER      | 1980 |
| BRUNSON, WAYNE                                      | NEW USES FOR OLD FISH TREATMENT CHEMICALS   | 1971 |
|   | SEE CRAWFORD, BRUCE   | 1974 |
|   | PROGRESS REPORT OF VACCINATIONS AS A MEANS OF CONTROLLING DRUG RESISTANT BACTERIAL OUTBREAKS IN WASHINGTON GAME DEPARTMENT HATCHERIES | 1976 |
| BUCHANAN, DAVID V.                                  | EFFECTS OF INCREASING TEMPERATURES AND BACTERIAL DISEASES FOUND NATURALLY IN THE WILLAMETTE RIVER TO FOUR STOCKS OF STEELHEAD SMOLTS  | 1975 |
|   | HATCHERY RELEASES AND SUBSEQUENT RETURN OF SUMMER STEELHEAD ABOVE A DAM   | 1976 |



## AUTHOR INDEX

|  |   |      |
|--|---|------|
| BUCHANAN, DAVID V.<br>CON'T  | MONITORING SMOLT OUTMIGRATION OF HATCHERY<br>STEELHEAD IN THE WILLAMETTE RIVER SYSTEM | 1977 |
|  | EFFECTS OF SIZE ON SMOLT OUTMIGRATION   | 1979 |
| BUCHANAN, DAVID V. &<br>M.G. WADE<br>R.M. HOOTON<br>W.C. WINGFIELD | A MINIMUM THRESHOLD SIZE FOR HATCHERY STEELHEAD<br>SMOLTS                             | 1981 |
| BUCKLEY, JAMES &<br>CECIL M. WHITMORE                              | SUBLETHAL EFFECTS OF WEST POINT TREATMENT<br>PLANT EFFLUENT ON COHO SALMON            | 1974 |
| BURKE, JOHN A. &<br>JOSEPH R. SULLIVAN                             | TOWARD CONTROL OF IHNV  | 1981 |
| BURROWS, ROGER E.  | FEEDING TRIALS WITH BLUEBACK SALMON -- 1950<br>FIRST EXPERIMENT                       | 1950 |
|  | FEEDING TRIALS WITH BLUEBACK SALMON -- 1950<br>SECOND EXPERIMENT                      | 1950 |
|  | ENTIAT SALMON CULTURAL LABORATORY   | 1951 |
|  | EFFECT OF CONTROLLED TEMPERATURES ON SALMON EGGS                                      | 1954 |
|  | THE EFFECT OF STREAM TEMPERATURE PATTERNS ON THE<br>SURVIVAL OF PINK SALMON EGGS      | 1955 |
|  | ELECTRICAL DIVERSION OF ADULT SALMON  | 1955 |
|  | ALTERATIONS IN REARING POND DESIGN  | 1955 |
|  | A RECTANGULAR-RECIRCULATING REARING POND  | 1956 |
|  | THE EFFECT OF CONTROLLED LIGHT ON SEXUAL<br>MATURATION OF ADULT BLUEBACK SALMON       | 1956 |
|  | ENVIRONMENTAL LIMITATIONS IN REARING PONDS  | 1958 |
|  | FACTORS LIMITING PRODUCTION IN REARING PONDS  | 1959 |
|  | REARING POND ENVIRONMENTS   | 1960 |
|  | PROGRAM OF THE ABERNATHY SALMON CULTURAL LAB.   | 1961 |
|  | EFFECT OF FINGERLING STAMINA ON ADULT SURVIVAL  | 1964 |
|  | APPLICATION OF RESEARCH DEVELOPMENTS AT THE<br>SALMON-CULTURAL LABORATORY             | 1966 |
|  | SEE PANEL; NOBLE, <u>ET. AL.</u>  | 1961 |
|  | CHANGES IN FISH CULTURE NECESSARY TO IMPROVE<br>QUALITY OF CHINOOK FINGERLINGS        | 1968 |

## AUTHOR INDEX

|  |   |      |
|--|---|------|
| BURROWS, ROGER E.<br>CON'T               | ADULT SURVIVALS OF SALMON REARED UNDER ENVIRONMENTAL CONTROL  | 1969 |
|  | ADULT RETURNS OF SALMON REARED IN REUSE AND SINGLE-PASS WATER SYSTEMS   | 1970 |
| BUSCH, ROBERT A.                         | THE RANGEN TROUT RESEARCH PROGRAM   | 1976 |
| BUZZELL, LARRY &<br>DONALD A. MUSGROVE   | A NEW EGG SORTING DEVICE FOR SALMON, TROUT, AND STEELHEAD EGGS -- A SLIDE PRESENTATION                                      | 1974 |
| CAINS, M.D.                              | SEE BOUCK, GERALD   | 1979 |
| CAIRNS, DONALD                           | TEST OF COMMERCIAL DRY FEEDS ON SILVER SALMON   | 1959 |
|  | TESTS OF COMMERCIAL DRY FEEDS ON FALL CHINOOK   | 1959 |
| CAMPBELL, S.L.                           | MECHANICAL FEEDER, FISH CROWDER, FISH LOADER AND DISTRIBUTION UNIT, AND NEW SPAWNING EQUIPMENT IN OPERATION AT COLEMAN      | 1959 |
| CARNES, G. &<br>W. GRIFFIEON<br>J. STOSS | PRODUCTION AND TRANSPORTATION TECHNIQUES OF GAMETES COLLECTED FROM REMOTE FRESHWATER AND SALTWATER LOCATIONS IN S.E. ALASKA | 1981 |
| CANNADY, BRUCE                           | DIET TRIALS - FALL CHINOOK SALMON - 1951  | 1951 |
|  | DIET TRIALS OF COMMERCIAL DRY MEAL MIX  | 1956 |
|  | SPRING CHINOOK SALMON HOLDING AND SPAWNING OPERATIONS   | 1956 |
| CEDERHOLM, C.J.                          | THE IMPACTS OF LOGGING ON SALMONID RESOURCES  | 1977 |
| CHAPMAN, GARY A.                         | EFFECTS OF TEMPERATURE DURING A SIMULATED MIGRATION OF ADULT SOCKEYE SALMON ( <i>Oncorhynchus nerka</i> )                   | 1967 |
|  | SEE BOUCK, GERALD R.  | 1975 |
| CHAPMAN, PATRICK F.                      | MCCALL SUMMER CHINOOK SALMON HATCHERY   | 1981 |
| CHASE, DEAN L.                           | PRELIMINARY STUDIES USING SYNTHETIC POLYMERS TO REDUCE TURBIDITY IN A HATCHERY WATER SUPPLY                                 | 1971 |
| CHILCOTE, MARK W.                        | SEE CRAWFORD, BRUCE A.  | 1978 |
| CISAR, J.O.                              | SOME CHARACTERISTICS OF ANTIBODIES FROM JUVENILE SALMON   | 1970 |
| CLARK, JERRY E.                          | RELATIONSHIP BETWEEN AQUACULTURAL DEVELOPMENT AND INSTITUTIONAL CHANGE  | 1978 |
| CLAYTON, JOHN                            | JOB ACCOUNTING AT A SALMON HATCHERY   | 1971 |

AUTHOR INDEX

|                                  |   |      |
|----------------------------------|---|------|
| CLEAVER, FRED                    | SOME EFFECTS OF MARKING CHINOOK SALMON BY<br>FIN CLIPPINGS  | 1967 |
|                                  | SURVIVAL OF INTER-HATCHERY TRANSFERS OF FALL<br>CHINOOK   | 1968 |
| CLENDENER, HOMER B.              | EARTHEN REARING PONDS FOR WINTER STEELHEAD<br>PRODUCTION  | 1972 |
| COATES, JOHN A.                  | HEMATOPOIETIC EFFECT OF XANTHOPTERINS AND A<br>1/100 RATIO OF VITAMIN B <sub>12</sub> TO FOLIC ACID<br>WHEN INJECTED INTO YOUNG ANEMIC CHINOOK SALMON | 1951 |
|                                  | FEEDING EXPERIMENTS,  | 1954 |
|                                  | PROGRESS REPORT ON DIET EXPERIMENTS WITH SALMON   | 1956 |
| COATES, JOHN A. &<br>R.L. SCHWAB | BRINE SHRIMP FEEDING EXPERIMENTS  | 1955 |
| COLEY, TRAVIS C.                 | THE CONTROL OF BACTERIAL KIDNEY DISEASE:<br>1977 UPTAKE   | 1977 |
| COMBS, BOBBY D.                  | RESULTS OF 1954 FEEDING TRIALS  | 1954 |
|                                  | 1955 PITUITARY EXPERIMENT   | 1955 |
|                                  | ALGICIDE EXPERIMENTS  | 1955 |
|                                  | EFFECT OF LIGHT ON MATURATION   | 1955 |
|                                  | RELATIONSHIP BETWEEN WATER TEMPERATURE AND<br>TIME OF HATCH OF CHINOOK SALMON EGGS  | 1956 |
|                                  | AN EVALUATION OF BOUND DIETS  | 1956 |
|                                  | THE STAGE OF DEVELOPMENT AT WHICH CHINOOK<br>SALMON EGGS CAN WITHSTAND COLD WATER<br>TEMPERATURES   | 1957 |
|                                  | THE EFFECT OF CONTROLLED LIGHT ON THE SEXUAL<br>MATURATION OF ADULT BLUEBACK SALMON   | 1957 |
|                                  | A REVIEW OF THE PITUITARY EXPERIMENTS AT THE<br>ENTIAT SALMON CULTURAL LABORATORY   | 1958 |
|                                  | RECONSTITUTED DRY MEAL DIETS FOR CHINOOK<br>SALMON  | 1959 |
|                                  | EFFECTS OF LIGHT ON MATURATION OF ADULT BLUE-<br>BACK SALMON  | 1959 |
|                                  | TUNNEL TESTS OF CHINOOK SALMON FINGERLINGS  | 1960 |

AUTHOR INDEX

|   |  |      |
|---|--|------|
| COMBS, BOBBY D.<br>CON'T                              | RECONSTITUTED DRY MEAL DIETS FOR CHINOOK SALMON  | 1960 |
|   | CONTROL OF TREMATODE CERCARIAE IN HATCHERY WATER SUPPLIES  | 1962 |
|   | PRELIMINARY EXPERIMENTS IN WATER RE-USE  | 1963 |
|   | AN ELECTRICAL GRID FOR CONTROLLING TREMATODE CERCARIAE IN HATCHERY WATER SUPPLIES  | 1963 |
|   | THE RECLAMATION OF WATER   | 1964 |
|   | THE RECLAMATION AND RE-USE OF WATER  | 1965 |
|   | VARIATION IN QUALITY CHINOOK SALMON EGGS AND FRY   | 1968 |
|   | PROGRESS IN WATER RECLAMATION STUDIES  | 1971 |
| CONGLETON, JAMES L.                                   | POLLUTION ABATEMENT FOR FISH HATCHERIES  | 1972 |
| CONRAD, JOHN F.                                       | PROGRESS REPORT ON 'BAD-EGG' STUDIES   | 1961 |
|   | 'BAD-EGG' STUDIES CONTINUED  | 1962 |
|   | OBSERVATIONS ON STRESS-DISEASE CORRELATION IN JUVENILE COHO SALMON   | 1963 |
|   | A MYXOBACTERIUM AND MYXOSPORIDIAN FOUND IN JUVENILE SALMONIDS AT OREGON FISH COMMISSION HATCHERIES IN 1965   | 1965 |
|   | SEE HOLT, R.A.   | 1970 |
| CONTE, FRANK P.                                       | CELLULAR REGENERATION IN THE FISH<br><u>(Oncorhynchus kisutch)</u>   | 1964 |
| CONTE, FRANK P. &<br>HARRY H. WAGNER<br>W.L. BRADFORD | BLOOD STUDIES ON STEELHEAD TROUT ( <i>Salmo gairdneri</i> )-1. MEASUREMENT OF BLOOD VOLUME AND PLASMA VOLUME UTILIZING IODINATED ALBUMIN ( $^{131}\text{I}$ HSA) | 1961 |
| CONTE, FRANK P. &<br>HARRY H. WAGNER<br>T.O. HARRIS   | SALINITY ADAPTATION IN STEELHEAD TROUT AND COHO SALMON IN RELATION TO MIGRATION DISPOSITION  | 1963 |
| COSSETTE, B.J.  | A HOLDING DEVICE USED WHILE SPAWNING SALMON  | 1972 |
| CRAWFORD, BRUCE &<br>WAYNE BRUNSON                    | REPORT ON THE CAUSE AND TREATMENT OF STEELHEAD MORTALITY AT THE WELLS DAM HATCHERY AND AT THE WASHBURN ISLAND REARING POND                                       | 1974 |

AUTHOR INDEX

|   |  |      |
|---|--|------|
| CRAWFORD, BRUCE A. &<br>MARK W. CHILCOTE<br>STEVEN A. LEIDDR                | A STATUS REPORT ON THE EFFECT OF THE USE OF A<br>GENE MARKER ON SURVIVAL IN HATCHERY SUMMER<br>STEELHEAD | 1978 |
| CRAWFORD, DAVID L.  | SEE WESTGATE, JOHN   | 1974 |
|   | SEE LAW, <u>ET.AL.</u>   | 1970 |
|   | SEE LAW, DUNCAN K.   | 1976 |
| CRAWFORD, DAVID L. &<br>DUNCAN K. LAW<br>JOHN W. WESTGATE<br>DAVID A. LEITH | SOME ASPECTS OF THE PROTEIN ENERGY REQUIREMENTS<br>OF SPRING CHINOOK SALMON                              | 1976 |
| CRAWFORD, DAVID L. &<br>JOHN W. WESTGATE<br>JEAN P. LAGASSE                 | ASCORBIC ACID IN MOIST PELLETIZED FISH RATIONS   | 1979 |
| CROSTON, C.B.   | DIGESTIVE ENZYMES OF SALMON  | 1957 |
|   | ENZYME STUDIES AT THE WESTERN FISH NUTRITION<br>LABORATORY   | 1961 |
| CULVER, RAYMOND F.  | CONTROL OF COLUMNARIS ON JUVENILE SPRING CHINOOK   | 1964 |
|   | CONTROL OF ICHTHYOPHTHIRIUS UNDER UNFAVORABLE<br>WATER CONDITIONS AT OAK SPRINGS HATCHERY                | 1968 |
|   | A PREVIEW OF THE COLE RIVER HATCHERY   | 1972 |
|   | AN ELECTROFISHER FOR SORTING ADULT SALMON AND<br>STEELHEAD   | 1974 |
| CUMMINGS, EDWIN   | SALMON RANCHING IN OREGON  | 1978 |
| CUMMINGHAM, DONALD  | THE PACO FISH PUMP   | 1970 |
| CUPLIN, PAUL  | IDAHO PRODUCTION DIET TESTS - 1963   | 1963 |
|   | IDAHO PRODUCTION DIET TESTS - 1964   | 1964 |
|   | IDAHO PRODUCTION DIET TESTS - 1965   | 1965 |
|   | IDAHO PRODUCTION DIET TESTS - 1966   | 1966 |
|   | IDAHO PRODUCTION DIET TESTS - 1967   | 1967 |
|   | CHELATED MINERALS IN IDAHO TROUT DIETS   | 1968 |
|   | LINEAR PROGRAMMED IDAHO OPEN FORMULA DIET  | 1970 |
| CUPLIN, PAUL &<br>MARK MISSELDINE   | PANTOTHENIC ACID REQUIREMENTS OF HENRYS<br>LAKE CUTTHROAT TROUT FRY                                      | 1970 |

AUTHOR INDEX

|   |  |      |
|---|--|------|
| CURTRIGHT, SHARI                              | SEE FELDMANN, GARY   | 1977 |
| DAHRENS, ORVILLE F.                           | SEE ROMNEY, DAN  | 1970 |
|   | SEE LEITH, DAVID A.  | 1975 |
| DAMRON, TOM                                   | SEE NOBLE, <u>ET.AL.</u>   | 1961 |
| DAVIS, J.P. &<br>D.J. MEERBURG<br>T.R. PORTER | UPWELLING INCUBATION BOXES FOR ATLANTIC SALMON<br>( <i>salmo salar</i> )   | 1978 |
| DECEW, MARK                                   | AGE AND SIZE OF STEELHEAD TROUT OUTMIGRANTS<br>FROM MARION FORKS HATCHERY, BY SCALE ANALYSIS                                       | 1963 |
|   | PRELIMINARY REPORT ON THE USE OF ANTIBIOTICS TO<br>CONTROL BACTERIAL INFECTIONS IN ADULT SALMON                                    | 1969 |
|   | PROGRESS IN THE STUDY OF ANTIOBIOTIC EFFICACY<br>AND TERATOGENICITY IN ADULT CHINOOK SALMON<br>( <i>Oncorhynchus tshawytscha</i> ) | 1971 |
| DENTLER, JOHN                                 | EFFICACY OF TWO FUNGICIDES ON EGGS OF CHINOOK<br>SALMON AND SUBSEQUENT EFFECTS ON SALTWATER SURVIVAL                               | 1981 |
| DOLLAR, ALEXANDER M.                          | NUTRITION AND DISEASE IN TROUT   | 1960 |
|   | COOPERATIVE INVESTIGATIONS OF TROUT HEPATOMA   | 1961 |
|   | EVALUATION OF DRY FEEDS FOR IDAHO CUTTHROAT PROGRAM  | 1965 |
| DONALDSON, EDWARD M.                          | SEE HUNTER, GEORGE A.  | 1980 |
|   | SEE HUNTER, GEORGE A.  | 1981 |
|   | SEE STOSS, J.  | 1981 |
| DONALDSON, JACK R.                            | THE POSSIBILITIES FOR CULTURING CRAY FISH  | 1971 |
| DONALDSON, JOHN R.                            | EFFECT OF VARIATION OF TEMPERATURES ON EGGS  | 1954 |
|   | GROWTH RESPONSE OF TROUT TO LAKE FERTILIZERS   | 1956 |
| DONALDSON, DR. LAUREN                         | PROGRESS AND PROBLEMS IN FEEDING FISH IN THE<br>WESTERN STATES   | 1952 |
|   | MINERALS OF IMPORTANCE TO FISH   | 1954 |
|   | EARLY MATURING SOCKEYE AND COHO FROM THE<br>RELEASE OF LARGE ZERO-AGE FINGERLINGS  | 1969 |
|   | RETURN OF ZERO-AGE COHO 'JACKS' FROM THE SEA   | 1970 |
|   | SEE ANDERSON, ROBERT   | 1971 |

AUTHOR INDEX

|  |  |      |
|--|--|------|
| DONALDSON DR. LAUREN<br>CON'T              | RETURN OF ACCELERATED COHO SMOLTS AS TWO-YEAR<br>OLD ADULTS  | 1972 |
|  | CHUM SALMON HATCHERIES OF JAPAN  | 1973 |
|  | RECENT DEVELOPMENT IN FISH CULTURE IN ICELAND,<br>NORWAY, SCOTLAND, AND ENGLAND  | 1977 |
|  | THE PACIFIC SALMON HATCHERY PROGRAM OF THE USSR  | 1978 |
|  | SEE BRANNON, E.L.  | 1979 |
| DOWNNEY, PHILIP C.                         | RETENTION TIME IN CIRCULATING PONDS  | 1979 |
| DOWNNEY, PHILIP C. &<br>G.W. (BILL) KLONTZ | A SYSTEMS APPROACH TO HATCHERY PRODUCTION OR<br>EVERYTHING YOU WANTED TO KNOW ABOUT FISH BUT<br>WERE AFRAID TO ASK YOUR COMPUTER | 1981 |
| DRAGO, HOWARD V.                           | PRODUCTION FEEDING OF SPRING CHINOOK WITH<br>OREGON PELLETS (DOGFISH)  | 1963 |
|  | PRODUCTION FEEDING TRIALS WITH OREGON STARTER MASH   | 1966 |
| DURLING, T.B.                              | PROGRESS REPORT ON THE INTRODUCTION OF COHO<br>SALMON IN THE GREAT LAKES   | 1967 |
| EARP, BRIAN J.                             | AN INTERIM REPORT ON FISH DISEASE INVESTIGATIONS   | 1951 |
|  | FISH DISEASE INVESTIGATION, STATE OF WASHINGTON<br>DEPARTMENT OF FISHERIES   | 1952 |
|  | REPORT ON LOW-LEVEL SULFAMETHAZINE PROPHYLAXIS<br>FOR THE CONTROL OF KIDNEY DISEASE  | 1954 |
|  | PROGRESS REPORT ON FISH DISEASE STUDIES  | 1956 |
|  | THE EFFECT OF CERTAIN ANTIBIOTICS ON THE<br>BACTERIUM <u>Cytophaga psychrophila</u>  | 1957 |
|  | DISEASE PROBLEMS WITH DRY DIETS IN SILVER SALMON   | 1958 |
| EHINGER, PAUL F. JR.                       | POLLUTION ABATEMENT--TWENTY COLUMBIA RIVER<br>PROGRAM HATCHERIES   | 1974 |
| EKLUND, DR. MEL                            | OCCURRENCE OF BOTULISM IN SALMONID REARING FACILITIES  | 1981 |
| ELLIOTT, DIANA GODSEY                      | SEE GRISCHKOWSKY, ROGERS   | 1975 |
| ELLIOTT, JOSEPH W.                         | THE ROLE OF FISH BODY CHEMISTRY IN CHARACTERIZING<br>PHYSICAL CAPABILITY OF CHINOOK SALMON FINGERLING                            | 1962 |
|  | CHEMICAL DIFFERENCES OF HATCHERY-REARED FALL CHINOOK<br>SALMON FINGERLING  | 1963 |

AUTHOR INDEX

|  |  |      |
|--|--|------|
| ELLIOTT, JOSEPH W.<br>CON'T                        | EFFECT OF AGE, GROWTH, AND DIET ON FINGERLING CHARACTERISTICS  | 1964 |
| ELLIS, C.H.  | 1950 KALAMA RIVER HATCHERY DIET EXPERIMENT   | 1950 |
|  | PROGRESS BRIEFS ON EXPERIMENTAL DIETS WITH SALMON OF THE 1950 BROOD  | 1951 |
|  | 1952 FEEDING EXPERIMENTS AT KLICKITAT HATCHERY WITH 1951 BROOD STOCK   | 1952 |
|  | ABSTRACT OF DISCUSSION CONCERNING SURVIVALS OF SALMON AS AFFECTED BY VARIABLES IN REARING AND PLANTING TECHNIQUES                          | 1956 |
|  | PRELIMINARY RETURNS OF MARKED FISH FROM COLUMBIA RIVER BARGING EXPERIMENTS   | 1957 |
|  | PROGRESS SUMMARY OF WASHINGTON'S HATCHERY EXPERIMENTS  | 1958 |
|  | A RETURN OF ADULT COHO SALMON DEMONSTRATING A HIGH DEGREE OF SELECTIVITY IN HOMING   | 1968 |
|  | VARIANCES IN SURVIVAL OF SALMON EGGS AS EXPERIENCED BY VARIOUS FIELD PERSONNEL WHEN USING DELAYED FERTILIZATION TECHNIQUES                 | 1970 |
|  | THE STATE OF WASHINGTON SURPLUS SALMON PROBLEM   | 1971 |
| ELLIS JAMES N.                                     | THE RECIRCULATING HATCHING UNITS AT THE COLLEGE OF FISHERIES, UNIVERSITY OF WASHINGTON   | 1964 |
| EMADI, HOAAEIN                                     | YOLK SAC. MALFORMATION IN PACIFIC SALMON   | 1971 |
| ENNIS, ED  | ADVANTAGES OF ACCELERATED INCUBATION IN TEMPERATURE CONTROL SYSTEMS AND CONTROL OF LOW TEMPERATURE DISEASE IN DEEP TROUGH INCUBATION UNITS | 1972 |
| ERICKSON, DAVE                                     | A SPINAL CURVATURE RELATED TO <u>ICHTHYOSPORIDIUM</u> INFECTION IN RAINBOW TROUT   | 1963 |
| ERICKSON, J. DAVID                                 | TOXAPHENE POISONING OF RAINBOW TROUT   | 1968 |
| EVENSON, M.C.                                      | SEE EWING, R.D.  | 1981 |
| EVENSON, MICHAEL D.                                | SEE PRIBBLE, HOWARD J.   | 1975 |
| EVENSON, MIKE &<br>JIM PRIBBLE<br>JIM LICHTATOWICH | EXPERIMENTAL CROSSES OF HATCHERY AND WILD STEELHEAD AT COLE RIVERS HATCHERYS, OREGON   | 1974 |



AUTHOR INDEX

|   |  |      |
|---|--|------|
| EWING, R.D.                                 | SEE JOHNSON, S.L.  | 1975 |
| EWING, R.D. &<br>S.L. JOHNSON               | EFFECTS OF DETERGENTS ON GILL (NA+K)-ATPASE<br>ACTIVITY IN CHINOOK SALMON  | 1975 |
| EWING, R.D. &<br>M.C. EVENSON<br>E.K. BIRKS | RELATIONSHIPS BETWEEN SEX, COLORATION AND<br>MIGRATION TENDENCY IN STEELHEAD TROUT   | 1981 |
| FAGERLUND, U.H.M. &<br>J.R. MCBRIDE         | POTENTIAL FOR SEX STEROIDS AS GROWTH PROMOTERS   | 1974 |
| FALLERT, STEVE                              | SEE NOBLE, <u>ET.AL.</u>   | 1961 |
| FARRELL, R. KEITH                           | THE SALMON DISEASE FLUKE PAST AND PRESENT  | 1963 |
|   | SEE BELL, <u>ET.AL.</u>  | 1970 |
| FARRELL, R. KEITH &<br>LYNN D. WINWARD      | THE INTERNATIONAL IDENTIFICATION SYSTEM  | 1966 |
| FELDMANN, GARY                              | THE EFFECT OF ACCELERATED GROWTH AND EARLY RELEASE<br>ON THE TIMING, SIZE, AND NUMBER OF RETURNS OF<br>COHO SALMON ( <i>Oncorhynchus kisutch</i> )   | 1974 |
| FELDMANN, GARY &<br>MARTIN FIGG             | THE EFFECT OF ACCELERATED GROWTH AND EARLY<br>RELEASE ON TIMING, SIZE, AND NUMBERS OF RETURN OF<br>QUINALT SOCKEYE SALMON                            | 1975 |
|   | GROWTH RATE DIFFERENCES IN SUBPOPULATIONS OF<br>QUINALT SOCKEYE SALMON   | 1976 |
| FELDMANN, GARY &<br>DAVID SMITH             | A PRELIMINARY REPORT ON THE EFFECT OF SIZE AND<br>TIMING ON GILL ATPASE ACTIVITY OF SOCKEYE SALMON<br>( <i>O. nerka</i> )                            | 1976 |
| FELDMAN, GARY &<br>SHARI CURTRIGHT          | PRELIMINARY REPORT ON THE EFFECT OF SIZE AND TIMING<br>ON GILL ATPASE IN QUINALT SOCKEYE AND<br>STEELHEAD AND QUEETS FALL CHINOOK                    | 1977 |
| FERGUSON, GREG &<br>BRIAN ALLEE             | OXYGEN CONSUMPTION OF COHO SALMON IN A PUMPED<br>SALTWATER RACEWAY   | 1975 |
| FESSLER, JAMES L.                           | WATER TEMP. CONTROLS IN EXPERIMENTAL HATCHERY  | 1967 |
|   | CHANGES IN CHEMICAL COMPOSITION, COEFFICIENT OF<br>CONDITION AND BODY MORPHOLOGY ASSOCIATED WITH<br>THE PARR-SMOLT TRANSFORMATION IN STEELHEAD TROUT | 1968 |
|   | SOME SMOLT CHARACTERISTICS IN SUMMER STEELHEAD   | 1973 |
| FIGG, MARTIN                                | SEE FELDMANN, GARY   | 1975 |
|   | SEE FELDMANN, GARY   | 1976 |

AUTHOR INDEX

|                   |  |      |
|-------------------|--|------|
| FLATOW, ROBERT E. | THE CONTROL OF FISH DISEASE IN THE HATCHERY BY USE OF HIGH RADIATION, MONITORED ULTRA VIOLET AND A NEW FILTER SYSTEM | 1970 |
|                   | HIGH VOLUME AND ECONOMIC, ULTRA-VIOLET WATER PURIFICATION AND FILTRATION UNITS FOR HATCHERIES                        | 1971 |
|                   | UPDATING ULTRA-VIOLET LIGHT WATER PURIFICATION   | 1972 |
| FLYNN, JAMES K.   | TREATMENT OF A MONOGENETIC TREMATODE RESISTANT TO AN ORANOPHOSPHATE  | 1979 |
| FOCHT, RICHARD    | PREDICTING THE SIZE-RELATED GROWTH POTENTIAL OF KAMLOOPS TROUT IN AN AQUACULTURE SYSTEM                              | 1979 |
| FORTUNE, JOHN     | PROGRESS REPORT ON CONTRIBUTION OF HATCHERY PRODUCED SUMMER STEELHEAD TO SILETZ RIVER                                | 1971 |
| FOSTER, ROBERT W. | PERCIVAL COVE DELAYED CHINOOK PROGRAM  | 1975 |
|                   | MASS INCUBATION AT WASHINGTON DEPARTMENT OF FISHERIES HATCHERIES   | 1978 |
|                   | HATCHERY EVALUATIONS-WDF STYLE   | 1979 |
|                   | THE MUDDY ROAD HOME OR WHO PUT THIS MOUNTAIN IN MY RIVER   | 1980 |
| FOWLER, LARRY G.  | ADVANCES WITH THE ABERNATHY DIET   | 1968 |
|                   | PROGRESS REPORT ON THE ABERNATHY DRY DIET  | 1969 |
|                   | PROGRESS WITH THE ABERNATHY DRY DIET   | 1971 |
|                   | HERRING MEAL REPLACEMENTS IN THE ABERNATHY DIET  | 1974 |
| FOWLER, LAURIE G. | 1962 FEEDING TRIALS, SALMON-CULTURAL LABORATORY  | 1962 |
|                   | 1963 FEEDING TRIALS, SALMON CULTURAL LABORATORY  | 1963 |
|                   | NUTRITIONAL STUDIES AT ABERNATHY SALMON-CULTURAL LABORATORY  | 1964 |
|                   | STARTING DIETS AND THE RESULTS OF THE 1966 FEEDING TRIALS  | 1966 |
| FOX, CECIL L.     | THE FISH SORTING FACILITY AT COWLITZ TROUT HATCHERY  | 1968 |
|                   | THE HEATED WATER SYSTEM AT MICHIGANS PLATT RIVER HATCHERY  | 1969 |

AUTHOR INDEX

|  |  |      |
|--|--|------|
| FOX, CECIL L.<br>CON'T                         | AN ENGINEERING FIRM LOOKS AT HATCHERY WASTEWATER TREATMENT   | 1973 |
|  | WISCONSIN'S BAYFIELD HATCHERY UTILIZES SOME NEW TECHNIQUES   | 1973 |
| FREITAG, GARY R.                               | STRAYING AND HOMING OF TRANSPLANTED DISAPPEARANCE CREEK, ALASKA CHUM SALMON TO BEAVER FALLS HATCHERY, ALASKA | 1980 |
| FRYER, DR. JOHN L.                             | FURNUCULOSIS IN ADULT SALMON AND STEELHEAD TROUT   | 1963 |
|  | SEE LAW, DUNCAN  | 1961 |
|  | SEE AMEND, <u>ET.AL.</u>   | 1962 |
|  | SEE AMEND  | 1962 |
|  | SEE SPENCE   | 1963 |
|  | SEE SANDERS  | 1966 |
|  | SEE SANDERS  | 1967 |
|  | SEE NELSON <u>ET.AL.</u>   | 1969 |
|  | SEE GOULD <u>ET.AL.</u>  | 1969 |
|  | CURRENT RESEARCH CONCERNING ORAL IMMUNIZATION OF SALMONIDS AGAINST BACTERIAL DISEASE                         | 1970 |
|  | SEE ROHOVEC, J.S.  | 1974 |
|  | SEE BAKER, R.J.  | 1979 |
| FRYER, JOHN L. &<br>ALEX YUSHA<br>K.S. PILCHER | METHODS FOR THE PREPARATION OF TISSUE CULTURES FROM SALMONID FISHES  | 1962 |
| FRYER, J.L. &<br>G.L. TEBBIT                   | IMMUNIZATION OF FISH FOR CONTROL OF INFECTIOUS HEMATOPOIETIC NECROSIS  | 1975 |
| FRYE, TED                                      | THE EFFECT OF ENVIRONMENTAL FACTORS ON VITAMIN RETENTION IN PROCESSED FISH FOOD                              | 1976 |
| FUJIHARA, M.P.                                 | <i>Chondrococcus columnaris</i> ANTIBODY PRODUCTION IN COLUMBIA RIVER FISHES                                 | 1966 |
|  | COLUMNARIS EXPOSURE AND ANTIBODY PRODUCTION IN SEAWARD AND UPSTREAM MIGRANT SOCKEYE SALMON                   | 1967 |

AUTHOR INDEX

|   |   |      |
|---|---|------|
| FUSS, HOWARD &<br>CHARLES JOHNSON           | EVALUATION OF THREE PLASTIC SUBSTRATES IN THE<br>INCUBATION OF CHUM SALMON  | 1981 |
|   | THE USE OF PLASTIC SUBSTRATE IN THE INCUBATION<br>OF COHO SALMON AT A COLD WATER HATCHERY   | 1981 |
| GARLICK, LEWIS R.                           | SOME PRINCIPLES OF HATCHERY FEED ROOM ARRANGEMENT<br>AND MANAGEMENT   | 1955 |
| GARRISON, ROBERT L.                         | THE GROWTH OF JUVENILE SALMONIDS IN REARING PONDS   | 1964 |
|   | PROGRESS AGAINST VIBRIOSIS IN SALTWATER REARING<br>AT LINT SLOUGH   | 1969 |
|   | VIBRIO IMMUNIZATION STUDIES   | 1972 |
| GASTINEAU, ALFRED C.                        | A COMPARISON OF SEVERAL SALMON VISCERA INCLUDED<br>IN THE DIET FED TO SOCKEYE FINGERLINGS AT THE<br>LEAVENWORTH, WASHINGTON FISH CULTURAL STATION | 1954 |
|   | CLARK'S NEW AGE TROUT FEED FOR SOCKEYE SALMON<br>FINGERLING DIET  | 1957 |
|   | FEEDING DRY FEEDS TO SOCKEYE SALMON   | 1958 |
|   | COMMERCIAL DRY FEEDS FOR SOCKEYE SALMON FINGERLING  | 1959 |
|   | FREQUENCY OF FEEDING DRY FEEDS TO SOCKEYE<br>SALMON FINGERLING  | 1960 |
| GATES, D.H.                                 | COMMERCIAL FISH REARING ON CAPE BRETON ISLAND   | 1975 |
| GAYLORD, W.H. JR.                           | NOCARDIOSIS IN YOUNG SALMON   | 1957 |
| GEARHEARD, JIM                              | EARLY VS. LATE RELEASE OF STEELHEAD OR WHAT A<br>DIFFERENCE A MONTH MAKES   | 1981 |
| GIGER, RICHARD                              | SEE RAYNER  | 1966 |
| GORBMAN, A.                                 | SEE C.L. JOHNSON, <u>ET.AL.</u>   | 1967 |
| GOULD, R.W. &<br>J.E. SANDERS<br>J.L. FRYER | OCCURRENCE OF THE PROTOZOAN FISH PARASITE<br>( <i>Ceratomyxa shasta</i> ). IN THE COLUMBIA RIVER<br>BASIN AND THE ULTRA-STRUCTURE OF THE SPORT    | 1969 |
| GOVEN, BEVERLY A.                           | ANTIPROTOZOAN IMMUNIZATION STUDIES IN THE CHANNEL<br>CATFISH, ( <i>Ictalurus punctatus</i> )  | 1979 |
| GRAYBILL, JIM                               | FISH CULTURAL PROGRAM AT MT. HOOD COMMUNITY COLLEGE   | 1973 |
| GREEN, C.C.                                 | KIDNEY DISEASE IN RAINBOW BROOD STOCK   | 1957 |

AUTHOR INDEX

|   |  |      |
|---|--|------|
| GRIFFIDEN, WARD                               | SEE BELL, G.R.   | 1974 |
|   | SEE CARNES, G.   | 1981 |
| GRIFFIDEN, WARD &<br>J. VOELKNER              | GROWTH RATES OF JUVENILE CHUM IN COLD WATER<br>FED ON FIVE DIFFERENT RATION TYPES                                | 1980 |
| GRISCHKOWSKY, ROGER &<br>DONALD F. AMEND      | SURVEY FOR INFECTIOUS HEMATOPOIETIC NECROSIS<br>VIRUS IN ALASKA SOCKEYE SALMON ( <i>Oncorhynchus<br/>nerka</i> ) | 1974 |
| GRISCHKOWSKY, ROGER &<br>DIANA GODSEY ELLIOTT | INCREASE IN KNOWN DISTRIBUTION OF INFECTIOUS<br>HEMATOPIETIC NECROSIS VIRUS IN ALASKAN<br>SOCKEYE SALMON         | 1975 |
| GROBERG, WARREN                               | RECENT DEVELOPMENTS IN FISH VIRAL EXAMINATIONS AT<br>OREGON HATCHERIES   | 1979 |
| GRAMAN, DAVID B.                              | UPDATE: ERYTHROMYCIN PHOSPHATE WATER HARDENING<br>AS A CONTROL OF BACTERIAL KIDNEY DISEASE IN<br>CHINOOK SALMON  | 1979 |
|   | UPDATE: BACTERIAL KIDNEY DISEASE CONTROL 1979-1981<br>ACTIVITIES AT THE UNIVERSITY OF IDAHO                      | 1981 |
| GUENTHER, RAYMOND W.                          | FOOD AS A VECTOR OF THE SOCKEYE SALMON VIRUS<br>DISEASE  | 1954 |
| GUNSOLUS, ROBERT T.                           | ARE WE PROPERLY MANAGING OUR HATCHERY COHO STOCKS?   | 1978 |
| HAGEN, WILLIAM JR.                            | THE CONTRIBUTION OF HATCHERIES TO ANGLING  | 1961 |
| HAGER, ROBERT                                 | MANIPULATION OF COLUMBIA RIVER HATCHERY COHO<br>STOCKS TO MEET THE NEEDS OF FISHERIES MANAGEMENT                 | 1970 |
|   | PRELIMINARY RESULTS OF THE 1969 BROOD COHO TIME<br>AND SIZE AT RELEASE STUDY                                     | 1972 |
|   | SEE KACZYNSKI, VIC   | 1981 |
| HALL, JAMES D.                                | FURNCULOSIS IN THE CHESTNUT LAMPREY  | 1964 |
| HALVER, JOHN E.                               | 1950 PROGRESS REPORT, NUTRITIONAL REQUIREMENTS<br>OF CHINOOK AND BLUEBACK SALMON                                 | 1950 |
|   | VITAMIN-TEST DIET FOR CHINOOK SALMON   | 1951 |
|   | THE QUALITATIVE WATER-SOLUBLE VITAMIN<br>REQUIREMENT OF CHINOOK SALMON   | 1952 |
|   | PROTEIN REQUIREMENT STUDIES WITH SALMONIDS   | 1954 |
|   | THE AMINO ACID REQUIREMENTS OF CHINOOK SALMON  | 1955 |

AUTHOR INDEX

|   |   |      |
|---|---|------|
| HALVER, JOHN E.<br>CON'T                                  | PROTEIN REQUIREMENTS OF SALMON  | 1956 |
|   | AMINO ACID REQUIREMENTS OF CHINOOK SALMON   | 1957 |
|   | AMINO ACID REQUIREMENTS OF SALMON   | 1958 |
|   | ISOLEUCINE, LEUCINE, PHENYALANINE AND VALINE<br>REQUIREMENTS OF CHINOOK SALMON          | 1959 |
|   | CARCINOGENESIS IN TROUT   | 1960 |
|   | TRYPTOPHAN REQUIREMENTS OF CHINOOK, SOCKEYE AND<br>SILVER SALMON                        | 1964 |
|   | SEE ASHLEY <u>ET.AL.</u>  | 1967 |
|   | SEE C.E. SMITH <u>ET.AL.</u>  | 1967 |
|   | ENIGMA IN SEA FISH HUSBANDRY  | 1969 |
|   | VITAMIN C <sub>3</sub> FOR FISH   | 1971 |
|   | SEE WOLF, DAVID A.  | 1979 |
|   | SEE TUCKER, BARBEE  | 1981 |
|   | SEE VILLALON, J.R.  | 1981 |
| HALVER, J.E. &<br>G.N. WOGAN<br>L.M. ASHLEY<br>R.R. SMITH | SIZE AND SENSITIVITY OF TROUT TO AFLATOXIN B <sub>1</sub>                               | 1967 |
| HALVER, J.E. &<br>G. PIGOTT                               | MANUFACTURING LARVAL FISH FEED PRACTICES  | 1979 |
| HAMMERSTROM, RICHARD                                      | SUSCEPTIBILITY OF TWO SPECIES OF SALMON TO<br>BOTULISM INTOXICATION                     | 1964 |
| HANDY, PAUL   | ANADROMOUS FISH ARE RETURNING   | 1971 |
| HANKS, DELBERT  | PRESENTATION OF THE OREGON DEPARTMENT OF FISH<br>AND WILDLIFE MOBILE MICRO TAGGING UNIT | 1977 |
| HANSEN, RICHARD J.  | HATCHERY EFFLUENT STANDARDS IN CALIFORNIA   | 1973 |
| HARACHE, Y. &<br>A. NOVOTNY                               | FIRST SPAWNING OF MATURE CULTURED COHO IN THE<br>REGION OF BRETAGNE (FRANCE).           | 1975 |
|   | FIRST RESULTS OF COHO SALMON FARMING IN FRANCE  | 1975 |
| HARCHE, Y. &<br>P. LAGARDE<br>P. PROUZET                  | AN INTERNAL MAGNETIC TAG FOR SALMON SMOLTS  | 1977 |
| HARRELL, LEE WILEY  | <del>MASS</del> MORTALITIES IN PUGET SOUND AQUACULTURE                                  | 1973 |

AUTHOR INDEX

|   |  |      |
|---|--|------|
| HARRELL, LEE W. &<br>MICHAEL H. SCHIEWE | FURTHER EVIDENCE OF TWO STRAINS OF PATHOGENIC<br>VIBRIOS IN SALMON IN PUGET SOUND      | 1974 |
| HARRIS, BILL                            | STANDARD DESIGN LIBERATION TANK CUTS COSTS   | 1971 |
| HARRIS, T.O.                            | SEE CONTE, <u>ET.AL.</u>   | 1973 |
| HARVEY, DICK                            | LIVING RIVER   | 1973 |
| HAWKES, CLIFFORD L.                     | A PHOTOGRAPHIC METHOD FOR PRECISE GROWTH<br>MEASUREMENT OF LIVE UNANESTHETIZED FISH    | 1972 |
| HAWKES, DR. JOYCE A.                    | THE FINE STRUCTURE OF THE EPIDERMIS AND<br>CHROMATOPHORES OF SALMONID SKINS            | 1972 |
| HEARD, WILLIAM R.                       | FRUSTRATED FISH FROM FALL RELEASES:<br>SIGNIFICANCE OF THE TIME WINDOW IN ALASKA       | 1979 |
|   | OBSERVATIONS ON HOMING OF COHO SALMON FROM SHORT<br>DISTANCE TRANSPLANTS               | 1980 |
| HELMS, BILL                             | AERIAL FISH DROP EXPERIMENTS<br>(PRESENTED BY RALPH GARBUTT)                           | 1961 |
| HEMING, T.A.                            | INFLUENCE OF TEMPERATURE ON TIME TO COMMENCE<br>FEEDING OF CHINOOK SALMON ALEVINS      | 1980 |
| HENDRICKS, JERRY D.                     | SEE PUTMAN, GEORGE B.  | 1975 |
|   | POST-MORTEM BILE DAMAGE TO RAINBOW TROUT LIVERS  | 1976 |
|   | A NATURALLY OCCURRING TOXIN AND CARCINOGEN IN<br>COTTONSEED PRODUCTS                   | 1977 |
| HENDRICKS, JERRY &<br>STEVE L. LEEK     | KIDNEY DISEASE POSTORBITAL LESIONS IN CHINOOK<br>SALMON                                | 1974 |
| HERSHBERGER, W.K.                       | GROWTH AND DEVELOPMENT IN YOUNG CHINOOK SALMON<br>DERIVED FROM INTERYEER-CLASS CROSSES | 1974 |
| HESSER, E.F.                            | METHODS OF FISH HEMATOLOGY   | 1959 |
| HICKS, CHARLES E.                       | GROWTH RATES AND CONDITION INDEX FOR RAINBOW<br>TROUT FED DRY DIETS                    | 1964 |
| HIGGS, DAVE                             | SEE MCCALLUM, IAN  | 1980 |
| HIGGS, KENNE                            | PRACTICAL APPLICATIONS OF WATER REUSE SYSTEMS IN<br>REGION ONE HATCHERIES              | 1968 |
| HILL RAYMOND L.                         | SEE MORTON, K.E.   | 1973 |
|   | COMPARISON BETWEEN TWO METHODS OF FEEDING AS<br>RELATED TO FIN EROSION                 | 1974 |

AUTHOR INDEX

- |  |   |      |
|--|---|------|
| HILL, RAYMOND L.<br>CON'T                      | RESULTS OF TREATMENTS FOR SOFT SHELL EGG DISEASE<br>IN CHINOOK SALMON   | 1977 |
| HILL, RAYMOND L. &<br>DON E. RATLIFF           | RINSING UNFERTILIZED STEELHEAD EGGS AND I.H.N. VIRUS  | 1980 |
| HILTZ, CHARLES                                 | SEE HULL  | 1963 |
| HOLT, R.A.                                     | SEROLGICAL TYPING AND CONTROL OF ( <i>Cytophaga<br/>psychrophila</i> ) THE CAUSITIVE AGENT OF BACTERIAL<br>COLD WATER DISEASE | 1969 |
| HOLT, R.A. &<br>J.F. CONRAD                    | OBSERVATIONS ON PSEUDO-KIDNEY DISEASE AND THE<br>REDMOUTH DISEASE BACTERIUM IN OREGON SALMONIDS                               | 1970 |
| HOLT, R.A. &<br>J.E. SANDERS                   | EFFECTS OF WATER TEMPERATURE ON INFECTION OF<br>YOUNG SALMONIDS BY ( <i>Chondrococcus columnaris</i> )                        | 1973 |
| HOLT, R. &<br>M. SMITH<br>J. ZAKEL<br>D. MAHER | ANTIBIOTIC INJECTION OF ADULT SPRING CHINOOK<br>SALMON TO REDUCE PRESPAWNING LOSSES AT SEVERAL<br>OREGON FISH HATCHERIES      | 1979 |
| HOLWAY, JAMIESON E.                            | COLLAPSING MEMBRANE DISEASE OF BROOK TROUT EGG<br>AND SAC FRY   | 1967 |
|  | TRANSFERING MODERN ADVANCES IN TROUT CULTURE<br>TO COHO SALMON  | 1975 |
|  | TEMPERATURE UNITS PER INCH OF GAIN PER 30 DAYS<br>(TU/INCH GAIN): ITS SIGNIFICANCE AND USE                                    | 1976 |
|  | EAGLE CREEK NATIONAL FISH HATCHERY DENSITY STUDY<br>FOR COHO SALMON   | 1980 |
|  | EAGLE CREEK NATIONAL FISH HATCHERY DENSITY STUDY  |      |
| HOOTON, R.M.                                   | SEE BUCHANAN, DAVID V.  | 1981 |
| HOPLEY, CHARLES W.JR.                          | FEEDING OF CHINOOK SALMON ALEVINS   | 1974 |
|  | THE EFFECT OF EARLY FEEDING ON THE RATE OF YOLK<br>ABSORPTION IN CHINOOK SALMON ( <i>Oncorhynchus tshawytscha</i> )           | 1975 |
|  | COWLITZ SPRING CHINOOK REARING DENSITY STUDY  | 1980 |
| HORAK, DONALD L.                               | CAN THE STAMINA TUNNEL BY USED TO PREDICT<br>SURVIVAL OF HATCHERY REARED RAINBOW TROUT  | 1970 |
| HORN, E.B.                                     | SILVER SALMON FEEDING TEST WITH CLARK'S NEW<br>AGE DRY TROUT FOOD   | 1957 |
|  | FEEDING SILVER SALMON AT QUILCENE HATCHERY<br>(DRY FEED)  | 1958 |



AUTHOR INDEX

|                                      |  |      |
|--------------------------------------|--|------|
| HORTON, HOWARD F.                    | THE EFFECTS OF TIME, DENSITY, MOTION AND STARVATION ON THE SURVIVAL OF TRANSPORTED TROUT         | 1958 |
|                                      | ADVANCES IN CRYO-PRESERVATION OF SALMONID SPERM  | 1968 |
| HOSKINS, G.E. & E.T. STONE           | AN EPIZOOTIC OF ATYPICAL BACTERIAL KIDNEY DISEASE IN ADULT MIGRANT COHO                          | 1980 |
| HUBLON, WALLACE F.                   | MARION FORKS FIRST FEEDING EXPERIMENT  | 1951 |
|                                      | MARION FORKS SECOND FEEDING EXPERIMENT   | 1951 |
|                                      | NOTES ON THE EXPERIMENTAL FEEDING PROGRAMS AT THE MARION FORKS LABORATORY DURING 1952            | 1952 |
|                                      | 1954 NUTRITIONAL STUDIES AT SANDY, OREGON  | 1954 |
|                                      | PRODUCTION TYPE DIET EXPERIMENT, SANDY   | 1955 |
|                                      | A PROGRESS REPORT ON NUTRITIONAL RESEARCH IN OREGON  | 1956 |
|                                      | AN EXPERIMENT USING PMA AND LIGNASIN TREATMENTS AS A PROPHYLAXIS AGAINST BACTERIAL GILL DISEASE  | 1957 |
|                                      | PROGRESS REPORT ON PRODUCTION DIET EXPERIMENTS   | 1957 |
|                                      | PROGRESS REPORT ON NUTRITION RESEARCH  | 1958 |
|                                      | FURTHER INFORMATION CONCERNING OREGON PELLETS IN PRODUCTION                                      | 1960 |
|                                      | OREGON PELLETS AS A STARTING DIET -- FEEDING OF DEHYDRATED OREGON PELLETS                        | 1961 |
| HUBLON, WALLACE F.                   | SUGGESTIONS CONCERNING 'PROCEEDINGS OF THE N.W.F.C.C.'   | 1967 |
|                                      | PLANNING COMMITTEE REPORT  | 1968 |
| HUBLON, WALLACE F. & IRVING W. JONES | OREGON FISH COMMISSION HATCHERY PRODUCTION SUMMARY 1960-1967 BROOD SALMON AND STEELHEAD          | 1969 |
| HULL, MARVIN                         | PROGRESS WITH SUMMER-RUN STEELHEAD, SKAMANIA   | 1961 |
|                                      | INCREASED SIZE IN SUMMER RUN STEELHEAD ADULTS  | 1968 |
|                                      | TESTING EXTENDED DAYLIGHT HOURS WITH TUNGSTEN LIGHT FOR EARLIER SPAWNING OF SUMMER-RUN STEELHEAD | 1970 |
|                                      | ADULTS STEELHEAD RETURNS FROM PLANTS RELATED   | 1971 |
|                                      | PROGRESS? REPORT ON SUMMER-RUN STEELHEAD AT SKAMANIA HATCHERY                                    | 1974 |

AUTHOR INDEX

|   |  |      |
|---|--|------|
| HULL, MARVIN &<br>CHARLES HILTZ                           | NEW TOOL FOR SPAWNING  | 1963 |
| HUMPHREYS, JIM  | SMALL SCALE SALMON ENHANCEMENT PROJECTS IN<br>NORTHERN PUGET SOUND   | 1981 |
| HUNTER, GEORGE A. &<br>EDWARD M. DONALDSON                | EXPERIMENTAL PRODUCTION OF ALL FEMALE AND STERILE<br>GROUPS OF COHO SALMON ( <i>Oncorhynchus kisutch</i> )   | 1980 |
| HUNTER, GEORGE A. &<br>EDWARD DONALDSON<br>EDTON T. STONE | CONTROL OF SEX IN SALMONIDS: PILOT RELEASE OF<br>STERILE AND ALL-FEMALE GROUPS OF COHO SALMON<br>( <i>ncorhynchus kisutch</i> ) FROM THE CAPILAN SALMON HATCHERY | 1981 |
| HUNTER, CHARLES J.  | AN AIRLIFT FLOATING FISH TANK  | 1975 |
| HURLEY, D.A.  | EFFECT OF SPAWNING DENSITY OF SOCKEYE SALMON ON<br>THE NUMBER OF RESULTING FRY   | 1965 |
| IVERSON, RON  | RECENT TRENDS IN THE PACIFIC COAST ANADROMOUS FISH<br>PROGRAM  | 1980 |
| IWAMA, GEORGE K. &<br>ARTHUR R. TAUTZ                     | A SIMPLE GROWTH MODEL FOR HATCHERY SALMONIDS   | 1979 |
| JAMES, MILTON C.  | HATCHERY RECORD KEEPING  | 1959 |
| JEFFRIES, ERNEST R.                                       | EXPERIMENTAL DESIGN, 1949 AND 1950 FEEDING TRIALS  | 1950 |
|   | 1950 FEEDING EXPERIMENTS   | 1951 |
|   | WORK DONE BY THE OREGON FISH COMMISSION AT THE<br>SANDY LABORATORY DURING 1952   | 1952 |
|   | SUMMARY OF A 1956 BROOD SILVER SALMON MARKING<br>EXPERIMENT AT THE KLASKANINE HATCHERY   | 1959 |
|   | FISH CULTURE OPERATIONS AT THE OXBOW-BROWNLEE<br>DAMS ON THE SNAKE RIVER   | 1961 |
|   | SEE PANEL: NOBLE <u>ET.AL.</u>   | 1961 |
| JEFFRIES, ERNIE   | A NEW PROBLEM-DISPOSAL OF ADULT SALMON RETURNING TO<br>HATCHERIES  | 1971 |
| JENSEN, ANDREW  | TEMPERATURES INCUBATION ANALYSIS AT RINGOLD<br>STUDY AREA  | 1968 |
| JENSEN, CHRIS C.  | PRELIMINARY RESULTS OF COMMERCIAL PELLET FEEDING AT<br>OREGON GAME COMMISSION HATCHERIES   | 1959 |
|   | PROGRESS REPORT ON AUTOMATION AT OREGON STATE<br>GAME COMMISSION HATCHERIES  | 1960 |
|   | PROGRESS REPORT ON FROZEN FOOD PELLET FEEDERS  | 1967 |

AUTHOR INDEX

|   |   |      |
|---|---|------|
| JENSON, J.O.T.                          | EFFECT OF TOTAL GAS PRESSURE, TEMPERATURE, AND TOTAL WATER HARDNESS ON STEELHEAD EGGS AND ALEVINS               | 1980 |
|   | MECHANICAL SHOCK SENSITIVITY, WATER UPTAKE AND DEVELOPMENT OF INTERNAL EGG PRESURE IN COHO SALMON EGGS          | 1980 |
| JOHANSEN, JOHN M.                       | IMPROVEMENT IN CUTTHROAT PROGRAM FEEDING DRY FEED   | 1958 |
|   | INDEXES OF EVALUATING A TROUT HATCHERY SYSTEM   | 1965 |
|   | ANALYSIS OF HATCHERY PERFORMANCE BASED ON INDEXES OF EVALUATION WITH COMMENTS ON THE INFLUENCE OF MORTALITY     | 1966 |
| JOHNSEN, RICHARD                        | MARKING JUVENILE SALMON BY IMMERSION IN DMSO-TETRACYCLINE SOLUTIONS   | 1966 |
| JOHNSON, A. KENNETH                     | SEE JUNGE   | 1967 |
|   | SEE POON  | 1969 |
|   | RESULTS OF 1970 FALL CHINOOK STORED EGGS SHIPMENT   | 1970 |
|   | SEE MCINTYRE, JOHN D.   | 1973 |
|   | SEE MCINTYRE, J.D.  | 1974 |
|   | SEE MCINTYRE, JOHN D.   | 1976 |
|   | SEE MCINTYRE, JOHN D.   | 1977 |
| JOHNSON, A. KENNETH & DON BARRETT       | UP, UP, AND AWAY IN A FISH LOCK WITH SPECIAL EMPHASIS ON THE NEW BONNEVILLE SALMON HATCHERY SPAWNING FACILITIES | 1975 |
| JOHNSON, BARNEY W.                      | TRANSPORTATION OF FRESHLY SPAWNED, FERTILIZED PINK SALMON EGGS BY AIR   | 1954 |
| JOHNSON, CLARENCE L.                    | IODINE METABOLISM IN ADULT CHINOOK SALMON   | 1966 |
| JOHNSON, C.L.                           | ASCORBATE IN RAINBOW TROUT  | 1971 |
| JOHNSON, C.L. & K. OSHIMA<br>A. GORBMAN | FISH CAN SMELL SALT   | 1967 |
| JOHNSON, CHARLES                        | SEE FUSS, HOWARD  | 1981 |
|   | SEE FUSS, HOWARD  | 1981 |
| JOHNSON, CHARLES & CLARENCE BRACKISH    | WATER ENVIRONMENT FOR RAISING FISH  | 1972 |
| JOHNSON, D.A.                           | SEE BOUCK, G.R.   | 1977 |

AUTHOR INDEX

- JOHNSON, HARLAN E. 1950 COLEMAN HATCHERY PRODUCTION DIET DORENA DAM EXPERIMENTAL HATCHERY 1950
- RESULTS OF EXPERIMENTS AT THE DORENA DAM EXPERIMENTAL LABORATORY 1952
- ALL-MEAT DIETS FOR CHINOOK SALMON 1954
- HATCHERY RECOVERIES OF MARKED FALL CHINOOK SALMON 1957
- TESTS ON DRY FEED FOR SALMON 1958
- RECOVERIES OF MARKED ADULT FALL CHINOOK SALMON FROM SPRING CREEK AND LITTLE WHITE SALMON 1959
- RECOVERIES OF MARKED ADULT FALL CHINOOK SALMON FROM SPRING CREEK AND LITTLE WHITE SALMON 1960
- RECOVERIES OF MARKED ADULT SALMON RELEASED FROM SPRING CREEK AND LITTLE WHITE SALMON NATIONAL FISH HATCHERIES 1961
- RECOVERIES OF MARKED ADULT SALMON RELEASED FROM SPRING CREEK AND LITTLE WHITE SALMON NATIONAL FISH HATCHERIES 1962
- ANESTHESIA FOR ADULT SALMON 1965
- CARBON DIOXIDE ANESTHESIA FOR ADULT SALMON 1968
- SEE KATZ 1967
- JOHNSON, K.E. AN EVALUATION OF TWO RAINBOW TROUT STRAINS FOR RESISTANCE TO (*Ceratomyxa shasta*) 1972
- JOHNSON, KEITH A. RECENT OBSERVATIONS CONCERNING *Ceratomyxa shasta* 1971
- UPDATE ON LUMMI INDIAN AQUACULTURE 1975
- TEST FOR ANTIGENIC INTERFERENCE WITH HIVAX\* *Vibrio anguillarum* AND REMOVAX\* ERM COMBINATION BACTERINS FOR IMMERSION VACCINATION OF FALL CHINOOK SALMON AND RAINBOW TROUT 1979
- EVALUATION OF AN EXPERIMENTAL *Aeromonas salmonida* VACCINE 1980
- JOHNSON, RIVCHAR S. SEE QUEIRDO, LEWIS E. 1976
- JOHNSON, S.L. SEE EWING, R.D. 1975
- JOHNSON, S.L. & R.D. EWING & JAMES A. LICHATOWICH A SIMPLIFIED PROCEDURE FOR MONITORING (NA+K)-ACTIVATED ATPASE IN GILL TISSUE 1975

AUTHOR INDEX

|   |   |      |
|---|---|------|
| JOHNSTON, JAMES M.                                    | TERRITORIAL AND FEEDING BEHAVIOR OF STEELHEAD AND COHO WITHIN A STREAMS MICROHABITATS               | 1970 |
| JONES, G. IVAN  | THIAMIN LOSS IN STARVED LIVER   | 1950 |
| JONES, IRVING W.                                      | MARKING SALMONIDS WITH TETRACYCLINE ANTIBIOTICS   | 1964 |
|   | TETRACYCLINE MARKING AND THERMAL BRAND STUDIES  | 1965 |
|   | TETRACYCLINE MARKING AND THERMAL BRAND STUDIES - A PROGRESS REPORT                                  | 1966 |
|   | SEE JUNGE   | 1967 |
|   | SEE HUBLOU  | 1969 |
| JUNGE, CHARLES, O &<br>A.K. JOHNSON<br>IRVING JONES   | ELECTROCUTING AND TETRACYCLINE MARK SAMPLING OF BIG CREEK HATCHERY COHO RETURNS                     | 1967 |
| KACZYNSKI, VIC W.                                     | CONCEPTUAL REDESIGN OF MID-COLUMBIA SPAWNING CHANNELS TO RACEWAYS                                   | 1979 |
| KACZYNSKI, VIC &<br>BOB HAGER<br>JIM WOOD             | REDESIGN OF THE PRIEST RAPIDS SALMON HATCHERY   | 1981 |
| KATZ, BOB   | RESPIRATORY DISEASES AND THEIR TREATMENT  | 1977 |
| KATZ, MAX &<br>CLARENCE D. BACKER                     | <i>Cryptobia salmositica</i> A HEMOFLAGELLATE PARASITE OF COHO SALMON                               | 1960 |
| KAZT, MAX &<br>CLARENCE D. BECKER<br>ALBERT K. SPARKS | PRELIMINARY OBSERVATIONS REGARDING THE DISTRIBUTION OF <i>Cryptobia</i> IN THE PACIFIC COAST STATES | 1961 |
| KATZ, MAX &<br>H.E. JOHNSON                           | CLORINATED HYDROCARBON INSECTICIDES AND FISH  | 1967 |
| KENNEDY, O  | SEE BELL, G.R.  | 1974 |
| KEPSHIRE, B.M. &<br>GARY G. WALL                      | MARINE SURVIVAL OF COHO SALMON SMOLTS RELEASED DIRECTLY FOR TRANSPORT VEHICLES INTO ESTUARIES       | 1980 |
| KEPSHIRE, BERNARD M.                                  | GROWTH OF PINK CHUM AND CHINOOK SALMON IN HEATED SEA WATER  | 1971 |
|   | SEE TORKKO, CHARLES E.  | 1977 |
| KINCAID, HAROLD L.                                    | PROGRESS OF STRAIN EVALUATION STUDIES   | 1977 |
|   | COMPARISON OF RAINBOW TROUT STRAINS IN HATCHERY AND FIELD TESTS                                     | 1978 |

AUTHOR INDEX

|                                   |   |      |
|-----------------------------------|---|------|
| KINCHELOE, JOHN                   | INFECTIOUS PANCREATIC NECROSIS  | 1962 |
| KING, J.G.                        | SEE KLONTZ, G.W.  | 1974 |
| KING, JOHN L.                     | STEELHEAD FARM PONDS  | 1961 |
| KLONTZ, GEORGE W.<br>(BILL)       | ORAL IMMUNIZATION OF RAINBOW TROUT  | 1963 |
|                                   | HEMATOLOGY AND FISH DISEASES  | 1963 |
|                                   | THE TEAM  | 1964 |
|                                   | THE FURUNCULOSIS FAD  | 1966 |
|                                   | FDA CLEARANCE AND REGISTRATION OF DRUGS FOR<br>USE IN FISH CULTURE          | 1967 |
|                                   | STATUS OF ORAL IMMUNIZATION OF JUVENILE COHO<br>SALMON AGAINST FURUNCULOSIS | 1968 |
|                                   | TO TRANSFER OR NOT TRANSFER---THAT IS THE QUESTION                          | 1972 |
|                                   | PRODUCTION VERSUS PRODUCT: A PARADOX ?                                      | 1974 |
|                                   | SEE STROUD, RICHARD K.  | 1974 |
|                                   | A PHILOSOPHY OF FISH CULTURE  | 1975 |
|                                   | SEE AMOS, KEVIN H.  | 1975 |
|                                   | AQUACULTURE IN IDAHO  | 1976 |
|                                   | TREAT-THINK-AND BE WARY   | 1977 |
| KLONTZ, G.W.(BILL) &<br>J.G. KING | A METHOD OF CONDUCTING HATCHERY DIET TRIALS                                 | 1977 |
|                                   | RECENT ADVANCES IN BIOFILTER PERFORMANCE                                    | 1978 |
|                                   | RESPIRATORY DISEASES OF HATCHERY REARED SALMONIDS                           | 1979 |
|                                   | A METHOD OF POND INVENTORYING   | 1979 |
|                                   | HATCHERY SITE SELECTION OR 'WHY DOES IT HAVE TO<br>BE THIS WAY ?'           | 1981 |
|                                   | SEE DOWNEY, PHILIP C.   | 1981 |
|                                   | STATUS OF THE IDAHO FOOD FISH INDUSTRY                                      | 1974 |
|                                   | ENVIRONMENTAL GILL DISEASE (EGD): WHAT IT IS AND<br>WHAT TO DO ABOUT IT     | 1981 |
|                                   | THE OREGON STEELHEAD DEMONSTRATION PROJECT                                  | 1981 |
|                                   | LESLIE SCHAEFFER<br>DREW SCHAEFFER  |      |

|   |  |      |
|---|--|------|
| KNITTEL, MARTIN D.  | AEROMONAS LIQUEFACIENS INFECTIONS IN ADULT CHINOOK SALMON                          | 1963 |
|   | SEE BAKER, R.J.  | 1979 |
| KNOWLES, VERON  | A COMPARISON OF TECHNIQUES FOR SPAWNING STEELHEAD TROUT                            | 1964 |
| KOLB, RICHARD   | A HISTORY OF THE WASHINGTON DEPARTMENT OF FISHERIES PINK SALMON REARING PROGRAM    | 1975 |
|   | SETTLING OF WATER BORNE SOLIDS USING READILY AVAILABLE MATERIALS                   | 1981 |
| KOSKI, K. VICTOR  | SEE E.O. SALO  | 1967 |
|   | SEE DR. J.B. SADDLER   | 1969 |
|   | SEE DR. J.B. SADDLER   | 1970 |
| KOSKI, K. VICTOR &<br>S.L. SCHRODER<br>E.O. SALO<br>R.R. ABBOTT | PEN REARING OF DR. DONALDSON'S RAINBOW STEELHEAD CROSSES AT BIG BEEF CREEK         | 1970 |
| KOSKI, R.O.   | RECENT DEVELOPMENTS IN FISH TRANSPORTATION IN OREGON                               | 1961 |
| LAGARDE, P.   | SEE HACHE, Y.  | 1977 |
| LAGASSE, JEAN P.  | SEE LEITH, DAVID A.  | 1975 |
|   | SEE CRAWFORD, DAVID L.   | 1979 |
| LAROCHE, GILLES   | SEE WOODALL  | 1963 |
| LARRICK, WALTER D.  | THE INITIAL PHASES OF AN OPERATING CENTRAL INCUBATION FACILITY IN SOUTHEAST ALASKA | 1980 |
| LARSON, MAX E.  | SEE SMITH, R.  | 1972 |
| LARSON, R.E.  | KELP MEAL AS A DIET SUPPLEMENT FOR SALMONIDS                                       | 1977 |
| LAW, DUNCAN K.  | BASIS FOR DIET COMPOSITION   | 1955 |
|   | PROBLEMS IN MANUFACTURE AND STORAGE OF MOIST PELLETS                               | 1957 |
|   | A REPORT ON THE AMBRETTE PELLET MAKING MACHINE                                     | 1958 |
|   | TECHNIQUES IN PASTEURIZATION OF SALMON PRODUCTS                                    | 1958 |
|   | RANCID DIET STUDIES, (CONT'D)  | 1959 |
|   | THE EFFECTS OF SELECTED ANTIOXIDANTS AND SELENIUM ON FISH FEED                     | 1960 |

AUTHOR INDEX

- |  |  |      |
|--|--|------|
| LAW, DUNCAN K.<br>CON'T                                    | STUDIES ON COTTONSEED OIL MEAL SUBSTITUTES, BINDERS<br>AND A MODIFIED VITAMIN MIX                                | 1963 |
|  | SEE CRAWFORD   | 1969 |
|  | SEE CRAWFORD, D.L.   | 1973 |
|  | SEE WESTGATE, JOHN   | 1974 |
|  | SEE CRAWFORD, DAVID L.   | 1974 |
|  | SEE CRAWFORD, DAVID L.   | 1976 |
| LAW, DUNCAN K. &<br>JOHN L. FRYER                          | COMMERCIAL PASTEURIZATION OF SALMON VISCERA<br>AND ITS POSSIBLE EFFECTS ON THE INCIDENCE OF<br>FISH TUBERCULOSIS | 1961 |
| LAW, D.K.<br>D.L. CRAWFORD<br>R.B. MCKEE<br>J.W. WESTGATE  | GROWTH RESPONSES OF CHINOOK SALMON TO HERRING<br>OIL OF VARIOUS QUALITIES  | 1976 |
| LEACH, JAMES G.  | THE PASCO FISH TRANSFER PUMP.  | 1969 |
| LEEK, STEVE L.   | SEE HENDRICKS, JERRY D.  | 1974 |
|  | SEE SMITH, ROBERT Z.   | 1974 |
|  | TAGGING PROGRAMS AT SPRING CREEK, WILLARD AND<br>CARSON NATIONAL FISH HATCHERIES                                 | 1979 |
| LEIDER, STEVEN A.  | SEE CRAWFORD, BRUCE A.   | 1978 |
| LEITH, DAVID A.  | OREGON PELLETS IN PRODUCTION   | 1959 |
|  | STUDIES ON OREGON PELLET FEEDING TECHNIQUES  | 1964 |
|  | SEE LAW, DUNCAN K.   | 1976 |
|  | WASTE DISCHARGES FROM REPRESENTATIVE SALMON<br>CULTURING FACILITIES IN OREGON                                    | 1976 |
|  | SEE CRAWFORD DAVID L.  | 1976 |
| LEITH, DAVID A.<br>KEITH D. MORRE                          | CONTROL OF CERATOMYXA IN A HATCHERY WATER  | 1967 |
| LEITH, DAVID A. &<br>JEAN P. LAGASSE<br>ORVILLE F. DAHRENS | EFFECTS OF LIPID NUTRITION ON POST-RELEASE<br>SURVIVAL OF COHO SALMON  | 1975 |
| LEONARD, DENNIS W.   | NATURAL ZEOLITES IN FISH CULTURE   | 1978 |
| LEWIS, ERNEST  | DESIGN OF AN AQUACULTURE FACILITY FOR WOODSHOLE<br>OCEANOGRAPHIC INSTITUTE                                       | 1973 |



AUTHOR INDEX

|                                   |  |      |
|-----------------------------------|--|------|
| LEWIS, STEPHEN C.                 | EVALUATION OF RETURNS FROM HATCHERY-REARED<br>KOKANEE SALMON AT ODELL LAKE, OREGON   | 1975 |
| LIAO, PAUL B.                     | THE NITRIFICATION PROCESS FOR RECONDITIONING<br>FISH HATCHERY WATER  | 1971 |
|                                   | FISH HATCHERY WATER RECONDITION REUSE SYSTEMS  | 1972 |
|                                   | AMMONIA PRODUCTION RATE AND ITS APPLICATION TO<br>FISH CULTURE SYSTEM PLANNING AND DESIGN                                      | 1974 |
| LICHATOWICH, JAMES A.             | SEE EVENSON, MIKE  | 1974 |
|                                   | SEE JOHNSON, S.L.  | 1975 |
|                                   | SEE PRIBBLE, HOWARD J.   | 1975 |
| LIENTZ, JOE C.                    | SEE OLSON, WAYNE H.  | 1976 |
| LORZ,                             | ATTEMPTS TO CONTROL EARLY MATURATION OF COHO<br>SALMON   | 1966 |
|                                   | AN EVALUATION OF TECHNIQUES FOR AUGMENTING THE<br>NATURAL PHOTOPERIOD TO ADVANCE THE ONSET OF<br>MIGRATION IN WINTER STEELHEAD | 1973 |
|                                   | THE EFFECTS OF TEMPERATURE ON GILL ATPASE ACTIVITY,<br>SALINITY TOLERANCE, AND MIGRATION IN WINTER<br>STEELHEAD TROUT          | 1973 |
|                                   | EFFECTS OF COPPER IONS IN FRESHWATER ON GILL<br>ATPASE ACTIVITY, MIGRATION AND SEA WATER ADAPTATION<br>OF JUVENILE COHO SALMON | 1975 |
|                                   | EFFECTS OF SELECTED HERBICIDES ON SMOLTING<br>IN COHO SALMON   | 1980 |
| MACMILLIAN, R.W.                  | A SAND BIO-FILTER FOR REMOVAL OF AMMONIA NITROGEN  | 1981 |
| MACQUARRIE, D.W. &<br>D.D. BAILEY | ADULT RETURNS TO THORNTON CREEK-THE SALMONID<br>ENHANCEMENT PROGRAM'S FIRST JAPANESE-STYLE CHUM<br>SALMON HATCHERY             | 1980 |
| MAHER, D.                         | SEE HOLT, R.   | 1979 |
| MAHNKEN, CONNIE                   | A PAPER ON ACCELERATED COHO BUT DID NOT PROVIDE<br>AN ABSTRACT   | 1979 |
| MAHNKEN, CONRAD V.W.              | THE SIZE OF COHO SALMON AND TIME OF ENTRY INTO<br>SEA WATER: PART 1 EFFECTS ON GROWTH AND CONDITION<br>INDEX                   | 1973 |
|                                   | SEE SPINELLI, JOHN   | 1975 |
|                                   | SEE SPINELLI, JOHN   | 1976 |

AUTHOR INDEX

|   |  |      |
|---|--|------|
| MAHNKEN, CONRAD &<br>JOHN SPINELLI          | EFFECTS ON GROWTH OF SALMONIDS FED DIETS<br>CONTAINING SINGLE-CELL PROTEIN DERIVED<br>FROM YEAST AND BACTERIA                    | 1976 |
| MANFIELD, EUGENE T.                         | SURVEY OF BACTERIAL KIDNEY DISEASE IN THE<br>QUILLAYUTE RIVER SYSTEM   | 1979 |
|   | SURVEY OF KIDNEY DISEASE BACTERIA IN THE<br>QUILLAYUTE RIVER SYSTEM  | 1980 |
| MARLIAVE, JEFFREY B.                        | A TIDAL PLANKTON ACCUMULATOR FOR IN-SITU<br>REARING OF PINK AND CHUM FRY   | 1980 |
| MASTIN, HENRY E.                            | FACTORS INFLUENCING ABNORMAL EARLY MATURITY<br>OF FEMALE SILVER SALMON OF HATCHERY ORIGIN  | 1955 |
| MATTSON, CHESTER R.                         | DEVELOPMENT OF GROUND WATER FOR SALMON<br>ENHANCEMENT CHANNELS   | 1979 |
| MAYO, RONALD D.                             | HATCHERY WATER REQUIREMENTS BASED ON SALMONID<br>OXYGEN DEMAND   | 1970 |
|   | A PROGRAM FOR THE STUDY OF FISH HATCHERY<br>WATER TREATMENT SYSTEMS AT THE BOZEMAN FISH<br>CULTURE DEVELOPMENT CENTER IN MONTANA | 1971 |
| MCBRIDE, J.R.                               | SEE FAGERLUND, U.H.M.  | 1974 |
| MCCAIN, B.                                  | CHARACTERIZATION OF FIVE FISH CELL LINES   | 1965 |
| MCCALLUM, IAN &<br>DAVE HIGGS<br>BRUCE OWEN | CHINOOK SALMON DIETS BASED ON PRESCRIBED<br>PERFORMANCE AND BODY COMPOSITION   | 1980 |
| MCCLARY, DENNY                              | DEVELOPMENT AND USE OF AN EGG COUNTER  | 1967 |
| MCCORMICK, J. HOWARD                        | SEX RATIO CONTROL IN HATCHERY-REARED RUNS OF<br>CHINOOK SALMON ( <i>O. tshawytscha</i> )   | 1962 |
|   | PERCENTAGE OF SMALL BLOOD CELLS AS AN INDEX<br>TO QUALITY IN FALL CHINOOK FINGERLINGS  | 1963 |
|   | SEX-RATIO CONTROL IN HATCHERY-PROPAGATED RUNS<br>OF CHINOOK SALMON (PROGRESS REPORT)   | 1963 |
| MCDANIEL, DAVID W.                          | HATCHERY WASTE WATER TREATMENT AS VIEWED BY THE<br>BUREAU OF SPORT FISHERIES AND WILDLIFE  | 1973 |
| MCELRATH, ROBERT J.                         | TESTS OF DRY FEEDS FOR FALL CHINOOK SALMON AT THE<br>CARSON NATIONAL FISH HATCHERY   | 1959 |
|   | TESTS OF DRY FEEDS FOR SPRING CHINOOK SALMON AT<br>THE CARSON NATIONAL FISH HATCHERY   | 1959 |
| MCELWAIN, IVAN B.                           | THE NEW WATER AERATION SYSTEM AT MESCALERO<br>NATIONAL FISH HATCHERY   | 1969 |

AUTHOR INDEX

|   |   |      |
|---|---|------|
| McINTYRE, JOHN D. &<br>A. KENNETH JOHNSON | PRELIMINARY RESULTS OF SELECTIVE BREEDING TO INCREASE THE YIELD OF COHO SALMON PRODUCED AT BIG CREEK HATCHERY | 1974 |
|   | RELATIVE SURVIVAL OF TWO TRANSFERRING PHENOTYPES IN BIG CREEK COHO SALMON: A PRELIMINARY REPORT               | 1976 |
|   | SELECTION TO INCREASE YIELD OF BIG CREEK COHO SALMON  | 1977 |
|   | PROGRESS OF COHO SALMON GENETIC STUDIES AT BIG CREEK  | 1973 |
| McKEE, THOMAS B.                          | FIRST FEEDING EXPERIMENT, SEPTEMBER 15, 1949 -- MARCH 27, 1950  | 1950 |
|   | SECOND FEEDING EXPERIMENT, AUGUST 1, 1950 -- FEBRUARY 27, 1951  | 1950 |
|   | 1951 FEEDING EXPERIMENT   | 1951 |
|   | SANDY TANK TYPE EXPERIMENTAL DIET PROGRAM A PROGRESS REPORT, 1955   | 1955 |
|   | MALACHITE GREEN EQUIPMENT   | 1957 |
|   | RANCID DIET STUDIES   | 1959 |
|   | TRIALS WITH CRUMBLER OREGON PELLETS AND A PROGRESS REPORT OF OTHER 1962 NUTRITION STUDIES                     | 1962 |
|   | OREGON PELLETS AS A STARTER DIET FOR SALMON AND STEELHEAD   | 1964 |
|   | MODIFICATIONS OF THE OREGON STARTER MASH  | 1967 |
|   | SEE CRAWFORD, <u>ET.AL.</u>   | 1969 |
|   | SEE CRAWFORD, D.L.  | 1973 |
|   | SEE WESTGATE, JOHN  | 1974 |
| McKERNAN, DONALD L.                       | 1950 OREGON FISH COMMISSION NUTRITION RESEARCH PROGRESS REPORT  | 1950 |
|   | NUTRITIONAL DISEASES  | 1951 |
| McLEAN, W.E. &<br>A. BOREHAM              | AERATION OF HATCHERY WATER SUPPLIES   | 1980 |
| McLAIN, L.R.                              | SEE ZAUGG, W.S.   | 1973 |
| McNAIL, JOHN                              | PROGRAMMING FISH GROWTH   | 1977 |

AUTHOR INDEX

|                      |   |      |
|----------------------|---|------|
| MCNEIL, WILLIAM J.   | STATUS OF SIMULATED HATCHERIES FOR PINK AND CHUM SALMON   | 1970 |
|                      | ZERO-AGE COHO -- AN UPDATE FROM OREAQUA   | 1979 |
| MCPHERSON, BERRY     | EFFECTS OF METHYLMERCURY EXPLOSURE ON SEA WATER ADAPTATION OF JUVENILE COHO AND STEELHEAD           | 1972 |
| MEAD, ROBERT DR.     | A VIRAL EPIZOOTIC AT CULTUS LAKE  | 1967 |
|                      | SEE SERVIZI, <u>ET.AL.</u>  | 1968 |
| MEERBURG, D.J.       | SEE DAVIS, J.P.   | 1978 |
| MILLENBACH, CLIFFORD | NUTRITIONAL PROBLEMS  | 1951 |
|                      | WASHINGTON STATE GAME DEPARTMENT - FEEDING PROGRAM  | 1952 |
|                      | RETENTION OF BROOD STOCK IN BLUE LAKE   | 1954 |
|                      | DRY FEED FOR TROUT  | 1957 |
| MILLS, DWAIN E.      | EVALUATION OF HERRING, SALMON, AND HAKE AS WET INGREDIENTS FOR OREGON PELLETS                       | 1965 |
|                      | DEVELOPMENT OF THE OREGON STARTER MASH  | 1966 |
|                      | TESTING OF VEGETABLE AND FISH OILS AND PASTEURIZED HAKE AS OREGON PELLET INGREDIENTS                | 1968 |
|                      | SEE CRAWFORD, <u>ET.AL.</u>   | 1969 |
|                      | PRODUCTION RESULTS WITH IMPROVED OREGON STARTER MASH AND PELLETS                                    | 1970 |
|                      | PRODUCTION TRIAL OF ABERNATHY DRY DIET FOR COHO   | 1971 |
|                      | PRODUCTION TEST OF ANCHOVY, MENHADEN AND TUNA OILS IN OREGON MOIST PELLET                           | 1979 |
| MISSELDINE, MARK     | SEE CUPLIN  | 1970 |
| MIYAUCHI, DAVE       | SUMMARY OF THE SALMON WASTE COLLECTION REPORT   | 1951 |
| MONTGOMERY, MONTY    | HEMATOLOGY EXPERIMENT   | 1959 |
| MOORE, KEITH D.      | A COMPARISON BETWEEN THE USE OF PLASTIC HATCHING JARS AND STANDARD TROUGHS FOR INCUBATING COHO EGGS | 1964 |
|                      | A LARGE VOLUME MALACHITE GREEN DISPENSER  | 1966 |
|                      | SEE LEITH   | 1967 |

AUTHOR INDEX

|                              |  |      |
|------------------------------|--|------|
| MORGAN, REGINALD E.          | MERCURIALS IN THE HATCHERY: SOME FACTORS INFLUENCING THE TOXICITY OF TIMSAN (ETHYL MERCURY PHOSPHATE) TO RAINBOW TROUT | 1966 |
|                              | DIQUAT FOR TREATMENT OF COLUMNARIS IN COHO SALMON  | 1967 |
| MORNING, JOHN R.             | CHINOOK SALMON MARICULTURE STUDIES IN PUGET SOUND  | 1972 |
|                              | MOVEMENTS AND ANGLER CATCHES OF TWO STRAINS OF HATCHERY-REARED RAINBOW TROUT IN A SMALL OREGON STREAM                  | 1975 |
| MORTON, K.E.                 | AN ATTEMPT TO CONTROL GROWTH THROUGH THE ALTERNATE FEEDING AND STARVATION OF FISH                                      | 1955 |
|                              | FACTORS INFLUENCING THE EFFICIENT OPERATION OF THE MORTON FISH GRADER  | 1955 |
|                              | THE DEVELOPMENT OF A GOLDEN TROUT BROOD STOCK IN OREGON  | 1957 |
|                              | NOTES ON IMPROVEMENTS FOR THE MORTON FISH GRADER   | 1957 |
|                              | NOTES ON EGG PRODUCTION FROM SECOND GENERATION ATLANTIC SALMON   | 1959 |
|                              | KAMLOOPS RAINBOW FRY FEEDING TEST USING ONE HUNDRED PER CENT PELLETTED FOODS   | 1959 |
|                              | EXPERIMENTAL HEATING OF POND WATER TO START RAINBOW FRY ON A DRY DIET  | 1960 |
|                              | NOTES ON WIZARD FALLS HATCHERY OPERATIONS  | 1961 |
|                              | A PRELIMINARY REPORT ON A NEW MULTIPURPOSE FISH MOVING MACHINE   | 1963 |
|                              | MORTONS MONSTER IN ACTION  | 1968 |
| MORTON, K.E. & R.L. HILL     | OBSERVATIONS AND SPECULATIONS ON FIN EROSION   | 1973 |
| MORTON, WILLIAM M.           | WHEN IS A SALMON A TROUT OR A CHARR OR VICE VERSE ?  | 1966 |
| MULCAHY, D.M.                | SEE SANDERS, J.E.  | 1973 |
| MULCAHY, D.M. & J.E. SANDERS | DISTRIBUTION OF FISH VIRUSES IN OREGON   | 1975 |
| MUMAW, LAURA M.              | SEE BRUIN, W.J.  | 1979 |
|                              | SEE BRUIN, W.J.  | 1980 |
| MUSGROVE, DONALD A.          | SEE BUZZELL, LARRY   | 1974 |

AUTHOR INDEX

|   |  |      |
|---|--|------|
| NAGGIAR, MORRIE   | 'FOLLOW THE FISH' A SELF-GUIDED TOUR<br>OF THE BONNEVILLE HATCHERY   | 1966 |
| NEALEIGH, GEORGE<br>(BILL)  | MALICHITE GREEN TREATMENT FOR HEATH INCUBATORS   | 1970 |
| NELSON, DON   | RESUME ON THE REPORT 'COMMERCIAL TROUT HATCHERIES<br>OF SOUTHERN IDAHO'  | 1973 |
| NELSON, J.S.<br>DR. J.L. FRYER<br>R.L. GARRISON   | ORAL IMMUNIZATION OF SALMONID FISH FOR CONTROL<br>OF VIBRIOSIS   | 1969 |
| NEWMAN, H. WILLIAM  | SUMMARY OF FEEDING TRIALS  | 1952 |
| NIELSEN, JAMES R.   | RAISING CATFISH IN OREGON FARM PONDS   | 1970 |
| NIGHTINGALE, JOHN W.  | NITROGEN METABOLISM AND FEEDING IN DONALDSON<br>STRAIN RAINBOW TROUT   | 1973 |
|   | SEE BRUIN, W.J.  | 1979 |
|   | SEE BRUIN, W.J.  | 1980 |
| NOBLE, RICHARD E.   | ADVANCES IN DRY SALMON FEED  | 1967 |
|   | SELECTED LIBERATION SITES AS AN AID TO INCREASED<br>SALMON PRODUCTION  | 1968 |
|   | USE OF HYBRIDIZATION AS A MEANS OF ENHANCEING<br>SALMON PRODUCTION   | 1970 |
|   | HYBRIDIZATION AND ITS ROLE IN FISH CULTURE   | 1971 |
|   | DOWNSTREAM MIGRATION OF SILVER SALMON--TIMING,<br>AGE, SIZE, JACK SILVERS - GROWTH OR INHERITANCE  | 1958 |
|   | RESULTS OF FEEDING COMMERCIALY PREPARED DRY<br>FEEDS TO SILVER SALMON  | 1959 |
|   | PROGRESS REPORT  | 1964 |
|   | PRELIMINARY RESULTS OF HYBRIDIZING COASTAL AND<br>PUGET SOUND STOCKS OF FALL CHINOOK   | 1965 |
| NOBLE, R.E. &<br>TOM DAMRON<br>STEVE FALLERT  | THE VIABILITY OF SILVER SALMON OVA AND SPERM<br>AFTER HOLDING THE KILLED ADULTS FOR VARYING<br>PERIODS OF TIME AS DETERMINED BY HATCHING SUCCESS | 1961 |
| PANEL:<br>NOBLE, R.E. &<br>ERNEST R. JEFFRIES<br>JOHN PARVIN<br>ROGER E. BURROWS<br>MARVIN A. SMITH | FEEDING OF SPRING CHINOOK SALMON AND ASSOCIATED<br>PROBLEMS  | 1961 |

AUTHOR INDEX

|   |   |      |
|---|---|------|
| NORMAN, FRED                                  | VOLUNTEER HELP AS A MEANS TO AN END   | 1981 |
| NOSHO, TERRY &<br>ERNIE BRANNON<br>ERNIE SALO | SUMMARY OF UNIVERSITY OF WASHINGTON AQUACULTURE<br>WORKSHOP                                       | 1973 |
| NOVOTNY, ANTHONY J.                           | PROGRESS AND PROBLEMS IN THE MARINE CULTURE<br>OF PACIFIC SALMON                                  | 1972 |
|   | THE SIZE OF COHO SALMON AND TIME OF ENTRY INTO<br>SEA WATER: PART 2 EFFECTS OF VIBRIO VACCINATION | 1973 |
|   | SEE HARACHE, Y.   | 1975 |
|   | SEE HARACHE, Y.   | 1975 |
| OIHAYSEN, STEVEN K.                           | COORDINATION OF CODED-WIRE TAGGING ACTIVITIES AT<br>FEDERAL HATCHERIES IN THE COLUMBIA BASIN      | 1979 |
| OLSON, P.A.                                   | TEMPERATURES AND COLUMBIA RIVER CHINOOK SALMON EGGS   | 1958 |
| OLSON, PAUL R.                                | RELATIONSHIP OF FOOD SUPPLY TO FISH PRODUCTION<br>AT FERN LAKE                                    | 1967 |
| OLSON, WAYNE H. &<br>JOE C. LIENTZ            | DWORSHAK NATIONAL FISH HATCHERY PROGRESS REPORT   | 1976 |
| OLSON, WAYNE H. &<br>TERENCE BRADLEY          | THE ROLE OF MINERAL ENRICHMENT IN STEELHEAD<br>PRODUCTION   | 1980 |
| OSHIMA, K.                                    | SEE JOHNSON <u>ET. AL.</u>  | 1967 |
| OVERHOLSER, DONALD                            | ORAL IMMUNIZATION OF JUVENILE COHO SALMON   | 1966 |
| OWEN, BRUCE                                   | SEE MCCALLUM, IAN   | 1980 |
| OWEN, T.G.                                    | NEW DEVELOPMENTS IN THE PRODUCTION AND USE OF SALMON<br>PITUITARY EXTRACTS FOR INDUCED SPAWNING   | 1979 |
| OWSLEY, DAVID E.                              | NITROGEN GAS REMOVAL USING PACKED COLUMNS   | 1978 |
|   | 'FLUDIZED BEDS' -- THE LATEST TECHNOLOGY IN REUSE<br>SYSTEMS                                      | 1981 |
| PADGETT, GEORGE A.                            | FREEZE AND LASER MARKING  | 1970 |
| PARENTE, BILL                                 | 'ZAP!' A PRACTICAL APPLICATION OF THE LASER<br>FOR MARKING FISH                                   | 1972 |
| PARISOT, THOMAS J.                            | CHEMOTHERAPY OF ACID-FAST ORGANISMS OF FISH   | 1957 |
|   | ACID-FAST BACILLUS DISEASE OF FISH, A REVIEW  | 1957 |
|   | INFECTIOUS PANCREATIC NECROSIS IN THE WEST  | 1962 |

AUTHOR INDEX

|                     |  |      |
|---------------------|--|------|
| PARVIN, JOHN R.     | A POSSIBLE DIET PROBLEM AT THE EAGLE CREEK FISH CULTURAL STATION                         | 1957 |
|                     | DRY FEED EXPERIMENTS AT EAGLE CREEK STATION  | 1958 |
|                     | TIME STUDIES TO EVALUATE PELLET FEEDING AS COMPARED TO WET FEEDING                       | 1959 |
|                     | HATCHERY TESTING OF A COMMERCIAL DRY FEED TO SPRING CHINOOK SALMON                       | 1959 |
|                     | HATCHERY TESTING OF COMMERCIAL DRY FEED TO SILVER SALMON                                 | 1959 |
|                     | 1600 DIET TESTS ON SILVER SALMON AT THE EAGLE CREEK NATIONAL FISH HATCHERY               | 1960 |
|                     | SEE PANEL: NOBLE <u>ET.AL.</u>   | 1961 |
|                     | A DESCRIPTION OF THE DWORSKAH NATIONAL FISH HATCHERY                                     | 1969 |
|                     | COST ANALYSIS OF REARING FIRST EGG COLLECTION IN REUSE SYSTEMS VERSUS RAW WATER          | 1971 |
|                     | PROGRESS REPORT ON DWORSHAK NATIONAL FISH HATCHERY                                       | 1973 |
| PARNISH, EVAN       | RAPID RIVER HATCHERY--PROGRESS REPORT  | 1976 |
| PELNAR, JOHN        | CHINOOK SALMON PELLET FEEDING  | 1958 |
|                     | DRY FEEDING OF CHINOOK SALMON  | 1959 |
|                     | FACILITIES USED IN VIRUS DISEASE STUDY AT THE COLEMAN NATIONAL FISH HATCHERY             | 1960 |
|                     | PROGRESS REPORT ON THE COLEMAN VIRUS PROBLEM   | 1961 |
|                     | PROGRESS REPORT -- THE COLEMAN VIRUS PROBLEM   | 1962 |
|                     | PROGRESS REPORT ON THE COLEMAN VIRUS PROBLEM AND FROZEN PELLET FISH FEEDER               | 1963 |
|                     | PROGRESS REPORT, COLEMAN VIRUS DISEASE AND AUTOMATIC FISH FEEDER                         | 1964 |
|                     |  |      |
| PERRY, L. EDWARD    | ARTIFICIAL PROPAGATION IN THE COLUMBIA BASIN   | 1976 |
| PERRY, TED          | HATCHERY EVALUATION IN BRITISH COLUMBIA  | 1979 |
|                     | CATARACTS IN B.C. CHINOOK AND COHO: COSTS AND CURES                                      | 1981 |
| PHILLIPS, ROBERT W. | THE INFLUENCE OF GRAVEL SIZE ON SURVIVAL TO EMERGENCE OF COHO SALMON AND STEELHEAD TROUT | 1964 |



AUTHOR INDEX

|  |  |      |
|--|--|------|
| PIGOTT, GEORGE M.  | PROGRESS REPORT: CONTAINERS FOR SHIPPING OF<br>PRESERVED ALASKA SALMON WASTE   | 1950 |
|  | SEE HALVER, J.E.   | 1959 |
|  | SEE VILLALON, J.R.   | 1981 |
| PIGOTT, ROY K.   | THE ELWHA CHANNEL  | 1975 |
| PILCHER, K.S.  | SEE AMEND <u>ET.AL.</u>  | 1962 |
|  | SEE FRYER <u>ET.AL.</u>  | 1962 |
| PIPER, ROBERT G.   | AN APPROACH TO ESTABLISHING A LOADING<br>CAPACITY FORMULA FOR TROUT HATCHERIES   | 1967 |
|  | METHOD OF CALCULATING CARRYING CAPACITIES<br>IN FISH   | 1971 |
| POON, DEREK C.   | THE EFFECT OF DELAYED FERTILIZATION ON<br>TRANSPORTED SALMON EGGS  | 1969 |
|  | GRAVEL INCUBATION HATCHERIES FOR PINK<br>AND CHUM SALMON   | 1971 |
| PORTER, T.R.   | SEE DAVIS, J.P.  | 1978 |
| PRESSEY, RICHARD T.  | REVIEW OF FISH FARMING IN WASHINGTON STATE   | 1958 |
|  | THE INFLUENCE OF STOCK SELECTION OF COHO ON<br>TIME OF ARRIVAL AT COLUMBIA RIVER HATCHERIES                                    | 1968 |
| PRIBBLE, HOWARD J. &<br>MICHAEL D. EVENSON<br>JAMES A. LICHATOWICH | PRESURE SPRAY MARKING OF FISH WITH GRANULAR DYES   | 1975 |
| PRIBBLE, JIM   | SEE EVENSON, MIKE  | 1974 |
| PROUZET, P.  | SEE HACHE, Y.  | 1977 |
| PUTMAN, GEORGE B.  | THE USE OF PREFORMED PLASTIC CONTAINERS AS REARING<br>CAGES FOR SMALL LOTS OF FISH   | 1972 |
|  | ASCORBIC ACID DESTRUCTION IN MOIST DIETS   | 1976 |
|  | THE USE OF DRIED SLUDGE FROM THE SECONDARY<br>TREATMENT OF POTATOE PROCESSING WASTES AS A<br>FEED INGREDIENT FOR RAINBOW TROUT | 1977 |
| PUTMAN, GEORGE B. &<br>JERRY D. HENDRICKS                          | SOME OBSERVATIONS ON THE USE OF FISH PROTEIN<br>CONCENTRATE IN EXPERIMENTAL TROUT DIETS  | 1975 |
| QUEIROLO, LEWIS E. &<br>RICHARD S. JOHNSTON                        | A PRELIMINARY MARKET ANALYSIS OF DOMESTICALLY<br>PRODUCED RAINBOW TROUT  | 1976 |

AUTHOR INDEX

|                                 |  |      |
|---------------------------------|--|------|
| QUIDOR, CHARLES R.              | CONSTRUCTION AND OPERATION OF RAPID RIVER HATCHERY   | 1964 |
|                                 | NIAGARA SPRINGS HATCHERY   | 1967 |
| RASCH, TONY J.                  | SOME USES OF HATCH, A HATCHERY SIMULATION MODEL  | 1974 |
| RATLIFF, DON E.                 | A DIFFERENCE IN RESISTANCE OF DESCHUTES RIVER STOCK SPRING CHINOOK TO ( <i>Ceratomyxa shasta</i> ) BY EXPOSURE PERIOD        | 1973 |
|                                 | 1974 ( <i>Ceratomyxa shasta</i> ) STUDIES AT THE PELTON PROJECT DESHUTES RIVER OREGON  | 1974 |
|                                 | DISTRIBUTION OF THE INFECTIVE AGENT FOR ( <i>Ceratomyxa shasta</i> ) AT THE PELTON PROJECT, DESCHUTES RIVER OREGON           | 1977 |
|                                 | <i>Ceratomyxa shasta</i> , A MAJOR KILLER OF COLUMBIA RIVER SALMON   | 1979 |
|                                 | SEE HILL, RAYMOND  | 1980 |
|                                 | <i>Ceratomyxa shasta</i> : INITIAL TIMEING, LONGEVITY, AND ABUNDANCE OF THE INFECTIVE STA E IN THE DESCHUTES RIVER OF OREGON | 1980 |
| RATTRAY, ROBERT A.              | SEE ROMEY, DANIEL B.   | 1974 |
| RAYMOND, JAMES A.               | RESULTS OF A TEST OF A RECIRCULATING SALMON INCUBATOR FOR ALASKAN VILLAGES WITH LIMITED WATER SUPPLIES                       | 1981 |
| RAYNER, JOHN                    | 1950 OREGON GAME COMMISSION NUTRITION PROGRESS REPORT  | 1959 |
|                                 | FISH GRADER (AND MOVIE)  | 1954 |
|                                 | SALMON PROPAGATION COST IN TERMS OF CATCH OF ADULT FISH OF HATCHERY ORIGIN   | 1958 |
|                                 | THE ATLANTIC SALMON IN OREGON  | 1965 |
| RAYNER, JOHN &<br>RICHARD GIGER | THE CATCH AND MIGRATION OF HATCHERY COASTAL CUTTHROAT TROUT IN OREGON RIVERS   | 1966 |
| REID, DAVID A.                  | WASTE HEAT UTILIZATION IN FISH CULTURE FACILITIES  | 1980 |
| REIMERS, PAUL E.                | THE FALL CHINOOK PROGRAM AT ELK RIVER HATCHERY   | 1974 |
|                                 | MEASURING LONG-TERM CHANGES IN THE FALL CHINOOK POPULATION IN ELK RIVER  | 1977 |
|                                 | SURVIVAL AND CONTRIBUTION OF FALL CHINOOK SALMON FROM ELK RIVER HATCHERY   | 1979 |

AUTHOR INDEX

|                               |   |      |
|-------------------------------|---|------|
| REISENBICHLER,<br>REGINALD R. | POTENTIAL IMPACT OF ARTIFICIAL PROPAGATIONS OF<br>ANADROMOUS SALMONIDS ON WILD POPULATIONS                      | 1976 |
| RICHARDSON, THOMAS            | THE TEHAMA-COLUSA SALMON SPAWNING CHANNELS,<br>'A SUMMARY OF THE FIRST FOUR AND ONE-HALF YEARS<br>OF OPERATION' | 1975 |
| RIDENHOUR, RICHARD L.         | OPERATION OF THE HUMBOLDT STATE COLLEGE<br>RECIRCULATING FISH HATCHERY: 1957-1963                               | 1963 |
| RODGEWAY, GEORGE              | SEE WEBER   | 1962 |
|                               | SEE WEBER   | 1963 |
| RILE, KATHY &<br>BRIAN ALLEE  | USE OF 'BIO POND SLUDGE' AS A FEED INGREDIENT<br>FOR PEN-REARED COHO SALMON                                     | 1973 |
| ROBERTS, STEVEN               | RENEWED INVESTIGATION INTO THE PREVENTION OF<br>FURUNCULOSIS  | 1979 |
| ROGERS, BOB                   | FREESTYLE INCUBATORS FOR EYEING EGGS: FALL 1981   | 1981 |
| ROHOVEC, JOHN S.              | PROGRESS IN ORAL IMMUNITY FOR <i>Vibrio anguillarum</i>   | 1971 |
| ROHOVEC, J.S. &<br>J.L. FRYER | ORAL AND PARENTERAL IMMUNIZATION OF FISH FOR<br>THE CONTROL OF VIBRIOSIS  | 1974 |
| ROLEY, DENNIS D.              | SELECTIVE BREEDING OF COHO SALMON AT EAGLE<br>CREEK NATIONAL FISH HATCHERY                                      | 1973 |
|                               | FEEDING OF HATCHERY-REARED COHO SALMON ALEVINS  | 1974 |
|                               | QUANTITATIVE PROTEIN REQUIREMENTS OF THE<br>UNIVERSITY OF WASHINGTON RAINBOW TROUT BROOD STOCK                  | 1975 |
|                               | CATARACTS IN WASHINGTON STATE   | 1981 |
| ROLEY, SHEILA EAGAN           | THE EFFECTS OF PARENTAL AGE-CROSS ON THE<br>CONTRIBUTION OF CHINOOK SALMON TO THE<br>WASHINGTON FISHERY         | 1975 |
| ROMEY, DANIEL B.              | THE USE OF BACTROVET (SULFADIMETHOXONE) FOR<br>CONTROL OF FURUNCULOSIS ON ADULT SALMON                          | 1963 |
|                               | TREATMENT OF SALMON AND STEELHEAD WITH<br>SULFONIMIDES  | 1964 |
|                               | THE USE OF SULFONAMIDES AND ANTIBIOTICS ON<br>TWO DISEASES OF ADULT SALMON                                      | 1966 |
|                               | SPRING CHINOOK ENERGY STORES STUDY  | 1968 |
|                               | ANNETTE ISLAND HATCHERY 'OPERATION BROODSTRAP'  | 1979 |

AUTHOR INDEX

|                                      |   |      |
|--------------------------------------|---|------|
| ROMEY, DAN &<br>ORVILLE DAHRENS      | SOME COMPARISONS OF NATURAL AND ARTIFICALLY<br>REARED JUVENILE SPRING CHINOOK SALMON                    | 1970 |
| ROMEY, DAN B. &<br>ROBERT A. RATTRAY | CRYSAL LAKE: ALASKA'S NEW WATER REUSE<br>FISH HATCHERY  | 1974 |
| ROSE, JOE H.                         | OCEAN CATCH DISTRIBUTION OF FALL CHINOOK<br>AND COHO SALMON PRODUCED IN COLUMBIA RIVER HATCHERIES       | 1970 |
| ROSENTRTER, NANCY M.                 | WINTER STEELHEAD TROUT BROODSTOCK STRATEGIES IN<br>OREGON   | 1980 |
| ROSS, A.J.                           | IDENTIFICATION OF ACID-FAST ORGANISMS ISOLATED<br>FROM FISH   | 1957 |
| ROYAL, DR. LOYD A.                   | POTENTIALLY HARMFUL HATCHERY PRACTICES  | 1972 |
| RUCKER, ROBERT R.                    | WOLF'S AND McLAREN'S 'SYNTHETIC' OR TEST DIETS  | 1951 |
|                                      | SUMMARIZING CONTENTS OF A PAPER TITLED, 'A<br>CONTAGIOUS DISEASE OF SALMON POSSIBLY OF<br>VIRUS ORIGIN' | 1952 |
|                                      | 'LIGNASAN' FOR BACTERIAL GILL DISEASE   | 1955 |
|                                      | DISEASE CONTROL STUDIES   | 1956 |
|                                      | ICHTHYOSPORIDIUM INFECTIONS IN FISH   | 1957 |
|                                      | RED MOUTH   | 1958 |
|                                      | IMPACTED OVA OF CHINOOK SALMON  | 1959 |
|                                      | NOTES FROM 'COAGULATED YOLK CONFERENCE'   | 1961 |
|                                      | FORMALIN IN THE HATCHERY  | 1962 |
|                                      | FISH DIAGNOSTICS LABORATORY   | 1964 |
|                                      | THE USE OF DRUGS IN FISH CULTURE  | 1965 |
|                                      | GROUND WATER TOXIC TO FISH  | 1967 |
|                                      | GAS BUBBLE DISEASE STUDIES OF FISH  | 1970 |
| SAALFELD, ROBERT W.                  | RETURNS FROM HATCHERY-REARED FALL CHINOOK<br>RELEASES INTO DESCHUTES RIVER                              | 1965 |
| SADDLER, J.B.                        | FATTY ACID VARIATION WITH DIET IN COHO<br>SALMON ( <i>Oncorhynchus kisutch</i> ) (WALBAUM)              | 1965 |
| SADDLER, JAMES B. &<br>K.V. KOSKI    | QUALITY OF CHUM SALMON FRY AS REFLECTED<br>BY THEIR LIPID COMPOSITION DURING EARLY<br>DEVELOPMENT STAGE | 1969 |

AUTHOR INDEX

|  |   |      |
|--|---|------|
| SADDLER, JAMES B.<br>K.V. KOSKI                | COMPARATIVE LIPID AND FATTY ACID FEATURES<br>OF PELLET DIETS CURRENTLY USED IN FISHERIES                                    | 1970 |
| SALO, ERNEST O.                                | MINTER CREEK BIOLOGICAL STATION, WASHINGTON<br>DEPARTMENT OF FISHERIES  | 1952 |
|  | RETURNS FROM PLANTS OF LARGE VS. SMALL FISH   | 1954 |
|  | AN ANALYSIS OF RETURNS TO SOOS CREEK HATCHERY 1964  | 1965 |
|  | CHINOOK SALMON PEN-REARING PROJECT IN<br>PUGET SOUND  | 1971 |
|  | SEE NOSHO, TERRY  | 1973 |
|  | SEE WHITMUS, CLIFFORD J.  | 1977 |
|  | SEE KOSKI   | 1971 |
| SALO, E.O. &<br>K.V. KOSKI                     | THE UNIVERSITY OF WASHINGTON SPAWNING CHANNEL<br>AT BIG BEEF CREEK  | 1967 |
| SALO, E.O. &<br>R.R. ABBOTT                    | REARING OF CHINOOK SALMON AT MANCHESTER   | 1970 |
| SAMS, ROY                                      | REARING OF COHO AND FALL CHINOOK SALMON IN<br>WAHKEENA PONDS  | 1967 |
|  | TRANSPLANTATION OF ADULT COHO SALMON  | 1967 |
| SANDERCOCK, F.K. &<br>E.T. STONE               | THE EFFECTS OF REARING DENSITY ON SUBSEQUENT<br>SURVIVAL OF CAPILANO COHO   | 1979 |
| SANDERS, JIM E.                                | SEE GOULD <u>ET.AL.</u>   | 1969 |
|  | THE EFFECTS OF TEMPERATURE ON THE PROCESS OF<br>BACTERIAL KIDNEY DISEASE IN EXPERIMENTALLY<br>INFECTED JUVENILE COHO SALMON | 1972 |
|  | SEE HOLT, R.A.  | 1973 |
|  | SEE MULCAHY, D.   | 1975 |
|  | EFFECT OF SALT WATER ON BACTERIAL KIDNEY DISEASE<br>IN YEARLING COHO SALMON   | 1979 |
| SANDERS, J.E. &<br>J.L. FRYER                  | OCCURRENCE OF THE PROTOZOAN PARASITE ( <i>Ceratomyxa</i><br><i>shasta</i> ) AMONG SALMONID FISHES IN OREGON WATERS          | 1967 |
| SANDERS, J.E. &<br>G.C. TEBBIT<br>D.M. MULCAHY | INFECTIOUS PANCREATIC NECROSIS VIRUS IN TROUT<br>FROM CENTRAL OREGON  | 1973 |

AUTHOR INDEX

|                               |   |      |
|-------------------------------|---|------|
| SATIA, BENEDICT<br>PHILLIPS   | QUANTITATIVE PROTEIN REQUIREMENTS OF RAINBOW TROUT  | 1972 |
|                               | GROWTH RATE, FEED EFFICIENCY, AND REPRODUCTION<br>RESPONSES OF RAINBOW TROUT (DONALDSON STRAIN)<br>FEED MOIST AND DRY DIETS                                     | 1973 |
|                               | ATTEMPTS AT LOWERING FEED COSTS WITH OUT<br>LOWERING FEED QUALITY   | 1974 |
| SCHAEFFER, DREW               | SEE KLONTZ, G.W. (BILL)   | 1981 |
| SCHAEFFER, LESLIE             | SEE KLONTZ, G.W. (BILL)   | 1981 |
| SCHIEWE, MICHAEL H.           | SEE HARRELL, LEE W.   | 1974 |
| SCHNEIDER, PHILLIP,<br>W. JR. | CADMIUM TOXICITY  | 1970 |
|                               | SEE BOUCK, GERALD R.  | 1975 |
| SCHOENAMAN, DALE E.           | THE PHYSICAL AND CULTURAL ASPECTS OF THE<br>TEHAMA-COLUSA FISH FACILITIES   | 1969 |
|                               | PROGRESS ON THE TEHAMA-COLUSA FISH FACILITIES   | 1971 |
| SCHRODER, S.L.                | PEN REARING OF DR. DONALDSONS RAINBOW STEELHEAD<br>CROSSES AT BIG BEEF CREEK  | 1970 |
| SCHULTZ, ROLAND R.            | USE OF SIMAZINE AND ATRAZINE FOR CONTROL OF<br>PONDWEEDS AND FILAMENTOUS ALGAE  | 1964 |
| SCHURMAN, GERALD              | A NEW APPROACH TO FISH IDENTIFICATION -- THE<br>CODED WIRE TAGGING TRAILER  | 1972 |
| SCHWAB, R.L.                  | SEE COATES  | 1955 |
| SCORDELIS, PHILIP             | PRELIMINARY RESULTS ON THE CONTROL OF FUNGUS ON FISH<br>EGGS WITH A NEW ANTI- FUNGAL CHEMOTHERAPEUTIC   | 1977 |
| SCOTT, CLYDE A.               | THE UNITED STATES DEPARTMENT OF AGRICULTURE ROLE<br>IN AQUACULTURE  | 1977 |
| SEEB, JIM                     | SEE WISHARD, LISA   | 1977 |
| SEIDEL, PAUL R.               | EARLY LIFE HISTORY STUDY OF THREE WASHINGTON<br>DEPARTMENT OF FISHERIES COHO SALMON ( <i>Oncorhynchus<br/>kisutch</i> ) POPULATIONS BY INTERACIAL HYBRIDIZATION | 1975 |
| SENN, HARRY G.                | A PROGRESS REPORT ON THE RESULTS OF RELEASING<br>MIGRANT SIZE ZERO AGE COHO   | 1964 |
|                               | THE EFFECTS TO OVUM FROM EXTREME ROUGH<br>HANDLING OF ADULT COHO  | 1965 |
|                               | THE EVALUATION OF COHO AT 10 PUGET SOUND HATCHERIES   | 1968 |

AUTHOR INDEX

|  |   |      |
|--|---|------|
| SENN, HARRY G.<br>CON'T                              | POND TRAYS FOR INCUBATING SALMON EGGS   | 1970 |
|  | SUMMARY OF COHO CONTRIBUTIONS FROM PUGET<br>SOUND AND WASHINGTON COASTAL HATCHERIES                                 | 1971 |
|  | CHUM CULTURE IN JAPAN   | 1974 |
| SERVIZI, JAMES A. DR.<br>DR. R. MEAD<br>DONALD AMEND | USE OF TEMPERATURE TO CONTROL A SALMONID VIRUS<br>DISEASE   | 1968 |
| SEVERSON, RICHARD                                    | A CONTROLLED INCUBATION SYSTEM FOR MULTIPLE<br>CROP SALMONID PRODUCTIONS  | 1975 |
| SEYMOUR, ALLYN H.                                    | EFFECT OF HIGH CONSTANT TEMPERATURE UPON THE<br>MORTALITY AND GROWTH OF CHINOOK SALMON EGGS,<br>FRY AND FINGERLINGS | 1954 |
| SHANKS, WARREN E.                                    | A SIMPLE METHOD OF AMINO ACID DETERMINATIONS OF<br>FISH FOODS   | 1956 |
|  | METHODS OF AMINO ACID ANALYSIS  | 1957 |
|  | CLASSIFICATION OF ESSENTIAL AMINO ACIDS FOR<br>SCKEYE SALMON  | 1959 |
|  | FIRST PHASE PILOT PLANT, A PROGRESS REPORT  | 1960 |
|  | METHODS FOR EVALUATING PROTEIN QUALITY  | 1961 |
|  | MEASUREMENT OF PROTEIN QUALITY  | 1962 |
|  | HATCHERY WATER QUALITY MONITORING   | 1971 |
| SHEARER, KARL  | A SIMPLE MODEL TO DESCRIBE ZINC STATUS IN TROUT   | 1981 |
| SHELDON, RAY   | DROP BACK METHOD FOR SORTING FALL CHINOOK   |      |
|  | RESULTS OF GRADING COHO SALMON EGGS AT<br>BONNEVILLE HATCHERY   | 1972 |
| SIEMENS, LAIRO                                       | TECHNIQUES FOR THE CAPTURE AND HOLDING OF WILD<br>STEELHEAD IN BRITISH COLUMBIA                                     | 1980 |
| SIMON, RAY   | CHROMOSOMES AND SPECIES   | 1963 |
| SINCLAIR, A.C.                                       | PROPOSED DEVELOPMENT OF BROOD STOCK STATIONS IN<br>ALBERTA, CANADA  | 1976 |
| SINNHUBER, RUSSELL D.                                | 1950 NUTRITION RESEARCH PROGRESS REPORT   | 1950 |
|  | COMPOSITION OF DIETS  | 1951 |
|  | ESSENTIAL FATTY ACIDS, REQUIREMENTS AND THE<br>NUTRITION OF TROUT   | 1972 |

AUTHOR INDEX

|                                     |   |      |
|-------------------------------------|---|------|
| SMALLEY, GEORGE V.                  | PRODUCTION RECORD OF KLASKANINE HATCHERY  | 1963 |
|                                     | MULTIPLE USE LIBERATION AND WEIGH-OUT TANKS   | 1966 |
| SMITH, CHARLIE E.                   | BLOOD CHANGES IN SILVER SALMON FROM<br>DIMETHYLSULFOXIDE  | 1964 |
|                                     | AFLATOXICOSIS IN COHO SALMON AND CHANNEL CATFISH  | 1966 |
|                                     | EFFECTS OF NITRITE ON THE BLOOD AND TISSUE<br>OF SALMON AND TROUT   | 1971 |
|                                     | A PRELIMINARY REPORT OF THE EFFECTS OF METABOLIC<br>PRODUCT ON THE QUALITY OF RAINBOW TROUT                   | 1970 |
|                                     | STUDIES ON NITRITE TOXICITY IN RAINBOW TROUT  | 1973 |
| SMITH, C.E. &<br>J.E. HALVER        | SEE ASHLEY <u>ET.AL.</u>  | 1967 |
| SMITH, DAVID                        | SEE FELDMANN, GARY  | 1976 |
| SMITH M.                            | SEE HOLT R.   | 1979 |
| SMITH, MARVIN                       | HISTORY OF MODERN FISH CULTURE  | 1970 |
|                                     | POLLUTION ABATEMENT FACILITIES AT NATIONAL<br>FISH HATCHERIES   | 1974 |
| SMITH, QUENTIN                      | RESULTS OF THE FIRST YEAR OPERATION OF A<br>NEW HATCHERY USING BURROWS PONDS                                  | 1967 |
| SMITH, ROBERT R.                    | PRELIMINARY REPORT ON DIGESTION AND METABOLISM<br>STUDIES IN CLOSED SYSTEMS                                   | 1965 |
|                                     | SEE ASHLEY <u>ET.AL.</u>  | 1967 |
|                                     | SEE HALVER <u>ET.AL.</u>  | 1967 |
|                                     | FOOD ENERGY AND THE PRODUCTIVE VALUE OF<br>FISH FOODS   | 1967 |
|                                     | HEAT PRODUCED BY LIVING FISH  | 1968 |
|                                     | PROGRESS IN EVALUATING FISH FEEDS ON THE BASIS<br>OF DIGESTABILITY AND METABOLIZABLE ENERGY                   | 1971 |
|                                     | RAISING TROUT WITH OUT ANIMAL PROTEIN   | 1973 |
| SMITH, ROBERT R. &<br>MAX E. LARSON | DESIGN AND USE OF EQUIPMENT TO FEED EXPERIMENTAL<br>DIETS CONTAINING TOXIC MATERIALS TO SMALL LOTS<br>OF FISH | 1962 |
| SMITH, ROBERT Z.                    | A PRELIMINARY STUDY INTO THE RECREATIONAL VALUE<br>OF FISH HATCHERIES   | 1974 |



AUTHOR INDEX

|                                       |   |      |
|---------------------------------------|---|------|
| SMITH, ROBERT Z. &<br>STEPHEN L. LEEK | MODIFICATION OF THE CODED-WIRE TAG MARKING<br>PROCEDURE   | 1975 |
| SMITH, STANLEY D.                     | SEE BOUCK, GERALD R.  | 1977 |
| SMITH, WENDELL                        | FISH CONSERVATION   | 1966 |
| SNYDER, BRUCE P.                      | THE USE OF PLASTIC BIO-FILTERS IN HEATH<br>TECNA INCUBATORS AS AN ARTIFICIAL INCUBATION<br>SUBSTRATE FOR CHUM SALMON ALEVINS  | 1977 |
|                                       | SEE WHITMUS, CLIFFORD J.  | 1977 |
| SOWARDS, CHARLES                      | STUDENT PROJECTS AS A SOURCE OF INTERESTING AND<br>USEFUL INFORMATION   | 1971 |
| SPARKS, ALBERT K.                     | SEE KATZ <u>ET.AL.</u>  | 1961 |
| SPENCE, KEMET                         | CONTROL OF DISEASES IN ADULT SALMON -- A<br>PRELIMINARY REPORT  | 1962 |
| SPENCE, KEMET &<br>JOHN L. FRYER      | ACTIVE AND PASSIVE IMMUNIZATION OF RAINBOW<br><u>TROUT</u> , SPRING CHINOOK SALMON AND COHO SALMON<br>AGAINST <u>Aeromonus salmonicida</u>  | 1962 |
| SPINELLI, JOHN                        | SEE MAHNKEN, CONRAD   | 1976 |
| SPINELLI, JOHN &<br>CONRAD MAHNKEN    | THE EFFECTS OF DIETS CONTAINING DOGFISH MEAL<br>( <i>Squalus acanthias</i> ) ON THE MERCURY CONTENT AND<br>GROWTH OF PEN-REARED COHO SALMON ( <i>Oncorhynchus</i><br><i>kisutch</i> ) | 1975 |
|                                       | CAROTENOID DEPOSITION IN PEN-REARED SALMONIDS FED<br>DIETS CONTAINING OIL EXTRACTS OF RED CRAB<br>( <i>Pleuroncodes planipes</i> )  | 1976 |
| STANSBY, MAURICE E.                   | 1950 PROGRESS REPORT, COLLECTION, PROCESSING<br>AND ANALYSIS OF LEAVENWORTH HATCHERY DIET<br>INGREDIENTS AND ALASKA SALMON VISCERA AND EGGS   | 1950 |
| STAUFFER, GARY D.                     | STEELHEAD REARING IN LAKE QUINAULT  | 1971 |
|                                       | GROWING SALMON BY THE NUMBERS   | 1972 |
| STEEL, RONALD E.                      | UTILIZATION OF SHRIMP PROCESSING WASTE<br>AS A DIETARY SUPPLEMENT FOR RAINBOW TROUT<br>( <i>Salmo gairdneri</i> )   | 1970 |
| STEVENS, DONALD G.                    | SEE BOUCK, GERALD R.  | 1975 |
| STEWART, BRUCE                        | SEE KLONTZ, GEORGE W.   | 1981 |
| STONE, ELDON T.                       | A DESCRIPTION OF THE CAPILANO HATCHERY  | 1972 |
|                                       | SEE HOSKINS, G.E.   | 1980 |
|                                       | SEE HUNTER GEORGE A.  | 1981 |

AUTHOR INDEX

|   |  |      |
|---|--|------|
| STOSS, J.                                       | SEE CARNES, G.   | 1981 |
| STOSS, J. &<br>IAN BAKER<br>EDWARD M. DONALDSON | STORAGE OF SALMON SPERM BY CRYOPRESERVATION  | 1981 |
| STROUD, RICHARD K. &<br>GEORGE W. KLONTZ        | FISH HEALTH AND VETERINARY PRACTICE ACTS   | 1974 |
| SULLIVAN, JOSEPH R.                             | SEE BURKE, JOHN A.   | 1981 |
| SUSAC, JOHN K.                                  | GROWTH ACCELERATION IN A COLD WATER HATCHERY   | 1962 |
| SWAFFORD, JERRY                                 | PERFORMANCE OF THREE CROSSES OF DESCHUTES SUMMER<br>STEELHEAD AT ROUND BUTTE HATCHERY MADRAS, OREGON | 1975 |
| SWARTZ, DON                                     | USE OF TETRACYCLINE TO DETERMINE SMOLT SIZE  | 1970 |
|   | WILLAMETTE RIVER SPRING CHINOOK SURVIVAL STUDY   | 1971 |
|   | SPRING CHINOOK   | 1974 |
|   | HOLDING AND SPAWNING SPRING CHINOOK IN REDUCED<br>PHOTOPERIOD  | 1975 |
| SWEENEY, JAMES                                  | FEDERAL LAWS AS THEY RELATE TO HATCHERY WASTE<br>WATER TREATMENT                                     | 1973 |
| SWEIBERG, JIM                                   | INSTRUMENTATION FOR HATCHERIES   | 1961 |
| TAUTZ, AUTHUR F.                                | SEE IWAMA, GEORGE K.   | 1979 |
| TAYLOR, W.G.                                    | AUTOMATED FISH DISPATCHER  | 1965 |
|   | PHOTOELECTRIC EGG SORTER   | 1967 |
|   | SALMONID HERPESVIRUS: A NEW ISOLATE FROM<br>RAINBOW TROUT  | 1975 |
| TEBBIT, G.L.                                    | SEE SANDERS, J.E.  | 1973 |
|   | SEE FRYER, J.L.  | 1975 |
| TEBBIT, GUY &<br>JOHN McMICHAEL                 | THE OCCURENCE AND DISTRIBUTION OF FISH VIRUSES<br>IN ANADROMOUS SALMONID FISHES FROM OREGON          | 1973 |
| TERRY, DON                                      | WYOMING'S PROJECTED TEN YEAR FISHERIES PROGRAM   | 1963 |
| THOMAS, ALLAN E.                                | THE USE OF STAMINA AS A MEASURE OF FINGERLING<br>QUALITY   | 1962 |
|   | EFFECT OF FEEDING TWO CALORIC LEVELS ON QUALITY<br>OF FINGERLING PRODUCED                            | 1963 |

AUTHOR INDEX

|  |  |      |
|--|--|------|
| THOMAS, ALLAN E.                               | OPERATION OF THE ABERNATHY INCUBATION CHANNEL  | 1964 |
|  | ABERNATHY INCUBATION CHANNEL   | 1965 |
|  | EFFECT OF YOLK SAC ABSORPTION ON THE SWIMMING ABILITY OF FALL CHINOOK SALMON   | 1968 |
| THOMPSON, C. KENT                              | AGGLUTININS TO THE REDMOUTH BACTERIUM IN THE BLOOD SERUM OF RAINBOW TROUT  | 1976 |
| TODD, NEIL                                     | FRASER VALLEY TROUT HATCHERY-BRITISH COLUMBIA'S FIRST HATCHERY USING A RECIRCULATION SYSTEM  | 1977 |
| TORKKO, CHARLES E. & BERNARD M. KEPSHIRE       | DESIGN CONSIDERATIONS FOR A CHUM AND PINK SALMON HATCHERY AT COLD BAY, ALASKA  | 1977 |
| TREFFRY, GARY A.                               | A HEATED WATER SUPPLY  | 1970 |
| TRIPP, MARTHA J.                               | ACUTE COPPER AND ZINC TOXICITY IN CHINOOK SALMON   | 1964 |
| TRUCH, W.P.                                    | A NEW FISH HATCHERY AND REARING FOR THE PROVINCE OF ALBERTA  | 1972 |
|  | THE QUINSAM RIVER FISH HATCHERY  | 1973 |
|  | SELECTIVE BREEDING RESEARCH STATION - MAPLE, ONTARIO   | 1974 |
|  | THE USE OF LOW-GRADE HEAT EFFLUENT FROM NUCLEAR POWER STATIONS IN AQUACULTURE  | 1975 |
|  | AN UNEXPLAINABLE DECLINE IN GROUND WATER TEMPERATURES AND ITS CONSEQUENCES AT THE DORION FISH HATCHERY (ONTARIO)                     | 1976 |
|  | POTENTIAL FISH-CULTURE APPLICATION FROM THE USE OF WASTE HEAT  | 1977 |
| TUCKER, BARBEE & J.E. HALVER<br>GARY WEDEMEYER | ADEQUATE VITAMIN C IMPROVES RESISTANCE TO STRESS   | 1981 |
| UDEY, L.R.                                     | THE EFFECTS OF TEMPERATURE ON ( <i>Ceratomyxa shasta</i> ) DISEASE IN EXPERIMENTALLY INFECTED JUVENILE RAINBOW TROUT AND COHO SALMON | 1972 |
| UDWIN, ELLIS                                   | SELECTION OF WATER TREATMENT TECHNIQUES FOR HATCHERY WATER SUPPLIES  | 1970 |
| UTTER, FRED M.                                 | GENETIC MARKING: A UNIQUELY VALUABLE TOOL FOR FISH CULTURISTS  | 1977 |
| UZMANN, JOSEPH R.                              | THE USE OF PARASITES IN RACIAL STUDIES   | 1957 |
|  | THE HEXAMITA PROBLEM -- REAL OR IMAGINED ?   | 1960 |

AUTHOR INDEX

|  |  |      |
|--|--|------|
| UZMANN, JOSEPH R.<br>CON'T                     | EXPERIMENTAL EFFECTS OF <i>Nanophyetus Salmincola</i><br>METACERCARIAE IN RAINBOW TROUT              | 1962 |
| VAIL, HAMES P.                                 | A STUDY OF THE EFFECTS OF A CENTRIFUGAL WASTE<br>WATER CONCENTRATOR ON FISH HATCHERY REARING WATER   | 1973 |
| VAN GALLEN, NEIL                               | DISSERTATION ON A MECHANICAL EGG PICKER  | 1972 |
| VAN TINE, J.A.                                 | QUINSAM RIVER PINK SALMON REHABILITATION AND<br>STUDIES  | 1980 |
|  | PINK SALMON RETURNS TO THE QUINSAM HATCHERY FROM<br>UNFED FRY AND SALTWATER REARED FRY RELEASED      | 1981 |
|  | SEE BILTON, H.T.   | 1981 |
| VILLALON, J.R. &<br>G.M. PIGOTT<br>J.E. HALVER | RESPONSE OF MARINE FISH LARVAE TO ARTIFICIAL DIETS   | 1981 |
| VOELKNER, J.                                   | SEE GRIFFIDEN, WARD  | 1980 |
| VREELAND, ROBERT R.                            | ECONOMIC CONTRIBUTION OF 1965-1966 BROOD<br>COLUMBIA RIVER HATCHERY COHO SALMON                      | 1972 |
|  | SALMON HOMING - A MANAGEMENT TOOL ?  | 1974 |
|  | SO YOU WANT TO CONDUCT AN EVALUATION STUDY ?   | 1979 |
|  | HOW 'YA GONNA KEEP 'EM UP AT THE HATCHERY ONCE<br>THEY'VE SEEN YOUNGS BAY ?                          | 1981 |
| VROMAN, PAUL                                   | ADJUSTABLE FRY GRADER  | 1962 |
|  | CONTRIBUTION OF THE ALSEA HATCHERY TO THE<br>STEELHEAD FISHERY OF THE ALSEA RIVER                    | 1965 |
|  | PROLONGED FORMALIN TREATMENT FOR FISH PARASITES  | 1968 |
|  | FIN CLIPPING -- YES OR NO  | 1976 |
| WADE, M.G.                                     | SEE BUCHANAN, DAVID V  | 1981 |
| WAGNER, HARRY H.                               | THE SEAWARD MIGRATION AND RETURN OF HATCHERY-REARED<br>STEELHEAD TROUT IN A COASTAL STREAM OF OREGON | 1960 |
|  | THE CONTRIBUTION OF HATCHERY-REARED STEELHEAD<br>TROUT TO THE SPORT FISHERY ON THREE OREGON RIVERS   | 1961 |
|  | SEE CONTE <u>ET.AL.</u>  | 1961 |
|  | SEE CONTE <u>ET.AL.</u>  | 1963 |

AUTHOR INDEX

|                           |  |      |
|---------------------------|--|------|
| WAGNER, HARRY H.<br>CON'T | EFFECTS OF SIZE AT RELEASE ON SURVIVAL AND<br>LIFE HISTORY PATTERN OF HATCHERY-REARED<br>STEELHEAD TROUT | 1963 |
|                           | THE EFFECTS OF STOCKING YEARLING, HATCHERY-REARED<br>WINTER STEELHEAD ON WILD POPULATIONS                | 1964 |
|                           | THE EFFECT OF TWO DIFFERENT METHODS OF RELEASE<br>ON THE SURVIVAL OF HATCHERY-REARED STEELHEAD           | 1966 |
|                           | AN OBSERVATION OF THE EFFECT OF TEMPERATURE ON<br>PARR-SMOLT TRANSFORMATION IN STEELHEAD TROUT           | 1969 |
|                           | EFFECT OF STOCKING LOCATION OF JUVENILE<br>STEELHEAD TROUT ON ADULT CATCH                                | 1968 |
|                           | PHOTOPERIOD AND THE PARR-SMOLT METAMORPHOSIS<br>IN STEELHEAD TROUT                                       | 1970 |
|                           | PARR-SMOLT TRANSFORMATION IN WINTER STEELHEAD<br>AS AFFECTED BY PHOTOPERIOD AND TEMPERATURE              | 1971 |
|                           | HOW DO ADULT HATCHERY STEELHEAD DIFFER FROM<br>WILD ANCESTORS ?  | 1972 |
| WALES, J.H.               | USE OF DOMESTICATED RAINBOW, STEELHEAD, AND<br>GOLDEN TROUT IN HEPATOMA STUDIES                          | 1966 |
| WALL, GARY G.             | ANCHORAGE AREA HATCHERIES: PRESENT PRODUCTION AND<br>CONCEPTS FOR THE FUTURE                             | 1979 |
|                           | SEE KEPSHIRE, B.M.   | 1980 |
| WALLIS, JOE E.            | DIET STUDIES AT OAKRIDGE,  | 1955 |
|                           | PROGRESS REPORT OF SPRING CHINOOK OPERATIONS<br>AT THE WILLAMETTE HATCHERY                               | 1963 |
|                           | THE FIRE LAKE HATCHERY   | 1966 |
|                           | AN INDOOR BURROWS REUSE SYSTEM   | 1970 |
|                           | REARING SALMONIDS IN POWER PLANTS COOLING PONDS  | 1970 |
|                           | HATCHERY PRODUCTION OF SALMON SMOLTS IN ALASKA   | 1971 |
|                           | MARKED CHINOOK SALMON IN KACHEMAR BAY, ALASKA  | 1979 |
| WALSDORF, WILLIAM J       | ORAL IMMUNIZATION OF COHO SALMON AGAINST<br>FURUNCULOSIS AT QUILCENE NATIONAL FISH HATCHERY              | 1967 |
|                           | WHIRLING DISEASE AT LAHONTAN NATIONAL FISH HATCHERY<br>IN NEVADA   | 1971 |
|                           | SEE BRUHN, DAVE  | 1975 |

AUTHOR INDEX

|                                    |   |      |
|------------------------------------|---|------|
| WARD, DAVID L.                     | A NEW TYPE FISH TRAPPING FACILITY   | 1958 |
|                                    | TRINITY RIVER HATCHERY - CALIFORNIA'S NEW SALMON AND STEELHEAD INSTALLATION                   | 1963 |
| WARREN, JAMES W.                   | LABORATORY TESTS OF THE BACTERICIDAL ACTION AND FISH TOXICITY OF SIX QUATERNARY DISINFECTANTS | 1964 |
|                                    | THE DETECTION OF INFECTIOUS PANCREATIC NECROSIS   | 1965 |
|                                    | SORE BACK OF RAINBOW TROUT: RESULTS OF 1967 FISH QUALITY EXPERIMENTS                          | 1967 |
|                                    |   |      |
| WATSON, ROBERT E.                  | ELOKOMIN ADULT STEELHEAD TAGGING PROGRAM  | 1963 |
| WALTERS, KENNETH W.                | WASTE HEAT AQUACULTURE  | 1977 |
| WEBER, DOUGLAS                     | MARKING OF PACIFIC SALMON WITH TETRACYCLINE ANTIBIOTICS                                       | 1965 |
| WEBER, DOUGLAS &<br>GEORGE RIDGWAY | PROGRESS REPORT ON MARKING OF PACIFIC SALMON WITH TETRACYCLINE ANTIBIOTICS                    | 1962 |
|                                    | PROGRESS REPORT ON MARKING OF PACIFIC SALMON WITH TETRACYCLINE ANTIBIOTICS                    | 1963 |
|                                    |   |      |
| WEDEMEYER, GARY                    | UPTAKE AND DISTRIBUTION OF ZINC 65 IN THE COHO SALMON EGG. ( <i>Oncorhynchus kisutch</i> )    | 1967 |
|                                    | THE STRESS OF FORMALIN TREATMENTS IN TWO SALMONID FISHES                                      | 1970 |
|                                    | HANDLING STRESS AND ITS PHYSIOLOGICAL CONSEQUENCES  | 1971 |
|                                    | SEE TUCK, BARBEE  | 1981 |
|                                    |   |      |
| WEST, CAMERON                      | F.I.S.H. OR MICRO-COMPUTERS IN HATCHERIES   | 1981 |
| WESTGARD, RICHARD L.               | A TECHNIQUE FOR THE DETECTION OF ACID-FAST ORGANISMS IN FISH TISSUE                           | 1958 |
|                                    | A PROGRESS REPORT OF FISH TUBERCULOSIS SURVEY   | 1959 |
|                                    | GAS BUBBLE DISEASE IN ADULT CHINOOK SALMON  | 1963 |
|                                    | THE PRODUCTION OF A FISH TOXIN IN HATCHERY REARING PONDS                                      | 1966 |
|                                    | SEE WOOD  | 1961 |
|                                    |   |      |
| WESTGATE, JOHN W.                  | IN VIVO EFFECTS OF SELECTED ANTIOXIDANTS AND SELENIUM IN A STRESS OREGON TEST DIET            | 1960 |
|                                    | RANKING OF SELECTED WET INGREDIENTS FOR OREGON PELLETS  | 1963 |

AUTHOR INDEX

|  |  |      |
|--|--|------|
| WESTGATE, JOHN W.<br>CON'T   | EVALUATION OF COTTONSEED OIL MEAL SUBSTITUTES<br>AND BOTTOMFISH FILLET SCRAP IN THE OREGON<br>PELLET, A PRELIMINARY REPORT | 1964 |
|  | OREGON PELLET STARTER DIETS  | 1965 |
|  | DEVELOPMENT OF A NEW OREGON PELLET FORMULATION   | 1967 |
|  | SOME DEVELOPMENTS IN OREGON STARTER MASH AND<br>OREGON PELLET FORMULATION  | 1969 |
|  | SEE CRAWFORD   | 1969 |
|  | SEE LAW  | 1970 |
|  | SEE CRAWFORD, D.J.   | 1973 |
|  | TESTS ON FISHMEALS IN OREGON PELLETS   | 1973 |
|  | SEE CRAWFORD, DAVID L.   | 1976 |
|  | SEE LAW, DUNCAN K.   | 1976 |
|  | SEE CRAWFORD, DAVID L.   | 1979 |
|  | PROGRESS TOWARD DEVELOPING SURVIVAL ENHANCING<br>DIET FOR PACIFIC SALMON   | 1980 |
|  |  |      |
|  |  |      |
| WESTGATE, JOHN &<br>THOMAS, MCKEE<br>DAVID CRAWFORD<br>DUNCAN K. LAW | A TEST OF 'SALTY HERRING MEAL' IN OREGON PELLETS   | 1974 |
| WESTROPE, ARTHUR E.  | FISH HATCHERIES AND REARING FACILITIES IN THE<br>CHAMBERS CREEK BASIN TACOMA, WASHINGTON                                   | 1976 |
| WHITE, REED G.   | SUMMARY OF PELLET FEEDING  | 1961 |
|  | OREGON PELLET FEEDING PRODUCTION SUMMARY   | 1962 |
|  | KLASKANINE RIVER COHO PRODUCTION   | 1965 |
| WHITMORE, CECIL M.   | SOME OBSERVATIONS IN ANEMIA  | 1959 |
|  | THE EFFECTS OF HIGH LEVELS OF FIVE ANTIOXIDANTS<br>SELENIUM IN THE OREGON TEST DIET  | 1960 |
|  | SOME EFFECTS OF HANDLING ON FISH BLOOD VALUES  | 1963 |
|  | SEE BUCKLEY, JAMES A.  | 1974 |
| WHITMUS, CLIFFORD J &<br>BRUCE P. SNYDER<br>ERNEST O. SALO           | THE 1977 MIGRATORY BEHAVIOR OF JUVENILE CHUM<br>SALMON RELEASED FROM THE HOOD CANAL HATCHERY<br>AT HOODSPORT, WASHINGTON   | 1977 |

## AUTHOR INDEX

- |                                 |   |      |
|---------------------------------|---|------|
| WILLIAMS, WARREN G.             | NITRITE TOXICITY IN TROUT HELD IN WATER<br>REUSE SYSTEMS  | 1971 |
|                                 | BUFFERING REQUIREMENTS IN FISH HATCHERY<br>RECONDITIONING RE-USE SYSTEMS                                  | 1972 |
|                                 | EVALUATION OF CLINOPTILOTE FOR AMMONIA REMOVAL  | 1974 |
| WILLOUGHBY, H.                  | TROUT FISHERIES OF YUGOSLAVIA   | 1965 |
| WINGFIELD, WILLIAM C.           | CHARACTERIZATION OF THE SOCKEYE SALMON VIRUS  | 1965 |
|                                 | RESULTS OF SELECTIVE BREEDINGS OF RAINBOW<br>AT ROARING RIVER HATCHERY                                    | 1968 |
|                                 | SALINE SPAWNING OF RAINBOW TROUT AT ROARING<br>RIVER HATCHERY   | 1972 |
|                                 | HOLDING SUMMER STEELHEAD ADULTS OVER TO SPAWN<br>A SECOND YEAR  | 1976 |
|                                 | SEE BUCHANAN, DAVID V   | 1981 |
| WINWARD, LYNN D.                | SEE FARRELL   | 1966 |
| WISHARD, LISA &<br>JIM SEEB     | GENETIC MARKING: ITS USE IN THE EVALUATION OF COHO<br>FRY PLANTS  | 1977 |
| WOGAN, G.N.                     | SEE HALVER, <u>ET.AL.</u>   | 1967 |
| WOIWODE, JOHN G.                | GEO THERMAL AQUACULTURE: ITS POTENTIAL IN THE<br>PACIFIC NORTHWEST  | 1979 |
| WOLD, EINAR                     | OPTIMUM TEMPERATURE FOR INCUBATING STEELHEAD EGGS   | 1970 |
|                                 | EVALUATION OF ADULT STEELHEAD SORTING EQUIPMENT<br>AND AIR SPAWNING AT DWORSHAK NATIONAL FISH<br>HATCHERY | 1971 |
|                                 | MONITORING THE EFFICIENCY OF WATER RECONDITIONING<br>PRETREATMENT FACILITIES WITH BIOASSAY TECHNIQUES     | 1972 |
|                                 | SALMONID SEMEN AS A TRANSMISSION AGENT OF<br>KIDNEY DISEASE   | 1973 |
| WOLF, DAVID A. &<br>J.E. HALVER | ACCEPTANCE OF A DRUM-DRIED FEED BY MARINE FISH<br>LARVAE  | 1979 |
| WOLF, HAROLD                    | 1950 CALIFORNIA DEPARTMENT OF FISH AND GAME<br>NUTRITION PROGRESS REPORT                                  | 1950 |
|                                 | DIET WORK   | 1951 |
| WOOD, E.M.                      | PATHOLOGY AND HATCHERY EVALUATION   | 1963 |



AUTHOR INDEX

|   |  |      |
|---|--|------|
| WOOD, JAMES W.                          | KIDNEY DISEASE   | 1954 |
|   | 1954 NUTRITIONAL STUDIES - OAKRIDGE LABORATORY   | 1954 |
|   | DISEASE STUDIES AT OAKRIDGE  | 1955 |
|   | A PROGRESS REPORT ON TUBERCULOSIS AND KIDNEY DISEASE RESEARCH  | 1956 |
|   | A PROGRESS REPORT ON KIDNEY DISEASE AND TUBERCULOSIS RESEARCH  | 1957 |
|   | PROGRESS REPORT ON FISH DISEASE STUDIES  | 1958 |
|   | PROGRESS REPORT ON FISH DISEASE STUDIES  | 1959 |
|   | PROGRESS REPORT ON FISH DISEASE STUDIES  | 1960 |
|   | A MYXOSPORIDIAN, <i>Ceratomyxa</i> sp. INVOLVED IN LOSSES OF ADULT SALMON                                  | 1962 |
|   | DISEASES OF ADULT SALMON   | 1964 |
|   | ORAL IMMUNIZATION OF JUVENILE COHO SALMON UNDER HATCHERY PRODUCTION CONDITIONS                             | 1966 |
|   | FAILURE TO ORALLY IMMUNIZE JUVENILE COHO SALMON UNDER HATCHERY PRODUCTION CONDITIONS                       | 1967 |
| WOOD, JAMES W. &<br>RIVCHARD L WESTGARD | OBSERVATIONS ON MALACHITE GREEN AND ITS TOXICITY   | 1961 |
| WOOD, JIM                               | SEE KACZYNSKI, VIC   | 1981 |
| WOODALL, A.N.                           | A CHEMICAL COMPARISON OF WILD HATCHERY SALMONIDS   | 1956 |
|   | EVALUATION OF FEEDING TRIALS   | 1957 |
|   | EFFECT OF MOISTURE IN CHINOOK SALMON DIETS   | 1958 |
|   | DEXTRIN SUPPLEMENTED LIVER DIETS FOR CHINOOK SALMON  | 1959 |
|   | THE RELATIONSHIP OF WATER CHEMISTRY TO THE DEVELOPMENT OF COAGULATED YOLK DISEASE IN CHINOOK SALMON LARVAE | 1961 |
| WOODALL, A.N. &<br>GILLES LAROCHE       | THE IODIDE REQUIREMENT OF CHINOOK SALMON   | 1963 |
| WORCHESTER, TOM                         | A GUILLOTINE FOR THE REMOVAL OF FISH SNOUTS CONTAINING CODED-WIRE-TAGS                                     | 1977 |
| WYATT, WILLIS J. &<br>KIRK T. BEININGEN | A NITROGEN GAS DISEASE CATASTROPHE   | 1969 |

AUTHOR INDEX

|                            |  |      |
|----------------------------|--|------|
| YASUTAKE, WILLIAM T.       | PROGRESS REPORT - HISTOLOGICAL COMPARISON OF SALMONIDS   | 1954 |
|                            | COMPARATIVE HISTOLOGICAL STUDIES OF WILD AND HATCHERY SALMONIDS  | 1956 |
|                            | A POSSIBLE CAUSE OF 'SUNBURN' IN FISH  | 1957 |
|                            | CHEMOTHERAPY OF ( <i>Hexamita salmonis</i> )   | 1958 |
|                            | GILL PATHOLOGY DUE TO FORMALIN TOXICITY  | 1962 |
|                            | MISTOPATHOLOGY OF THE JUVENILE 'WHIRLING' SILVER SALMON  | 1965 |
|                            | OCCURRENCE OF WHIRLING DISEASE OF TROUT IN THE WEST  | 1966 |
|                            | HISTOPATHOLOGY ASSOCIATED WITH POSSIBLE TOXAPHENE AND 2, 4-D TOXICITY IN RAINBOW TROUT                                   | 1967 |
|                            | SCOLIOSIS AND LORDOSIS OCCURRING IN SALMONIDS  | 1969 |
| YASUTAKE, W.T. & K.H. AMOS | HISTOPATHOLOGICAL EFFECTS OF RIVER ASHFALL SUSPENSION ON CHINOOK SALMON FINGERLINGS                                      | 1980 |
| YUSHA, ALEX                | SEE FRYER <u>ET.AL.</u>  | 1962 |
| ZAKEL, J.                  | SEE HOLT, R.   | 1979 |
| ZAUGG, W.S.                | USING GILL ATPASE ACTIVITY TO DETERMINE THE INFLUENCY OF PHOTOPERIOD ON PARR-SMOLT TRANSFORMATION IN STEELHEAD           | 1971 |
|                            | FACTORS WHICH INFLUENCE SMOLT DEVELOPMENT AND SALTWATER ADAPTATION OF SALMONIDS  | 1975 |
| ZAUGG, W.S. & L.R.MCLAIN   | INFLUENCE OF TEMPERATURE ON GILL ATPASE ACTIVITY IN COHO SALMON  | 1973 |
| ZIMMER, PAUL               | BRIEF COMMENTS REGARDING FALL CHINOOK AND COHO SALMON HATCHERIES EVALUATION STUDIES-COLUMBIA RIVER                       | 1968 |
| ZINN, J.L.                 | INCIDENCE OF ( <i>Ceratomyxa shasta</i> ) IN SELECTED HATCHERY STOCKS OF CHINOOK SALMON                                  | 1975 |
|                            | INCIDENCE OF ( <i>Ceratomyxa shasta</i> ) IN SELECTED HATCHERY STOCKS OF COHO AND GENETIC CROSSED OF FALL CHINOOK SALMON | 1975 |

# SUBJECT INDEX

| <u>SUBJECT</u>       | <u>AUTHOR</u>  | <u>REPORT TITLE</u>   | <u>YEAR</u> |
|----------------------|--|---|-------------|
| <u>ADULT RELEASE</u> |  |   |             |
|                      | BUCHANAN, DAVID V.   | HATCHERY RELEASES AND SUBSEQUENT RETURN OF SUMMER STEELHEAD ABOVE AND BELOW A DAM                                 | 1976        |
|                      | BUCHANAN, DAVID V. &<br>M.G. WADE<br>R.M. HOOTON<br>W.C. WINGFIELD | A MINIMUM THRESHOLD SIZE FOR HATCHERY STEELHEAD SMOLTS  | 1981        |
|                      | ELLIS, C.H.  | ABSTRACT OF DISCUSSION CONCERNING SURVIVALS OF SALMON AS AFFECTED BY VARIABLES IN REARING AND PLANTING TECHNIQUES | 1956        |
|                      | GEARHEARD, JIM   | EARLY V.S. LATE RELEASE OF STEELHEAD OR WHAT A DIFFERENCE A MONTH MAKES   | 1981        |
|                      | HAGER, ROBERT  | PRELIMINARY RESULTS OF THE 1969 BROOD COHO TIME AND SIZE AT RELEASE STUDY   | 1972        |
|                      | HEARD, WILLIAM R.  | FRUSTRATED FISH FROM FALL RELEASES: SIGNIFICANCE OF THE TIME WINDOW IN ALASKA                                     | 1979        |
|                      | KEPSHIRE, B.M. &<br>GARY G. WALL                                   | MARINE SURVIVAL OF COHO SALMON SMOLTS RELEASED DIRECTLY FROM TRANSPORT VEHICLES INTO ESTUARIES                    | 1980        |
|                      | NOBLE, RICHARD E.  | SELECTED LIBERATION SITES AS AN AID TO INCREASED SALMON PRODUCTION  | 1968        |
|                      | SALO, ERNEST O.  | RETURNS FROM PLANTS OF LARGE V.S. SMALL FISH  | 1954        |
|                      | SENN, HARRY G.   | A PROGRESS REPORT ON THE RESULTS OF RELEASING MIGRANT SIZE ZERO AGE COHO  | 1964        |
|                      | WAGNER, HARRY H.   | EFFECTS OF SIZE AT RELEASE ON SURVIVAL AND LIFE HISTORY PATTERN OF HATCHERY-REARED STEELHEAD TROUT                | 1963        |
|                      |  | THE EFFECTS OF STOCKING YEARLING, HATCHERY-REARED, WINTER STEELHEAD ON WILD POPULATIONS                           | 1964        |
|                      |  | THE EFFECTS OF TWO DIFFERENT METHODS OF RELEASE ON THE SURVIVAL OF HATCHERY-REARED STEELHEAD                      | 1966        |
| <u>ADULT RETURNS</u> |  |   |             |
|                      | BAUER, JERRY A.  | RETURNS OF UMPQUA RIVER SPRING CHINOOK AND SUMMER STEELHEAD   | 1966        |

## SUBJECT INDEX

ADULT RETURNS - CONT'D

|                           |  |      |
|---------------------------|--|------|
| BAUER, JERRY A.<br>CONT'D | PROGRESS ON CONTRIBUTION OF HATCHERY<br>PRODUCED SPRING CHINOOK AND SUMMER<br>STEELHEAD TO THE NORTH UMPQUA RIVER    | 1969 |
|                           | PROGRESS REPORT ON CONTRIBUTION OF HATCHERY<br>PRODUCED SPRING CHINOOK AND SUMMER STEELHEAD<br>IN NORTH UMPQUA RIVER | 1970 |
|                           | HATCHERY CONTRIBUTION OF ANADROMOUS FISH<br>TO THE NORTH UMPQUA RIVER  | 1971 |
| DONALDSON, LAUREN R.      | EARLY MARURING SOCKEYE AND COHO FROM THE RE-<br>LEASE OF LARGE ZERO-AGE FINGERLINGS                                  | 1969 |
|                           | RETURN OF ACCELERATED COHO SMOLTS AS TWO-YEAR-<br>OLD ADULTS   | 1972 |
| ELLIS, C.H.               | RETURN OF ADULT COHO SALMON DEMONSTRATING A<br>HIGH DEGREE OF SELECTIVITY IN HOMING                                  | 1968 |
|                           | THE STATE OF WASHINGTON SURPLUS SALMON PROBLEM   | 1971 |
| HANDY, PAUL               | ANADROMOUS FISH ARE RETURNING  | 1971 |
| HULL, MARVIN              | ADULTS STEELHEAD RETURNS FROM PLANTS RELATED   | 1971 |
|                           | RETURNS FROM MARKED SUMMER-RUN STEELHEAD<br>HIGH GRADE PROGRAM   | 1975 |
| SAALFELD, ROBERT W.       | RETURNS FROM HATCHERY-REARED FALL CHINOOK<br>RELEASES INTO DESCHUTES RIVER   | 1956 |
| SALO, E.                  | AN ANALYSIS OF RETURNS TO SOOS CREEK<br>HATCHERY 1964  | 1965 |
| SAMS, ROY                 | TRANSPLANTATION OF ADULT COHO SALMON   | 1967 |
| VAN TINE, J.A.            | PINK SALMON RETURNS TO THE QUINSAM HATCHERY<br>FROM UNFED FRY AND SALTWATER REARED FRY<br>RELEASED                   | 1980 |

ALGICIDES

|                    |  |      |
|--------------------|--|------|
| BIGEJ, R.G.        | DEVELOPMENT OF EFFECTIVE POND ALGICIDES  | 1957 |
| COMBS, BOBBY D.    | ALGICIDE EXPERIMENTS   | 1955 |
| SCHULTZ, ROLAND R. | USE OF SIMAZINE AND ATRAZINE FOR CONTROL OF<br>PONDWEEDS AND FILAMENTOUS ALGAE | 1964 |

ANESTHETICS

|             |                             |      |
|-------------|-----------------------------|------|
| JOHNSON, H. | ANESTHESIA FOR ADULT SALMON | 1965 |
|-------------|-----------------------------|------|

## SUBJECT INDEX

ANESTHESIA - CONT'D

|                    |  |      |
|--------------------|--|------|
| BARNEY, ELMO B.    | THE SUCCESSFUL USE OF CO <sub>2</sub> ANAESTHESIA FOR SPAWNING FALL CHINOOK SALMON | 1968 |
| JOHNSON, HARLAN E. | CARBON DIOXIDE ANESTHESIA FOR ADULT SALMON   | 1968 |

ATLANTIC SALMON

|              |  |      |
|--------------|--|------|
| MORTON, K.E. | NOTES ON EGG PRODUCTION FROM SECOND GENERATION ATLANTIC SALMON | 1959 |
| RAYNER, J.   | THE ATLANTIC SALMON IN OREGON                                  | 1965 |

AQUACULTURE

|   |  |      |
|---|--|------|
| CUMMINGS, EDWIN                               | SALMON RANCHING IN OREGON  | 1978 |
| HARRELL, LEE WILEY                            | MASS MORTALITIES IN PUGET SOUND AQUACULTURE                                    | 1973 |
| JOHNSON, KEITH A.                             | UPDATE ON LUMMI INDIAN AQUACULTURE   | 1975 |
| KLONTZ, GEORGE W.<br>(BILL)                   | AQUACULTURE IN IDAHO   | 1975 |
| LEWIS, ERNEST                                 | DESIGN OF AN AQUACULTURE FACILITY FOR WOODSHOLE OCEANOGRAPHIC INSTITUTE        | 1973 |
| MCNEIL, WILLIAM J.                            | ZERO-AGE COHO--AN UPDATE FROM OREAQUA  | 1979 |
| MORNING, JOHN R.                              | CHINOOK SALMON MARICULTURE STUDIES IN PUGET SOUND                              | 1972 |
| NOSHO, TERRY &<br>ERNIE BRANNON<br>ERNIE SALO | SUMMARY OF UNIVERSITY OF WASHINGTON AQUACULTURE WORKSHOP                       | 1973 |
| NOVOTNY, ANTHONY J.                           | PROGRESS AND PROBLEMS IN THE MARINE CULTURE OF PACIFIC SALMON                  | 1972 |
| SCOTT, CLYDE A.                               | THE UNITED STATES DEPARTMENT OF AQUACULTURE ROLE IN AQUACULTURE                | 1977 |
| TRUCH, W.P.                                   | THE USE OF LOW-GRADE HEAT EFFULUENT FROM NUCLEAR POWER STATIONS IN AQUACULTURE | 1975 |
| WOIWODE, JOHN G.                              | GEOTHERMAL AQUACULTURE: ITS POTENTIAL IN THE PACIFIC NORTHWEST                 | 1979 |

BODY COMPOSITION

|                    |  |      |
|--------------------|--|------|
| ELLIOTT, JOSEPH W. | THE ROLE OF FISH BODY CHEMISTRY IN CHARACTERIZING PHYSICAL CAPABILITY OF CHINOOK SALMON FINGERLING | 1962 |
|--------------------|--|------|

## SUBJECT INDEX

BODY COMPOSITION - CONT'D

- |               |  |      |
|---------------|--|------|
| WOODALL, A.N. | A CHEMICAL COMPARISON OF WILD AND HATCHERY SALMONIDS | 1956 |
|---------------|--|------|

BREEDING

- |                  |   |      |
|------------------|---|------|
| ROLEY, DENNIS D. | SELECTIVE BREEDING OF COHO SALMON AT EAGLE CREEK NATIONAL FISH HATCHERY | 1973 |
| TRUCH, W.P.      | SELECTIVE BREEDING RESEARCH STATION - MAPLE, ONTARIO                    | 1974 |

BROOD STOCKS

- |                        |  |      |
|------------------------|--|------|
| MILLENBACK, CLIFF      | RETENTION OF BROOD STOCK IN BLUE LAKE  | 1954 |
| MORTON, K.E.           | THE DEVELOPMENT OF A GOLDEN TROUT BROOD STOCK IN OREGON                                  | 1957 |
| PRESSEY, RICHARD       | THE INFLUENCE OF STOCK SELECTION OF COHO ON TIME OF ARRIVAL AT COLUMBIA RIVER HATCHERIES | 1968 |
| ROSENTERETER, NANCY M. | WINTER STEELHEAD TROUT BROOD STOCK STRATEGIES IN OREGON                                  | 1980 |
| SINCLAIR, A.C.         | PROPOSED DEVELOPMENT OF BROOD STOCK STATIONS IN ALBERTA, CANADA                          | 1976 |
| WINGFIELD, WILLIAM C.  | RESULTS OF SELECTIVE BREEDING OF RAINBOW AT TROUT ON ADULT CATCH                         | 1968 |

CELLUAR REGENERATION

- |                 |  |      |
|-----------------|--|------|
| CONTE, DR. F.P. | CELLUAR REGENERATION IN THE FISH ( <i>Oncorhynchus kisutch</i> ) | 1964 |
|-----------------|--|------|

CHEMICALS

- |   |  |      |
|---|--|------|
| ALLEE, BRIAN J. &<br>ROBERT W. ANDERSON | USE OF SODIUM THIOSULFATE DECHLORINATED MUNICIPAL WATER IN SALMON CULTURE  | 1975 |
| AMEND, DONALD F.                        | THE USE OF MERCURIALS IN THE HATCHERY, A PROGRESS REPORT   | 1965 |
|   | MERCURIALS IN THE HATCHERY; ABSORPTION, DISTRIBUTION, AND RETENTION OF TIMSAN (ETHYL MERCURY PHOSPHATE) IN RAINBOW TROUT | 1966 |

## SUBJECT INDEX

CHEMICALS - CONT'D

|  |  |      |
|--|--|------|
| BENVILLE, PETE, JR.                                      | TOXICITY STUDIES OF DIMETHYLSULFOXIDE<br>ON SILVER SALMON  | 1964 |
| BRUNSON, WAYNE   | NEW USES FOR OLD FISH TREATMENT CHEMICALS  | 1971 |
| BURROWS, R.E.  | LIGNASAN FOR THE CONTROL OF BACTERIAL GILL<br>DISEASE  | 1957 |
| CRAWFORD, DAVID L. &<br>JOHN WESTGATE<br>JEAN R. LAGASSE | ASCORBIC ACID IN MOIST PELLETIZED FISH<br>RATIONS  | 1979 |
| ERICKSON, J. DAVID                                       | TOXAPHENE POSIONING OF RAINBOW TROUT   | 1968 |
| EWING, R.D. &<br>S.L. JOHNSON                            | EFFECTS OF DETERGENTS ON GILL (AN + K)-<br>ATPASE ACTIVITY IN CHINOOK SALMON   | 1975 |
| FLYNN, JAMES K.  | TREATMENT OF A MONOGENETIC TREMATODE RESISTANT<br>TO AN ORANOPHODPHATE   | 1979 |
| HUBLU, W.F.  | AN EXPERIMENT USING PMA AND LIGNASAN TREATMENTS<br>AS A PROPHYLAXIS AGAINST GILL DISEASE                                       | 1957 |
| KATZ, MAX &<br>H.E. JOHNSON                              | CLORINATED HYDROCARBON INSECTICIDES AND FISH   | 1967 |
| MACMILLIAN, R.W.   | A SAND BIO-FILTER FOR REMOVAL OF AMMONIA NITROGEN  | 1981 |
| MCPHERSON, BERRY   | EFFECTS OF METHYL MERCURY EXPLOSURE ON SEA<br>WATER ADAPTION OF JUVENILE COHO AND STEELHEAD                                    | 1972 |
| MORGAN, REGINALD E.                                      | MERCURIALS IN THE HATCHERY: SOME FACTORS IN-<br>FLUENCING THE TOXICITY OF TMSAN (ETHYLY MERCURY<br>PHOSPHATE) TO RAINBOW TROUT | 1966 |
| OWSLEY, DAVID E.   | NITROGEN GAS REMOVAL USING PACKED COLUMNS  | 1978 |
| RUCKER, ROBERT R.  | 'LIGNASAN' FOR BACTERIAL GILL DISEASE  | 1955 |
| SMITH, CHARLIE   | BLOOD CHANGES IN SILVER SALMON FROM DIMETHYL-<br>SULFOXIDE   | 1964 |
| WARREN, JAMES W.   | LABORATORY TESTS OF THE BACTERICIDAL ACTION AND<br>FISH TOXICITY OF SIX QUATERNARY DISINFECTANTS                               | 1964 |
| WILLIAMS, W.G.   | EVALUATION OF CLINOPTIOLTITE FOR AMMONIA REMOVAL   | 1974 |
| WOOD, J.W. &<br>R.L. WESTGARD                            | OBSERVATIONS ON MALACHITE GREEN AND ITS TOXICITY   | 1961 |
| YASUTAKE, W.T.   | GILL PATHOLOGY DUE TO FORMALIN TOXICITY  | 1962 |

## SUBJECT INDEX

CHEMICALS - CONT'D

|                      |   |      |
|----------------------|---|------|
| YASUTAKE, WILLIAM T. | HISTOPATHOLOGY ASSOCIATED WITH POSSIBLE<br>TOXAPHENE AND 2, 4-D TOXICITY IN RAINBOW TROUT | 1967 |
|----------------------|---|------|

CHINOOK

|                   |  |      |
|-------------------|--|------|
| BAUER, J.         | UMPQUA HATCHERY-REARED UMPQUA SPRING CHINOOK                               | 1965 |
| FOSTER, ROBERT W. | PERCIVAL COVE DELAYED CHINOOK PROGRAM                                      | 1975 |
| SWARTZ, DON       | SPRING CHINOOK   | 1974 |
| WALLIS, JOE       | PROGRESS REPORT OF SPRING CHINOOK OPERATIONS<br>AT THE WILLAMETTE HATCHERY | 1963 |

CHROMOSOMES

|            |                         |      |
|------------|-------------------------|------|
| SIMON, RAY | CHROMOSOMES AND SPECIES | 1963 |
|------------|-------------------------|------|

CLOSED SYSTEM

|             |   |      |
|-------------|---|------|
| SMITH, R.R. | PRELIMINARY REPORT ON DIGESTION AND METABOLISM<br>STUDIES IN CLOSED SYSTEMS | 1965 |
|-------------|---|------|

COMPUTERS

|   |  |      |
|---|--|------|
| DOWNEY, PHILIP C. &<br>G.W. (BILL) KLONTZ | A SYSTEMS APPROACH TO HATCHERY PRODUCTION OR<br>EVERYTHING YOU WANTED TO KNOW ABOUT FISH BUT<br>WERE AFRAID TO ASK YOUR COMPUTER | 1981 |
| WEST, CAMERON                             | F.I.S.H. OR MICRO-COMPUTERS IN HATCHERIES  | 1981 |

CONCRETE REPAIR

|             |   |      |
|-------------|---|------|
| BITLE, FRED | USE OF 'DARAWELD' IN REPAIR OF CONCRETE | 1962 |
|             | USE OF TROXYMITE IN REPAIR OF CONCRETE  | 1962 |

COSTS

|                   |  |      |
|-------------------|--|------|
| BROWN, WILLIAM G. | COSTS AND RETURNS OF SALMON HATCHERY<br>PRODUCTION ALTERNATIVES                    | 1974 |
| CLAYTON, JOHN     | JOB ACCOUNTING AT A SALMON HATCHERY  | 1971 |
| PARVIN, JOHN R.   | COST ANALYSIS OF REARING FIRST EGG COLLECTION<br>IN REUSE SYSTEMS VERSUS RAW WATER | 1971 |

CUTTHROAT

|                                    |   |      |
|------------------------------------|---|------|
| RAYNER, JOHN &<br>RICHARD D. GIGER | THE CATCH AND MIGRATION OF HATCHERY COASTAL<br>CUTTHROAT TROUT IN OREGON RIVERS | 1966 |
|------------------------------------|---|------|



## SUBJECT INDEX

DENSITY STUDY

|                     |  |      |
|---------------------|--|------|
| HOLWAY, JAMIESON E. | EAGLE CREEK NATIONAL FISH HATCHERY DENSITY STUDY FOR COHO SALMON | 1980 |
|                     | EAGLE CREEK NATIONAL FISH HATCHERY DENSITY STUDY                 | 1981 |

DIETABERNATHY

|               |                                  |      |
|---------------|----------------------------------|------|
| FOWLER, LARRY | ADVANCES WITH THE ABERNATHY DIET | 1968 |
|---------------|----------------------------------|------|

ACIDS

|   |  |      |
|---|--|------|
| ASHLEY, L.M. &<br>J.E. HALVER<br>C.E. SMITH<br>R.R. SMITH | ASCORBIC ACID DEFICIENCY SYNDROM IN COHO SALMON                  | 1968 |
| ASHLEY, L.M.  | WOUND HEALING IN ASCORBIC ACID DEFICIENT SALMONIDS               | 1968 |
| CUPLIN, PAUL &<br>MARK MISSELDINE                         | PANTOTHENIC ACID REQUIREMENTS OF HENRYS LAKE CUTTHROAT TROUT FRY | 1970 |
| JOHNSON, C.L.   | ASCORBATE IN RAINBOW TROUT                                       | 1971 |
| SMITH, C.E. &<br>J.E. HALVER                              | FOLIC ACID ANEMIA IN COHO SALMON                                 | 1967 |

ADDITIVES

|                    |  |      |
|--------------------|--|------|
| LAW, DUNCAN K.     | THE EFFECTS OF SELECTED ANTIOXIDANTS AND SELENIUM ON FISH FEED                     | 1960 |
| WESTGATE, JOHN     | IN VIVO EFFECTS OF SELECTED ANTIOXIDANTS AND SELENIUM IN A STRESS OREGON TEST DIET | 1960 |
| WHITMORE, CECIL M. | THE EFFECTS OF HIGH LEVELS OF FIVE ANTIOXIDANTS, SELENIUM IN THE OREGON TEST DIET  | 1960 |

AMINO ACIDS

|                 |   |      |
|-----------------|---|------|
| HALVER, JOHN E. | THE AMINO ACID REQUIREMENTS OF CHINOOK SALMON                               | 1955 |
|                 | AMINO ACID REQUIREMENTS OF CHINOOK SALMON                                   | 1957 |
|                 | AMINO ACID REQUIREMENTS OF SALMON   | 1958 |
|                 | ISOLEUCINE, LEUCINE, PHENYALANINE AND VALINE REQUIREMENTS OF CHINOOK SALMON | 1959 |

## SUBJECT INDEX

DIET - CONT'DAMINO ACIDS - CONT'D

|                             |   |      |
|-----------------------------|---|------|
| HALVER, JOHN E. -<br>CONT'D | TRYPTOPHAN REQUIREMENTS OF CHINOOK, SOCKEYE,<br>AND SILVER SALMON | 1964 |
| SHANKS, WARREN E.           | A SIMPLE METHOD OF AMINO ACID DETERMINATIONS<br>OF FISH FOOD      | 1956 |
|                             | METHODS OF AMINO ACID ANALYSIS                                    | 1957 |
|                             | CLASSIFICATION OF ESSENTIAL AMINO ACIDS<br>FOR SOCKEYE SALMON     | 1959 |

BROOD STOCK

|                       |  |      |
|-----------------------|--|------|
| BAKER, HARRY W. (JR.) | BROOD STOCK FEEDING AND ASSOCIATED MORTALITIES | 1961 |
|-----------------------|--|------|

CALORIES

|                  |  |      |
|------------------|--|------|
| THOMAS, ALLAN E. | EFFECT OF FEEDING TWO CALORIC LEVELS ON QUALITY<br>OF FINGERLING PRODUCTED | 1963 |
|------------------|--|------|

COMPOSITION

|                 |                            |      |
|-----------------|----------------------------|------|
| LAW, DUNCAN K.  | BASIS FOR DIET COMPOSITION | 1955 |
| SINNHUBER, R.O. | COMPOSITION OF DIETS       | 1951 |

COSTS

|                             |   |      |
|-----------------------------|---|------|
| SATIA, BENEDICT<br>PHILLIPS | ATTEMPTS AT LOWERING FEED COSTS WITH OUT<br>LOWERING FEED QUALITY | 1974 |
|-----------------------------|---|------|

DRY FEEDS

|                 |   |      |
|-----------------|---|------|
| BAKER, JR. H.W. | 318 DAYS OF CONTINUOUS PELLET FEEDING TO RAINBOW<br>TROUT | 1957 |
| BITLE, FRED W.  | PELLET FEEDING EXPERIMENT                                 | 1959 |
| CAIRNS, DONALD  | TESTS OF COMMERCIAL DRY FEEDS ON FALL CHINOOK             | 1959 |
|                 | TESTS OF COMMERCIAL DRY FEEDS ON SILVER SALMON            | 1959 |
| CANNADY, BRUCE  | DIET TRIALS OF COMMERCIAL DRY MEAL MIX                    | 1956 |
| COMBS, BOBBY D. | RECONSTITUTED DRY MEAL DIETS FOR CHINOOK SALMON           | 1959 |
|                 | RECONSTITUTED DRY MEAL DIETS FOR CHINOOK SALMON           | 1960 |
| DOLLAR, A.M.    | EVALUATION OF DRY FEEDS FOR IDAHO CUTTHROAT<br>PROGRAM    | 1965 |
| FOWLER, LARRY   | PROGRESS REPORT ON THE ABERNATHY DRY DIET                 | 1969 |

## SUBJECT INDEX

DIET - CONT'DDRY FEEDS - CONT'D

|                           |  |      |
|---------------------------|--|------|
| FOWLER, LARRY -<br>CONT'D | PROGRESS WITH THE ABERNATHY DRY DIET   | 1971 |
| GASTINEAU, A.C.           | CLARK'S NEW AGE TROUT FEED FOR SOCKEYE SALMON<br>FINGERLING DIET                     | 1957 |
|                           | FEEDING DRY FEED TO SOCKEYE SALMON   | 1958 |
|                           | COMMERCIAL DRY FEED TO SOCKEYE SALMON<br>FINGERLINGS                                 | 1959 |
|                           | FREQUENCY OF FEEDING DRY FEEDS TO SOCKEYE<br>SALMON FINGERLINGS                      | 1960 |
| HICKS, CHARLES E.         | GROWTH RATES AND CONDITION INDEX FOR RAINBOW<br>TROUT FED DRY DIETS                  | 1964 |
| HORN, E.B.                | SILVER SALMON FEEDING TEST WITH CLARK'S NEW<br>AGE DRY TROUT FOOD                    | 1957 |
|                           | FEEDING SILVER SALMON AT QUILCENE HATCHERY<br>(DRY FEED)                             | 1958 |
| JOHANSEN, JOHN M.         | IMPROVEMENTS IN CUTTHROAT PROGRAM FEEDING<br>DRY FEED                                | 1958 |
| JOHNSON, HARLAN E.        | TESTS ON DRY FEED FOR SALMON   | 1958 |
| McELRATH, ROBERT J.       | TESTS OF DRY FEEDS FOR FALL CHINOOK SALMON<br>AT THE CARSON NATIONAL FISH HATCHERY   | 1959 |
|                           | TESTS OF DRY FEEDS FOR SPRING CHINOOK<br>SALMON AT THE CARSON NATIONAL FISH HATCHERY | 1959 |
| MILLENBACH, C.            | DRY FEED FOR TROUT   | 1957 |
| MILLS, DWAIN              | PRODUCTION TRAIL OF ABERNATHY DRY DIET FOR<br>COHO                                   | 1971 |
| MORTON, K.E.              | KAMLOOPS RAINBOW FRY FEEDING TEST USING ONE<br>HUNDRED PER CENT PELLETTED FOODS      | 1959 |
| NOBLE, R.E.               | RESULTS OF FEEDING COMMERCIALLY PREPARED DRY<br>FEEDS TO SILVER SALMON               | 1959 |
|                           | ADVANCES IN DRY SALMON FEED  | 1967 |
| PARVIN, JOHN E.           | DRY FEED EXPERIMENTS AT EAGLE CREEK STATION  | 1958 |
|                           | TIME STUDIES TO EVALUATE PELLET FEEDING AS<br>COMPARED TO WET FEEDING                | 1959 |

## SUBJECT INDEX

DIET - CONT'DDRY FEEDS - CONT'D

|                             |  |      |
|-----------------------------|--|------|
| PARVIN, JOHN E. -<br>CONT'D | HATCHERY TESTING OF A COMMERCIAL DRY FEED<br>TO CHINOOK SALMON   | 1959 |
|                             | HATCHERY TESTING OF COMMERCIAL DRY FEED<br>TO SILVER SALMON  | 1959 |
| PELNAR, JOHN                | CHINOOK SALMON PELLET FEEDING  | 1958 |
|                             | DRY FEEDING OF CHINOOK SALMON  | 1959 |
| SATIA, BENEDICT<br>PHILLIPS | GROWTH RATE, FEED EFFICIENCY, AND REPRODUCTION<br>RESPONSES OF RAINBOW TROUT (DONALDSON STRAIN)<br>FEED MOIST ON DRY DIETS | 1973 |

FATS

|                    |  |      |
|--------------------|--|------|
| ANDERSON, ALTON R. | MARINE FISH FATS IN SALMON DIETS   | 1966 |
| SADDLER, J.B.      | FATTY ACID VARIATION WITH DIET IN COHO SALMON<br>( <i>Oncorhynchus kisutch</i> ) WALBAUM | 1965 |

FEEDING

|                        |  |      |
|------------------------|--|------|
| DONALDSON, LAUREN R.   | PROGRESS AND PROBLEMS IN FEEDING FISH IN<br>THE WESTERN STATES                           | 1952 |
| HEMING, T.A.           | INFLUENCE OF TEMPERATURE ON TIME TO<br>COMMENCE FEEDING OF CHINOOK SALMON ALEVINS        | 1980 |
| JOHNSTON, JAMES M.     | TERRITORIAL AND FEEDING BEHAVIOR OF STEELHEAD<br>AND COHO WITHIN A STREAMS MICROHABITATS | 1970 |
| HOPLEY, CHARLES W. JR. | FEEDING OF CHINOOK SALMON ALEVINS  | 1974 |
| NIGHTINGALE, JOHN W.   | NITROGEN METABOLISM AND FEEDING IN DONALDSON<br>STRAIN RAINBOW TROUT                     | 1973 |
| PANEL:                 | FEEDING OF SPRING CHINOOK SALMON AND ASSOCIATED<br>PROBLEMS                              | 1961 |
| ROLEY, DENNIS D.       | FEEDING OF HATCHERY-REARED COHO SALMON ALEVINS   | 1974 |

FEEDING TECHNIQUES

|                   |  |      |
|-------------------|--|------|
| ABBOTT, ROBERT R. | THE TRAINING OF TROUT WITH SOUND STIMULUS                      | 1969 |
|                   | TRAINING FISH WITH UNDERWATER SOUND---PRACTICAL<br>SUGGESTIONS | 1972 |
| JENSEN, CHRIS     | PROGRESS REPORT ON FROZEN FOOD PELLET FEEDERS                  | 1967 |

## SUBJECT INDEX

DIET - CONT'DFEEDING TECHNIQUES - CONT'D


---

|                 |  |      |
|-----------------|--|------|
| LEITH, DAVID A. | STUDIES ON OREGON PELLET FEEDING TECHNIQUES  | 1964 |
| MORTON, K.E.    | AN ATTEMPT TO CONTROL GROWTH THROUGH THE<br>ALTERNATE FEEDING AND STARVATION OF FISH | 1955 |

FIN EROSIN

|                  |   |      |
|------------------|---|------|
| HILL, RAYMOND L. | COMPARISON BETWEEN TWO METHODS OF FEEDING<br>AS RELATED TO FIN EROSIN | 1974 |
|------------------|---|------|

GENERAL

|                            |  |      |
|----------------------------|--|------|
| KLONTZ GEORGE W.<br>(BILL) | A METHOD OF CONDUCTING HATCHERY DIET TRIALS                                | 1977 |
| WESTGATE, JOHN W.          | PROGRESS TOWARD DEVELOPING A SURVIVAL<br>ENHANCING DIET FOR PACIFIC SALMON | 1980 |

GROWTH RATES

|                                  |   |      |
|----------------------------------|---|------|
| GRIFFIOEN, WARD &<br>J. VOELKNER | GROWTH RATES OF JUVENILE CHUM IN COLD WATER<br>FED ON FIVE DIFFERENT RATION TYPES | 1980 |
|----------------------------------|---|------|

INGREDIENTS

|                               |  |      |
|-------------------------------|--|------|
| BIGEJ, RICHARD G.             | DIET TRIALS WITH PASTEURIZED AND AUTOLYZED   | 1960 |
| COATES, J.A. &<br>R.L. SCHWAB | BRINE SHRIMP FEEDING EXPERIMENTS   | 1955 |
| GASTINEAU, ALFRED C.          | A COMPARISON OF SEVERAL SALMON VISCERA<br>INCLUDED IN THE DIET FED TO SOCKEYE<br>FINGERLINGS AT THE LEAVENWORTH, WASHINGTON<br>FISH CULTURAL STATION | 1954 |
| WOODALL, A.N.                 | DEXTRIN SUPPLEMENTED LIVER DIETS FOR CHINOOK<br>SALMON   | 1959 |

LARVAE

|  |  |      |
|--|--|------|
| HALVER, J.E. &<br>G. PIGOTT                    | MANUFACTURING LARVAE FISH FEED PRACTICES                 | 1979 |
| VILLALON, J.R. &<br>G.M. PIGOTT<br>J.E. HALVER | RESPONSE OF MARINE FISH LARVAE TO ARTIFICIAL<br>DIETS    | 1981 |
| WOLF, DAVID A. &<br>J.E. HALVER                | ACCEPTANCE OF A DRUM-DRIED FEED BY MARINE<br>FISH LARVAE | 1979 |

## SUBJECT INDEX

DIET - CONT'DMINERALS

- |                                      |   |      |
|--------------------------------------|---|------|
| CUPLIN, PAUL                         | CHELATED MINERALS IN IDAHO TROUT DIETS                    | 1968 |
| OLSON, WAYNE H. &<br>TERENCE BRADLEY | THE ROLE OF MINERAL ENRICHMENT IN STEELHEAD<br>PRODUCTION | 1980 |

MOISTURE

- |                   |  |      |
|-------------------|--|------|
| PUTMAN, GEORGE B. | ASCORBIC ACID DESTRUCTION IN MOIST DIETS   | 1976 |
| WOODALL, A.N.     | EFFECT OF MOISTURE IN CHINOOK SALMON DIETS | 1958 |

NUTRITION

- |   |  |      |
|---|--|------|
| CRAWFORD, D.L. &<br>D.K. LAW<br>R.B. MCKEE<br>D.E. MILLS<br>J.W. WESTGATE | HAKE (MERLUCCIOUS PRODUCTS) A SOURCE OF<br>PROTEIN FOR HATCHERY FISH NUTRITION               | 1969 |
| CRAWFORD, DAVID L. &<br>DUNCAN K. LAW                                     | COMPARATIVE NUTRITIONAL CHARACTERISTICS OF<br>FILLET CARCASS WASTE TO FISH                   | 1974 |
| DOLLAR, ALEXANDER M.  | NUTRITION AND DISEASE IN TROUT   | 1960 |
| SINNHUBER, RUSSELL O.   | ESSENTIAL FATTY ACIDS, REQUIREMENTS AND THE<br>NUTRITION OF TROUT                            | 1972 |
| SMITH, R.R.   | FOOD ENERGY AND THE PRODUCTIVE VALUE OF<br>FISH FOODS  | 1967 |
|   | PROGRESS IN EVALUATING FISH FEEDS ON THE BASIS<br>OF DIGESTABILITY AND METABOLIZABLE ENGERGY | 1971 |

OMP

- |                                |   |      |
|--------------------------------|---|------|
| BOUCK, GERALD &<br>M.D. CAIRNS | DOES OMP DIET INHIBIT REPRODUCTION IN ADULT<br>SCKEYEE SALMON | 1976 |
| CUPLIN, PAUL                   | LINEAR PROGRAMMED IDAHO OPEN FORMULA DIET                     | 1970 |

OREGON PELLETS

- |                    |  |      |
|--------------------|--|------|
| BARNEY, ELMO B.    | DIET TRIALS INVOLVING THE USE OF OREGON MOIST<br>PELLETS FOR FEEDING FINGERLING FALL CHINOOK,<br>STEELHEAD, AND KAMLOOPS TROUT AT<br>COLEMAN STATION | 1962 |
| DRAGO, HOWARD      | PRODUCTION FEEDING OF SPRING CHINOOK WITH OREGON<br>PELLETS (DOGFISH)  | 1963 |
| HUBLON, WALLACE F. | FURTHER INFORMATION CONCERNING OREGON PELLETS<br>IN PRODUCTION   | 1960 |

## SUBJECT INDEX

DIET - CONT'DOREGON PELLETS - CONT'D

|  |  |      |
|--|--|------|
| LAW, D.K.  | PROBLEMS IN MANUFACTURE AND STORAGE OF MOIST PELLETS   | 1957 |
|  | A REPORT ON THE AMBRETTE PELLET MAKING MACHINE   | 1958 |
| LAW, D.K. &<br>D.L. CRAWFORD<br>R.B. MCKEE<br>J.W. WESTGATE            | UTILIZATION OF SHRIMP SCRAP IN THE PREPARATION OF MOIST PELLETTED FISH FOODS   | 1970 |
| LEITH, DAVID A.  | OREGON PELLETS IN PRODUCTION   | 1959 |
| MCKEE, THOMAS B.   | TRIALS WITH CRUMBLER OREGON PELLETS AND A PROGRESS REPORT OF OTHER 1962 NUTRITION STUDIES                            | 1962 |
| MILLS, D.  | EVALUATION OF HERRING, SALMON, AND HAKE AS WET INGREDIENTS FOR OREGON PELLETS  | 1970 |
|  | PRODUCTION RESULTS WITH IMPROVED OREGON STARTER MASH AND PELLETS   | 1970 |
| SADDLER, JAMES B. &<br>K.V. KOSKI                                      | COMPARATIVE LIPID AND FATTY ACID FEATURES OF PELLET DIETS CURRENTLY USED IN FISHERIES                                | 1970 |
| WESTGATE, JOHN   | RANKING OF SELECTED WET INGREDIENTS FOR OREGON PELLETS   | 1963 |
|  | EVALUATION OF COTTONSEED OIL MEAL SUBSTITUTES AND BOTTOMFISH FILLET SCRAP IN THE OREGON PELLET, A PRELIMINARY REPORT | 1964 |
|  | DEVELOPMENT OF A NEW OREGON PELLET FORMULATION   | 1967 |
|  | SOME DEVELOPMENT IN OREGON STARTER MASH AND OREGON PELLET FORMULATION  | 1969 |
|  | TESTS ON FISHMEALS IN OREGON PELLETS   | 1973 |
| WESTGATE, JOHN W. &<br>THOMAS MCKEE<br>DAVID CRAWFORD<br>DUNCAN K. LAW | A TEST OF 'SALTY HERRING MEAL' IN OREGON PELLETS   | 1974 |
| WHITE, REED G.   | SUMMARY OF PELLET FEEDING  | 1961 |
|  | OREGON PELLET FEEDING PRODUCTION SUMMARY   | 1962 |

PERFORMANCE AND COMPOSITION

|   |   |      |
|---|---|------|
| MCCALLUM, IAN &<br>DAVE HIGGS<br>BRUCE OWEN | CHINOOK SALMON DIETS BASED ON PRESCRIBED PERFORMANCE AND BODY COMPOSITION | 1980 |
|---|---|------|

## SUBJECT INDEX

DIET - CONT'DPERFORMANCE AND COMPOSITION - CONT'D

|                 |   |      |
|-----------------|---|------|
| MILLS, DWAIN E. | PRODUCTION TEST OF ANCHOVY, MENHADEN AND TUNA OILS IN OREGON MOIST PELLET | 1979 |
|-----------------|---|------|

PROTEIN

|   |  |      |
|---|--|------|
| BIGEJ, R.G.   | EVALUATION OF PROTEIN LEVELS IN A HATCHERY DIET  | 1957 |
| CRAWFORD, D.L. &<br>DUNCAN K. LAW<br>JOHN W. WESTGATE<br>DAVID A. LEITH | RESPONSE OF CHINOOK SALMON TO DIETARY PROTEIN ENERGY REQUIREMENTS OF SPRING CHINOOK SALMON           | 1976 |
| HALVER, JOHN E.   | PROTEIN REQUIREMENTS STUDIES WITH SALMONIDS  | 1954 |
|   | PROTEIN REQUIREMENTS OF SALMON   | 1956 |
| MAHNKEN, CONRAD &<br>JOHN SPINELLI                                      | EFFECTS ON GROWTH OF SALMONIDS DIETS CONTAINING SINGLE-CELL PROTEIN DERIVED FROM YEAST AND BACTERIAL | 1976 |
| PUTMAN, GEORGE B. &<br>JERRY D. HENDRICKS                               | SOME OBSERVATIONS ON THE USE OF FISH PROTEIN CONCENTRATE IN EXPERIMENTAL TROUT DIETS                 | 1975 |
| ROLEY, DENNIS D.  | QUANTITATIVE PROTEIN REQUIREMENTS OF THE UNIVERSITY OF WASHINGTON RAINBOW TROUT BROODSTOCK           | 1975 |
| SATIA, BENEDICT<br>PHILLIPS   | QUANTITATIVE PROTEIN REQUIREMENTS OF RAINBOW TROUT   | 1972 |
| SHANKS, WARREN E.   | METHODS FOR EVALUATING PROTEIN QUALITY   | 1961 |
|   | MEASUREMENT OF PROTEIN QUALITY   | 1962 |
| SMITH, ROBERT R.  | RAISING TROUT WITH OUT ANIMAL PROTEIN  | 1973 |

STARTING DIETS

|                   |  |      |
|-------------------|--|------|
| DRAGO, HOWARD     | PRODUCTION FEEDING TRIALS WITH OREGON STARTER MASH                       | 1966 |
| FOWLER, LAURIE G. | STARTING DIETS AND THE RESULTS OF THE 1966 FEEDING TRIALS                | 1966 |
| HUBLU, WALLACE F. | OREGON PELLETS AS A STARTING DIET - FEEDING OF DEHYDRATED OREGON PELLETS | 1961 |
| McKEE, THOMAS B.  | OREGON PELLETS AS A STARTED DIET FOR SALMON AND STEELHEAD                | 1964 |
|                   | MODIFICATION OF THE OREGON STARTER MASH                                  | 1967 |



## SUBJECT INDEX

DIET - CONT'DSTARTING DIETS - CONT'D


---

|                 |  |      |
|-----------------|--|------|
| MILLS, DWAIN E. | DEVELOPMENT OF THE OREGON STARTER MASH | 1966 |
| WESTGATE, J.    | OREGON PELLET STARTER DIETS            | 1965 |

SUPPLEMENTS

|                                    |   |      |
|------------------------------------|---|------|
| FOWLER, LARRY G.                   | HERRING MEAL REPLACEMENTS IN THE ABERNATHY DIET   | 1974 |
| LARSON, R.E.                       | KELP MEAL AS A DIET SUPPLEMENT FOR SALMONIDS  | 1977 |
| PUTMAN, GEORGE B.                  | THE USE OF DRIED SLUDGE FROM THE SECONDARY TREATMENT OF POTATOE PROCESSING WASTES AS A FEED INGREDIENT FOR RAINBOW TROUT                                    | 1977 |
| RILE, KATHY &<br>BRIAN ALLEE       | USE OF 'BIO POND SLUDGE' AS A FEED INGREDIENT FOR PEN-REARED COHO SALMON  | 1973 |
| SPINELLI, JOHN &<br>CONRAD MAHNKEN | THE EFFECT OF DIETS CONTAINING DOGFISH MEAL (SQUALUS ACANTHIAS) ON THE MERCURY CONTENT AND GROWTH OF PEN-REARED COHO SALMON ( <i>Oncorhynchus kisutch</i> ) | 1975 |
|                                    | CAROTENOLD DEPOSITION IN PEN-REARED SALMONIDS FED DIETS CONTAINING OIL EXTRACTS OF RED CRAB ( <i>Pleuroncodes planipes</i> )                                | 1976 |
| STEEL, RONALD E.                   | UTILIZATION OF SHRIMP PROCESSING WASTE AS A DIETARY SUPPLEMENT FOR RAINBOW TROUT ( <i>Salmogairdneri</i> )  | 1970 |

TEST DIETS

|                   |  |      |
|-------------------|--|------|
| HALVER, JOHN E.   | VITAMIN-TEST DIET FOR CHINOOK SALMON   | 1951 |
| MILLS, DWAIN      | TESTING OF VEGETABLE AND FISH OILS AND PASTEURIZED HAKE AS OREGON PELLET INGREDIENTS | 1968 |
| RUCKER, ROBERT R. | WOLD'S AND McLAREN'S 'SYNTHETIC' OR TEST DIETS                                       | 1951 |

VITAMINS

|                |  |      |
|----------------|--|------|
| FRYE, TED      | THE EFFECT OF ENVIRONMENTAL FACTORS ON VITAMIN RETENTION IN PROCESSED FISH FOODS | 1976 |
| HALVER, JOHN   | THE QUALITATIVE WATER-SOLUBLE VITAMIN REQUIREMENT OF CHINOOK SALMON              | 1952 |
|                | VITAMIN C <sub>3</sub> FOR FISH  | 1971 |
| JONES, G. IVAN | THIAMIN LOSS IN STARVED LIVER  | 1950 |

## SUBJECT INDEX

DIET - CONT'DVITAMINS - CONT'D

- |                                 |   |      |
|---------------------------------|---|------|
| TUCKER, BARBEE &<br>J.E. HALVER | ADEQUATE VITAMIN C IMPROVES RESISTANCE TO<br>STRESS | 1981 |
|---------------------------------|---|------|

DISEASEANTIBODIES

- |                |   |      |
|----------------|---|------|
| CISAR, J.O     | SOME CHARACTERISTICS OF ANTIBODIES FROM<br>JUVENILE SALMON  | 1970 |
| DECEW, MARK    | PRELIMINARY REPORT ON THE USE OF ANTIBIOTICS<br>TO CONTROL BACTERIAL INFECTIONS IN ADULT SALMON                                   | 1969 |
|                | PROGRESS IN THE STUDY OF ANTIBIOTIC EFFICACY<br>AND TERATOGENICITY IN ADULT CHINOOK SALMON<br>( <i>Oncorhynchus tshawytscha</i> ) | 1971 |
| FUJIHARA, M.P. | COLUMNARIS EXPOSURE AND ANTIBODY PRODUCTION<br>IN SEAWARD AND UPSTREAM MIGRANT SOCKEYE SALMON                                     | 1971 |

BACTERIAL

- |                    |  |      |
|--------------------|--|------|
| BUCHANAN, DAVID V. | EFFECTS OF INCREASING TEMPERATURES AND BACTERIAL<br>DISEASES FOUND NATURALLY IN THE WILLAMETTE RIVER<br>TO FOUR STOCKS OF STEELHEAD SMOLTS | 1975 |
| FRYER, J.L. DR.    | CURRENT RESEARCH CONCERNING ORAL IMMUNIZATION<br>OF SALMONIDS AGAINST BACTERIAL DISEASE  | 1970 |
| HOLT, R.A.         | SEROLOGICAL TYPING AND CONTROL OF ( <i>Cytophaga<br/>psychrophila</i> ) THE CAUSITIVE AGENT OF BACTERIAL<br>COLD WATER DISEASE             | 1969 |

BOTULISM DISEASE

- |                      |   |      |
|----------------------|---|------|
| EKLUND, DR. MEL      | OCCURRENCE OF BOTULISM IN SALMONID REARING<br>FACILITIES              | 1981 |
| HAMMERSTROM, RICHARD | SUSCEPTIBILITY OF TWO SPECIES OF SALMON TO<br>BOTULISM INTOXIFICATION | 1964 |

CANCER

- |   |  |      |
|---|--|------|
| HALVER, J.E. &<br>G.N. WOGAN<br>L.M. ASHLEY<br>R.R. SMITH | SIZE AND SENSITIVITY OF TROUT TO AFLAXTOXIN B <sub>1</sub> | 1967 |
|---|--|------|

CATARACTS

- |            |  |      |
|------------|--|------|
| PERRY, NED | CATARACTS IN B.C. CHINOOK AND COHO: COSTS AND<br>CURES | 1981 |
|------------|--|------|

## SUBJECT INDEX

DISEASE - CONT'DCATARACTS - CONT'D

|                  |                               |      |
|------------------|-------------------------------|------|
| ROLEY, DENNIS D. | CATARACTS IN WASHINGTON STATE | 1981 |
|------------------|-------------------------------|------|

CERATOMYXA SHASTA

|                               |   |      |
|-------------------------------|---|------|
| GOULD, R.W. &<br>J.E. SANDERS | OCCURRENCE OF THE PROTOZOAN FISH PARASITE<br>( <i>Ceratomyxa shasta</i> ) IN THE COLUMBIA RIVER BASIN<br>AND THE ULTRA-STRUCTURE OF THE SPORT | 1969 |
|-------------------------------|---|------|

|                   |   |      |
|-------------------|---|------|
| JOHNSON, KEITH A. | RECENT OBSERVATIONS CONCERNING ( <i>Ceratomyxa shasta</i> ) | 1971 |
|-------------------|---|------|

|                                     |  |      |
|-------------------------------------|--|------|
| LEITH, DAVID A. &<br>KEITH D. MOORE | CONTROL OF ( <i>Ceratomyxa</i> ) IN A HATCHERY WATER | 1967 |
|-------------------------------------|--|------|

|                 |   |      |
|-----------------|---|------|
| RATLIFF, DON E. | A DIFFERENCE IN RESISTANCE OF DESCHUTES RIVER<br>STOCK SPRING CHINOOK TO ( <i>Ceratomyxa shasta</i> )<br>BY EXPOSURE PERIOD | 1974 |
|-----------------|---|------|

|  |  |      |
|--|--|------|
|  | 1974 ( <i>Ceratomyxa shasta</i> ) STUDIES AT THE PROJECT<br>DESHUTES RIVER, OREGON | 1974 |
|--|--|------|

|  |  |      |
|--|--|------|
|  | DISTRIBUTION OF THE INFECTIVE AGENT FOR<br>( <i>Ceratomyxa shasta</i> ) AT THE PELTON PROJECT<br>DESCHUTES RIVER, OREGON | 1977 |
|--|--|------|

|  |   |      |
|--|---|------|
|  | ( <i>Ceratomyxa shasta</i> ) A MAJOR KILLER OF COLUMBIA<br>RIVER SALMON ? | 1979 |
|--|---|------|

|  |   |      |
|--|---|------|
|  | ( <i>Ceratomyxa shasta</i> ), INITIAL TIMING, LONGEVITY,<br>AND ABUNDANCE OF THE INFECTIVER STAGE IN THE<br>DESCHUTES RIVER OF OREGON | 1980 |
|--|---|------|

|              |  |      |
|--------------|--|------|
| SANDERS, JIM | OCCURRENCE AND DISTRIBUTION OF ( <i>Ceratomyxa shasta</i> )<br>IN SALMONID FISHES FROM OREGON WATERS | 1966 |
|--------------|--|------|

|                              |  |      |
|------------------------------|--|------|
| SANDER, J.E. &<br>J.L. FRYER | ( <i>Ceratomyxa shasta</i> ) INFECTIONS IN SALMONIDS | 1967 |
|------------------------------|--|------|

|            |  |      |
|------------|--|------|
| UDEY, L.R. | THE EFFECTS OF TEMPERATURE ON ( <i>Ceratomyxa shasta</i> )<br>DISEASE IN EXPERIMENTALLY INFECTED JUVENILE<br>RAINBOW TROUT AND COHO SALMON | 1972 |
|------------|--|------|

|             |  |      |
|-------------|--|------|
| WOOD, JAMES | A MYXOSPORIDIAN, ( <i>Ceratomyxa shasta</i> ), INVOLVED IN<br>LOSSES OF ADULT SALMON | 1962 |
|-------------|--|------|

|            |  |      |
|------------|--|------|
| ZINN, J.L. | INCIDENCE OF ( <i>Ceratomyxa shasta</i> ) IN SELECTED<br>HATCHERY STOCKS OF CHINOOK SALMON | 1975 |
|------------|--|------|

|  |  |      |
|--|--|------|
|  | INCIDENCE OF ( <i>Ceratomyxa shasta</i> ) IN SELECTED<br>HATCHERY STOCKS OF COHO AND GENETIC CROSSES<br>OF FALL CHINOOK SALMON | 1975 |
|--|--|------|

## SUBJECT INDEX

DISEASE - CONT'DCOLUMNARIS

- |                  |   |      |
|------------------|---|------|
| AMEND, DONALD F. | EXPERIMENTAL CONTROL OF <i>Columnaris</i> DISEASE<br>WITH A NEW NITROFURAN DRUG | 1968 |
| CULVER, RAY      | CONTROL OF <i>Columnaris</i> ON JUVENILE SPRING CHINOOK                         | 1964 |
| FUJIHARA, PAUL   | <i>C. columnaris</i> ANTIBODY PRODUCTION IN COLUMBIA<br>RIVER FISHES            | 1966 |

CRYPTOBIA

- |                                   |   |      |
|-----------------------------------|---|------|
| KATZ, MAX &<br>CLARENCE D. BECKER | <i>Cryptobia salmositica</i> : A HEMOFLAGELLATE<br>PARASITE OF COHO SALMON                                | 1961 |
| KATZ, MAX &<br>CLARENCE D. BECKER | PRELIMINARY OBSERVATIONS REGARDING THE<br>DISTRIBUTION OF <i>Cryptobia</i> IN THE PACIFIC<br>COAST STATES | 1961 |

ENVIRONMENTAL GILL DISEASE

- |  |  |      |
|--|--|------|
| KLONTZ, G.W. (BILL) &<br>BRUCE STEWART | ENVIRONMENTAL GILL DISEASE (EGD): WHAT IT IS<br>AND WHAT TO DO ABOUT IT                | 1981 |
| YASUTAKE, W.T. &<br>K.H. AMOS          | HISTOPATHOLOGICAL EFFECTS OF RIVER ASHFALL<br>SUSPENSION ON CHINOOK SALMON FINGERLINGS | 1980 |

EGGS

- |                     |  |      |
|---------------------|--|------|
| AMEND, DONALD F.    | WHATS NEW IN EGG DISINFECTANTS   | 1970 |
| CONRAD, JOHN F.     | PROGRESS REPORT ON 'BAD-EGG' STUDIES   | 1961 |
|                     | 'BAD EGG' STUDIES CONTINUED  | 1962 |
| HILL, RAYMOND L.    | RESULTS OF TREATMENTS FOR SOFT SHELL EGG<br>DISEASE IN CHINOOK SALMON                              | 1977 |
| HOLWAY, JAMIESON E. | COLLAPSING MEMBRANE DISEASE OF BROOK TROUT<br>EGG AND SAC FRY                                      | 1967 |
| RUCKER, ROBERT R.   | IMPACTED OVA OF CHINOOK SALMON   | 1959 |
| SCORDELIS, PHILIP   | PRELIMINARY REPORT ON THE CONTROL OF FUNGUS ON<br>FISH EGGS WITH A NEW ANTI-FUGAL CHEMOTHERAPEUTIC | 1977 |

FURANACE

- |                |                               |      |
|----------------|-------------------------------|------|
| ANDERSON, DOUG | A PROGRESS REPORT ON FURANACE | 1969 |
|----------------|-------------------------------|------|

FURUNCULOSIS

- |              |   |      |
|--------------|---|------|
| CONRAD, JOHN | OBSERVATIONS ON STRESS-DISEASE CORRELATION IN<br>JUVENILE COHO SALMON | 1963 |
|--------------|---|------|

FURUNCULOSIS - CONT'D

|                                 |  |      |
|---------------------------------|--|------|
| FRYER, JOHN L. &<br>JOHN CONRAD | FURUNCULOSIS IN ADULT SALMON AND STEELHEAD<br>TROUT                                      | 1963 |
| HALL, JAMES D.                  | FURUNCULOSIS IN THE CHESTNUT LAMPREY   | 1964 |
| KLONTZ, GEORGE W.               | THE FURUNCULOSIS FAD   | 1966 |
| KNITTEL, MARTIN D.              | AEROMONAS LIQUEFACIENS INFECTIONS IN ADULT<br>CHINOOK SALMON                             | 1963 |
| ROBERT, STEVEN                  | RENEWED INVESTIGATION INTO THE PREVENTION<br>OF FURUNCULOSIS                             | 1979 |
| WALSDORF, WILLIAM J.            | ORAL IMMUNIZATION OF COHO SALMON AGAINST<br>FURUNCULOSIS AT QUILCENE NATL. FISH HATCHERY | 1967 |

GAS BUBBLE

|  |  |      |
|--|--|------|
| RUCKER, ROBERT                           | GAS BUBBLE DISEASE STUDIES OF FISH         | 1970 |
| WESTGARD, R.L.                           | GAS BUBBLE DISEASE IN ADULT CHINOOK SALMON | 1963 |
| WYATT, WILLIS J. &<br>KIRK, T. BEININGEN | A NITROGEN GAS DISEASE CATASTROPHE         | 1969 |

GENERAL

|                   |  |      |
|-------------------|--|------|
| CONRAD, J.        | A MYXOBACTERIUM AND MYXOSPORIDIAN FOUND IN JUVENILE<br>SALMONIDS AT OREGON FISH COMMISSION HATCHERIES<br>IN 1965 | 1965 |
| EARP, BRIAN J.    | AN INTERIM REPORT ON FISH DISEASE INVESTIGATIONS   | 1951 |
|                   | FISH DISEASE INVESTIGATION, STATE OF WASHINGTON<br>DEPARTMENT OF FISHERIES                                       | 1952 |
|                   | PROGRESS REPORT ON FISH DISEASE STUDIES  | 1956 |
|                   | DISEASE PROBLEMS WITH DRY DIETS IN SILVER SALMON   | 1958 |
| MCKERNAN, DON     | NUTRITIONAL DISEASES   | 1951 |
| RUCKER, ROBERT R. | FISH DIAGNOSTICS LABORATORY  | 1964 |
| SPENCE, KEMET     | CONTROL OF DISEASE IN ADULT SALMON A<br>PRELIMINARY REPORT   | 1962 |
| UZMANN, J.R.      | THE USE OF PARASITES IN RACIAL STUDIES   | 1957 |
| WOOD, JAMES W     | DISEASE STUDIES AT OAKRIDGE  | 1955 |
|                   | A PROGRESS REPORT ON TUBERCULOSIS AND KIDNEY<br>DISEASE RESEARCH   | 1956 |

## SUBJECT INDEX

DISEASE - CONT'DGENERAL - CONT'D

|                       |   |      |
|-----------------------|---|------|
| WOOD, JAMES W. CONT'D | A PROGRESS REPORT ON KIDNEY DISEASE AND TUBERCULOSIS RESEARCH | 1957 |
|                       | PROGRESS REPORT ON FISH DISEASE STUDIES                       | 1958 |
|                       | PROGRESS REPORT ON FISH DISEASE STUDIES                       | 1959 |
|                       | PROGRESS REPORT ON FISH DISEASE RESEARCH                      | 1960 |
|                       | DISEASES OF ADULT SALMON                                      | 1964 |
| WOOD, E.M.            | PATHOLOGY AND HATCHERY EVALUATION                             | 1963 |

HERPESVIRUS

|              |  |      |
|--------------|--|------|
| TAYLOR, W.G. | SALMONID HERPESVIRUS: A NEW ISOLATE FROM RAINBOW TROUT | 1975 |
|--------------|--|------|

HEXAMITA (OCTOMITIS)

|                      |  |      |
|----------------------|--|------|
| UZZMANN, J.R.        | THE HEXAMITA PROBLEM--REAL OR IMAGINED ? | 1960 |
| YASUTAKE, WILLIAM T. | CHEMOTHERAPY OF <i>Hexamita salmonis</i> | 1958 |

ICHTHYOPHTHIRIUS

|                    |   |      |
|--------------------|---|------|
| CULVER, RAYMOND F. | CONTROL OF <i>ICHTHYOPHTHIRIUS</i> UNDER UNFAVORABLE WATER CONDITIONS AT OAK SPRINGS HATCHERY | 1968 |
| ERICKSON, DAVE     | A SPINAL CURVATURE RELATED TO <i>Ichthyosporidium</i> INFECTION IN RAINBOW TROUT              | 1963 |
| RUCKER, R.R.       | <i>Ichthyosporidium</i> INFECTIONS IN FISH  | 1957 |

IDENTIFICATION

|                 |   |      |
|-----------------|---|------|
| GROBERG, WARREN | RECENT DEVELOPMENTS IN FISH VIRAL EXAMINATIONS AT OREGON HATCHERIES | 1979 |
|-----------------|---|------|

IHN

|  |   |      |
|--|---|------|
| AMEND, DONALD F.                       | PREVENTION AND CONTROL OF INFECTIOUS HEMATOPOIETIC (IHN) VIRUS DISEASE IN RAINBOW TROUT | 1974 |
| BURKE, JOHN A. &<br>JOSEPH R. SULLIVAN | TOWARD CONTROL OF IHN   | 1981 |
| HILL, RAYMOND &<br>DON E. RATLIFF      | RINSING UNFERTILIZED STEELHEAD EGGS AND IHN VIRUS                                       | 1980 |

## SUBJECT INDEX

DISEASE - CONT'DIMMUNIZATION

|  |   |      |
|--|---|------|
| BRUNSON, WAYNE                                     | PROGRESS REPORT OF VACCINATIONS AS A MEANS OF CONTROLLING DRUG RESISTANT BACTERIAL OUTBREAKS IN WASHINGTON GAME DEPARTMENT HATCHERIES | 1976 |
| FRYER, J.L. &<br>G.L. TEBBIT                       | IMMUNIZATION OF FISH FOR CONTROL OF INFECTIOUS HEMATOPIETIC NECROSIS  | 1975 |
| GARRISON, ROBERT L.                                | VIBRIO IMMUNIZATION STUDIES   | 1972 |
| GOVEN, BEVERLY A.                                  | ANTIPROTOZOAN IMMUNIZATION STUDIES IN THE CHANNEL CATFISH, ICTAIURUS PUNCTATUS  | 1979 |
| HOLT, R. &<br>M. SMITH<br>J. ZAKEL<br>D. MAHER     | ANTIBIOTIC INJECTION OF ADULT SPRING CHINOOK SALMON TO REDUCE PRESPAWNING LOSSES AT SEVERAL OREGON FISH HATCHERIES                    | 1979 |
| KLONTZ, DR. GEORGE W.                              | ORAL IMMUNIZATION OF RAINBOW TROUT  | 1963 |
|  | STATUS OF ORAL IMMUNIZATION OF JUVENILE COHO SALMON AGAINST FURUNCULOSIS  | 1968 |
| NELSON, J.S. &<br>DR. J.L. FRYER<br>R.L. GARRISON  | ORAL IMMUNIZATION OF SALMONID FISH FOR CONTROL OF VIBRIOSIS   | 1969 |
| OVERHOLSER, DONALD                                 | ORAL IMMUNIZATION OF JUVENILE COHO SALMON   | 1966 |
| ROHOVEC, JOHN S.                                   | PROGRESS IN ORAL IMMUNITY FOR VIBRIO ANGULLARUM   | 1971 |
| ROHOVEC, J.S. &<br>J.L. FRYER                      | ORAL AND PARENTERAL IMMUNIZATION OF FISH FOR THE CONTROL OF VIBRIOSIS   | 1974 |
| SPENCE, KENNETH &<br>JOHN L. FRYER<br>K.S. PILCHER | ACTIVE AND PASSIVE IMMUNIZATION OF RAINBOW TROUT, SPRING CHINOOK SALMON, AND COHO SALMON AGAINST AEROMONUS SALMONICIDA                | 1963 |
| WOOD, J.W.   | ORAL IMMUNIZATION OF JUVENILE COHO SALMON UNDER HATCHERY PRODUCTION CONDITIONS  | 1966 |

INFECTIOUS PANCREATIC NECROSIS

|  |   |      |
|--|---|------|
| KINCHELOE, JOHN                                | INFECTIOUS PANCREATIC NECROSIS                                    | 1962 |
| PARISOT, THOMAS J.                             | INFECTIOUS PANCREATIC NECROSIS IN THE WEST                        | 1962 |
| SANDERS, J.E. &<br>G.C. TEBBIT<br>D.M. MULCAHY | INFECTIOUS PANCREATIC NECROSIS VIRUS IN TROUT FROM CENTRAL OREGON | 1973 |

## SUBJECT INDEX

DISEASE - CONT'DINFECTIOUS PANCREATIC NECROSIS - CONT'D

- |                 |  |      |
|-----------------|--|------|
| WARREN, J.W.    | THE DETECTION OF INFECTIOUS PANCREATIC NECROSIS  | 1965 |
| BILLI, JAMES L. | A QUANTITATIVE COMPARISON OF PERITONEAL WASHES AND FECES FOR DETECTING INFECTIOUS PANCREATIC NECROSIS (IPN) VIRUS IN CARRIER BROOK TROUT | 1967 |

KIDNEY

- |  |   |      |
|--|---|------|
| AMOS, KEVIN H. &<br>G.W. KLONTZ        | A PRELIMINARY REPORT ON THE CONTROL OF BACTERIAL-KIDNEY DISEASE IN CHINOOK SALMON                                     | 1975 |
| BANDOWETZ, GARY M.                     | THE IMMUNIZATION OF BACTERIAL KIDNEY DISEASE  | 1974 |
| COLEY, TRAVIS C.                       | THE CONTROL OF BACTERIAL KIDNEY DISEASE:<br>1977 UPTAKE   | 1977 |
| GREEN, C.C.                            | KIDNEY DISEASE IN RAINBOW BROOD STOCK   | 1957 |
| GROMAN, DAVID B.                       | UPDATE: ERYTHROMYCIN PHOSPHATE WATER HARDENING AS A CONTROL OF BACTERIAL KIDNEY DISEASE IN CHINOOK SALMON             | 1979 |
|  | UPDATE: BACTERIAL KIDNEY DISEASE CONTROL 1979-1980 ACTIVITIES AT THE UNIVERSITY OF IDAHO                              | 1981 |
| HENDRICKS, TERRY D. &<br>STEVE L. LEEK | KIDNEY DISEASE POSTORBITAL LESIONS IN CHINOOK SALMON  | 1974 |
| HOLT, R.A. &<br>J.F. CONRAD            | OBSERVATIONS ON PSEUDO-KIDNEY DISEASE AND THE REDMOUTH DISEASE BACTERIUM IN OREGON SALMONIDS                          | 1970 |
| HOSKINS, G.E. &<br>E.T. STONE          | AN EPIZOOTIC OF A TYPICAL BACTERIAL KIDNEY DISEASE IN ADULT MIGRANT COHO  | 1980 |
| MANIFIELD, EUGENE T.                   | SURVEY OF BACTERIAL KIDNEY DISEASE IN THE QUILLAYUTE RIVER SYSTEM   | 1979 |
|  | SURVEY OF BACTERIAL KIDNEY DISEASE IN THE QUILLAYUTE RIVER SYSTEM   | 1980 |
| SANDERS, JIM E.                        | THE EFFECTS OF TEMPERATURE ON THE PROCESS OF BACTERIAL KIDNEY DISEASE IN EXPERIMENTALLY INFECTED JUVENILE COHO SALMON | 1972 |
|  | EFFECT OF SALT WATER ON BACTERIAL KIDNEY DISEASE IN YEARLING COHO SALMON  | 1979 |
| WOLD, EINAR                            | SALMONID SEMEN AS A TRANSMISSION AGENT OF KIDNEY DISEASE  | 1973 |
| WOOD, JAMES W                          | KIDNEY DISEASE  | 1954 |



## SUBJECT INDEX

DISEASE - CONT'DLIVER

- |                     |   |      |
|---------------------|---|------|
| HENDRICKS, JERRY D. | POST-MORTEM BILE DAMAGE TO RAINBOW TROUT LIVERS | 1976 |
|---------------------|---|------|

NANOPHYETUS SALMINCOLA (TROGLETREMA)

- |                    |  |      |
|--------------------|--|------|
| FARRELL, DR. KEITH | THE SALMON DISEASE FLUKE PAST AND PRESENT  | 1963 |
| COMBS, BOBBY D.    | CONTROL OF TREMATODE CERCARIAE IN HATCHERY WATER SUPPLIES                            | 1962 |
|                    | AN ELECTRICAL GRID FOR CONTROLLING TREMATODE CERCARIAE IN HATCHERY WATER SUPPLIES    | 1963 |
| UZMANN, JOSEPH     | EXPERIMENTAL EFFECTS OF <i>Nanophyetus salmincola</i> METACERCARIAE IN RAINBOW TROUT | 1962 |

NOCARDIOSIS

- |                    |                             |      |
|--------------------|-----------------------------|------|
| GAYLORD, JR., W.H. | NOCARDIOSIS IN YOUNG SALMON | 1957 |
|--------------------|-----------------------------|------|

PARASITE

- |                 |   |      |
|-----------------|---|------|
| FLYNN, JAMES K. | TREATMENT OF A MONOGENETIC TREMATODE RESISTANT TO AN ORANOPHOSPHATE | 1979 |
|-----------------|---|------|

RED MOUTH

- |                   |   |      |
|-------------------|---|------|
| RUCKER, ROBERT R. | RED MOUTH   | 1958 |
| THOMPSON, C. KENT | AGGLUTININS TO THE RED MOUTH BACTERIUM IN THE BLOOD STREAM OF RAINBOW TROUT | 1976 |

RESISTANCE

- |                |  |      |
|----------------|--|------|
| FLATOW, ROBERT | THE CONTROL OF FISH DISEASE IN THE HATCHERY BY USE OF HIGH RADIATION, MONITORED ULTRA VIOLET AND A NEW FILTER SYSTEM | 1970 |
| JOHNSON, K.E.  | AN EVALUATION OF TWO RAINBOW TROUT STRAINS FOR RESISTANCE TO <i>Ceratomyxa shasta</i>                                | 1972 |

RESPIRATORY

- |                             |  |      |
|-----------------------------|--|------|
| KATZ, BOB                   | RESPIRATORY DISEASES AND THEIR TREATMENT         | 1971 |
| KLONTZ, GEORGE W.<br>(BILL) | RESPIRATORY DISEASE OF HATCHERY-REARED SALMONIDS | 1979 |

SCOLIOSIS & LORDOSIS

- |                  |   |      |
|------------------|---|------|
| YASUTAKE, WM. T. | SCOLIOSIS AND LORDOSIS OCCURRING IN SALMONIDS | 1969 |
|------------------|---|------|

## SUBJECT INDEX

DISEASE - CONT'DSKIN

- HAWKES, DR. JOYCE A. THE FINE STRUCTURE OF THE EPIDERMIS AND  
CHROMATOPHORES OF SALMONID SKIN 1972

SUNBURN

- RUCKER, ROBERT R. DISEASE CONTROL STUDIES 1956
- YASUTAKE, W.T. A POSSIBLE CAUSE OF 'SUNBURN' IN FISH 1957

TEMPERATURE

- ENNIS, ED ADVANTAGES OF ACCELERATED INCUBATION IN TEMPERATURE  
CONTROL SYSTEMS AND CONTROL OF LOW TEMPERATURE  
DISEASE IN DEEP TROUGH' INCUBATION UNITS 1972

TREATMENTS

- BOUCK, G.R. &  
D.A. JOHNSON INHIBITION OF SALTWATER TOLERANCE IN COHO  
SALMON (*Oncorhynchus kisutch*) BY DISEASE  
TREATMENTS 1977
- MORGAN, REGINALD E. DIQUAT FOR TREATMENT OF COLUMNARIS IN COHO  
SALMON 1967
- NEALEIGH, GEORGE MALACHITE GREEN TREATMENT FOR HEATH INCUBATORS 1970  
(BILL)
- VROMAN, PAUL PROLONGED FORMALIN TREATMENT FOR FISH PARASITES 1968

TUBERCULOSIS

- PARISOT, T.J. ACID-FAST BACILLUS DISEASE OF FISH, A REVIEW 1957
- CHEMOTHERAPY OF ACID-FAST ORGANISMS OF FISH 1957
- ROSS, A.J. IDENTIFICATION OF ACID-FAST ORGANISMS ISOLATED  
FROM FISH 1957
- WESTGARD, RICHARD L. A TECHNIQUE FOR THE DETECTION OF ACID-FAST  
ORGANISM IN FISH TISSUES 1958
- A PROGRESS REPORT OF FISH TUBERCULOSIS SURVEY 1959

VIRUSES

- AMEND, DONALD F. A NEW VIRUS FROM CULTUS LAKE 1967
- GARRISON, ROBER L. PROGRESS AGAINST VIBRIOSIS IN SALTWATER  
REARING AT LINT SLOUGH 1969

## SUBJECT INDEX

DISEASE - CONT'DVIRUSES - CONT'D

|  |   |      |
|--|---|------|
| GRISCHKOWSKY, ROGER &<br>DONALD AMEND                  | SURVEY FOR INFECTIOUS HEMATOPOIETIC NECROSIS<br>VIRUS IN ALASKA SOCKEYE SALMON<br>( <i>Oncorhynchus nerka</i> ) | 1974 |
| GRISCHKOWSKY, ROGER &<br>DIANE GODSEY ELLIOTT          | INCREASE IN KNOWN DISTRIBUTION OF INFECTIOUS<br>HEMATOPOIETIC NECROSIS VIRUS IN ALASKAN<br>SOCKEYE SALMON       | 1975 |
| GUENTHER, RAYMOND W.                                   | FOOD AS A VECTOR OF THE SOCKEYE SALMON<br>VIRUS DISEASE   | 1954 |
| HARRELL, LEE W. &<br>MICHAEL H. SCHIEWE                | FURTHER EVIDENCE OF TWO STRAINS OF PATHOGENIC<br>VIBRIOS IN SALMON IN PUGET SOUND                               | 1974 |
| MEAD, ROBERT DR.                                       | A VIRAL EPIZOOTIC AT CULTUR LAKE  | 1967 |
| MULCAHY, D.M. &<br>J.E. SANDERS                        | DISTRIBUTION OF FISH VIRUSES IN OREGON  | 1975 |
| PELNAR, JOHN   | FACILITIES USED IN VIRUS DISEASE STUDY AT THE<br>COLEMAN NATIONAL FISH HATCHERY                                 | 1960 |
|  | PROGRESS REPORT ON THE COLEMAN VIRUS PROBLEM  | 1961 |
|  | PROGRESS REPORT- COLEMAN VIRUS PROBLEM  | 1962 |
|  | PROGRESS REPORT ON THE COLEMAN VIRUS PROBLEM<br>AND FROZEN PELLET FISH FEEDER                                   | 1963 |
|  | PROGRESS REPORT, COLEMAN VIRUS DISEASE AND<br>AUTOMATIC FISH FEEDER   | 1964 |
| RUCKER, ROBERT   | SUMMARIZING CONTENTS OF A PAPER TITLED, 'A<br>CONTAGIOUS DISEASE OF SALMON POSSIBLY OF VIRUS<br>ORIGIN'         | 1952 |
| SERVIZI, JAMES A. DR. &<br>DR. R. MEAD<br>DONALD AMEND | USE OF TEMPERATURE TO CONTROL A SALMONID<br>VIRUS DISEASE   | 1968 |
| TEBBIT, GUY &<br>JOHN McMICHAEL                        | THE OCCURENCE AND DISTRIBUTION OF FISH VIRUSES<br>IN ANADROMOUS SALMONID FISHES FROM OREGON                     | 1973 |
| WINGFIELD, W.  | CHARACTERIZATION OF THE SOCKEYE SALMON VIRUS  | 1965 |

WHIRLING DISEASE

|                      |  |      |
|----------------------|--|------|
| WALSDORF, WILLIAM J. | WHIRLING DISEASE AT LAHONTAN NATL. FISH HATCHERY       | 1971 |
| YASUTAKE, WILLIAM T. | OCCURRENCE OF WHIRLING DISEASE OF TROUT IN THE<br>WEST | 1966 |

## SUBJECT INDEX

DISEASE - CONT'DYOLK RELATED

- HOPLEY, CHARLES W. JR. THE EFFECT OF EARLY FEEDING ON THE RATE OF  
YOLK ABSORPTION IN CHINOOK SALMON  
(*Oncorhynchus tshawytscha*) 1975
- RUCKER, ROBERT NOTE FROM 'COAGULATED YOLK CONFERENCE' 1961
- THOMAS, A.E. EFFECT OF YOLK SAC ABSORPTION ON THE SWIMMING  
ABILITY OF FALL CHINOOK SALMON 1968
- WOODALL, A.N. THE RELATIONSHIP OF WATER CHEMISTRY TO THE  
DEVELOPMENT OF COAGULATED YOLK DISEASE IN  
CHINOOK SALMON LARVAE 1961

DRUGS

- AMEND, DONALD IN-VIVO EFFECTS OF FEEDING CERTAIN SULFONAMIDES TO  
SPRING CHINOOK SALMON - A PROGRESS REPORT 1961
- AMEND, DONALD & JOHN L. FRYER THE ABSORPTION OF SULFAMETHAZINE BY SPRING  
K.S. PILCHER CHINOOK SALMON WHEN INCORPORATED IN FISH-MEAT  
AND OREGON PELLET DIETS 1962
- AMEND, DONALD & JOHN L. FRYER PRODUCTION TRAILS UTILIZING SULFONAMIDE DRUGS  
FOR THE CONTROL OF 'COLDWATER DISEASE' IN  
JUVENILE SILVER SALMON 1963
- EARP, BRIAN REPORT ON LOW-LEVEL SULFAMETHAZINE PROPHYLAXIS FOR  
THE CONTROL OF KIDNEY DISEASE 1954
- THE EFFECT OF CERTAIN ANTIBIOTICS ON THE BACTERIUM  
*Cytophaga psychrophila* 1957
- KLONTZ, GEORGE W. F.D.A. CLEARANCE AND REGISTRATION OF DRUGS FOR  
USE IN FISH CULTURE 1967
- ROMEY, DANIEL B. THE USE OF BACTROVET (SULFADIMETHOXONE) FOR CONTROL  
OF FURUNCULOSIS ON ADULT SALMON 1963
- TREATMENT OF SALMON AND STEELHEAD WITH  
SULFONIMIDES 1964
- THE USE OF SULFONAMIDES AND ANTIBIOTICS ON  
TWO DISEASES OF ADULT SALMON 1966
- RUCKER, R.R. THE USE OF DRUGS IN FISH CULTURE 1965

EGGS

- BANKS, JOE L. METHODS OF HANDLING AND TRANSPORTING GREEN  
FALL CHINOOK EGGS 1975

## SUBJECT INDEX

EGGS - CONT'D

|  |  |      |
|--|--|------|
| CARNES, G. &<br>W. GRIFFIEON<br>J. STOSS     | PRODUCED TRANSPORTATION TECHNIQUES OF GAMETES<br>COLLECTED FROM REMOTE FRESHWATER AND SALTWATER<br>LOCATIONS IN SOUTH EAST ALASKA                | 1981 |
| DENTLER, JOHN                                | EFFICACY OF TWO FUNGICIDES ON EGGS OF CHINOOK<br>SALMON AND SUBSEQUENT EFFECTS ON SALTWATER<br>SURVIVAL  | 1981 |
| ELLIS, C.H.                                  | VARIANCES IN SURVIVAL OF SALMON EGGS AS EXPERIENCED<br>BY VARIOUS FIELD PERSONNEL WHEN USING DELAYED<br>FERTILIZATION TECHNIQUES                 | 1970 |
| JENSON, J.O.T.                               | MECHANICAL SHOCK SENSITIVITY, WATER UPTAKE AND<br>DEVELOPMENT OF INTERNAL EGG PRESSURE IN COHO<br>SALMON EGGS                                    | 1980 |
|  | EFFECT OF TOTAL GAS PRESSURE, TEMPERATURE AND<br>TOTAL WATER HARDNESS ON STEELHEAD EGGS AND<br>ALEVINS   | 1980 |
| JOHNSON, A. KEN                              | RESULTS OF 1970 FALL CHINOOK STORED EGGS SHIPMENT  | 1970 |
| POON, DEREK C.<br>A.K. JOHNSON               | THE EFFECT OF DELAYED FERTILIZATION ON<br>TRANSPORTED SALMON EGGS  | 1969 |
| NOBLE, R.E. &<br>TOM DAMRON<br>STEVE FALLERT | THE VIABILITY OF SILVER SALMON OVA AND SPERM<br>AFTER HOLDING THE KILLED ADULTS FOR VARYING<br>PERIODS OF TIME AS DETERMINED BY HATCHING SUCCESS | 1965 |
| SENN, H.                                     | THE EFFECTS TO OVUM FROM EXTREME ROUGH HANDLING<br>OF ADULT COHO   | 1965 |
| SHELDON, RAY                                 | RESULTS OF GRADING COHO SALMON EGGS AT<br>BONNEVILLE HATCHERY  | 1972 |

ELECTRICAL DIVERSION

|                   |                                      |      |
|-------------------|--------------------------------------|------|
| BURROWS, ROGER E. | ELECTRICAL DIVERSION OF ADULT SALMON | 1965 |
|-------------------|--------------------------------------|------|

ENHANCEMENT PROJECT

|                                   |   |      |
|-----------------------------------|---|------|
| HUMPHREYS, JIM                    | SMALL SCALE SALMON ENHANCEMENT PROJECTS IN<br>NORTHERN PUGET SOUND  | 1981 |
| MACQUARRIE, D.W. &<br>D.D. BAILEY | ADULT RETURNS TO THORNTON CREEK--THE SALMONID<br>ENHANCEMENT PROGRAM'S FIRST JAPANESE-STYLE<br>CHUM SALMON HATCHERY | 1980 |

ENZYMES

|               |  |      |
|---------------|--|------|
| CROSTON, C.B. | DIGESTIVE ENZYMES OF SALMON                                | 1957 |
|               | ENZYME STUDIES AT THE WESTERN FISH NUTRITION<br>LABORATORY | 1961 |

## SUBJECT INDEX

EQUIPMENT

|  |   |      |
|--|---|------|
| BUZZELL, LARRY &<br>DONALD A. MUSGROVE | A NEW EGG SORTING DEVICE FOR SALMON, TROUT,<br>AND STEELHEAD EGGS - A SLIDE PRESENTATION                                      | 1974 |
| CAMPBELL, S.L.                         | MECHANICAL FEEDER, FISH CROWDER, FISH LOADER, AND<br>DISTRIBUTION UNIT, AND NEW SPAWNING EQUIPMENT<br>IN OPERATION AT COLEMAN | 1965 |
| CULVER, RAYMOND F.                     | AN ELECTROFISHER FOR SORTING ADULT SALMON<br>AND STEELHEAD  | 1974 |
| CUNNINGHAM, DONALD                     | THE PACO FISH PUMP  | 1970 |
| FLATOW, ROBERT                         | HIGH VOLUME AND ECONOMIC, ULTRA-VIOLET WATER<br>PURIFICATION AND FILTRATION UNITS FOR HATCHERIES                              | 1971 |
| FOX, CECIL L.                          | THE FISH SORTING FACILITY AT COWLITZ TROUT HATCHERY   | 1968 |
| HARRIS, BILL                           | STANDARD DESIGN LIBERATION TANK CUTS COSTS  | 1971 |
| JENSEN, C.C.                           | PROGRESS REPORT ON AUTOMATION AT OREGON STATE GAME<br>COMMISSION HATCHERIES   | 1960 |
| LEACH, JAMES G.                        | THE PACO FISH TRANSFER PUMP   | 1969 |
| McCLARY, DENNY                         | DEVELOPMENT AND USE OF AN EGG COUNTER   | 1967 |
| McKEE, T.B.                            | MALACHITE GREEN EQUIPMENT   | 1957 |
| MOORE, KEITH                           | A LARGE VOLUME MALACHITE GREEN DISPENSER  | 1966 |
| MORTON, K.E.                           | FACTORS INFLUENCING THE EFFICIENT OPERATION OF<br>THE MORTON FISH GRADER  | 1955 |
|  | NOTES ON IMPROVEMENTS FOR THE MORTON FISH GRADER  | 1957 |
|  | A PRELIMINARY REPORT ON A NEW MULTIPURPOSE FISH<br>MOVING MACHINE   | 1963 |
|  | THE MONSTER IMPROVED - DOES GRADING PAY   | 1964 |
|  | MORTONS MONSTER IN ACTION   | 1968 |
| RAYNER, JOHN                           | FISH GRADER   | 1954 |
| SMALLEY, GEORGE V.                     | MULTIPLE USE LIBERATION AND WEIGH-OUT TANKS   | 1966 |
| SMITH, ROBERT R. &<br>MAX E. LARSON    | DESIGN AND USE OF EQUIPMENT TO FEED EXPERIMENTAL<br>DIETS CONTAINING TOXIC MATERIALS TO SMALL LOTS<br>OF FISH                 | 1962 |
| SWEIGBERG, JIM                         | INSTRUMENTATION FOR HATCHERIES  | 1961 |

## SUBJECT INDEX

EQUIPMENT - CONT'D

|                  |   |      |
|------------------|---|------|
| TAYLOR, W.G.     | AUTOMATED FISH DISPATCHER   | 1965 |
|                  | PHOTOELECTRIC EGG SORTER  | 1967 |
| VROMAN, PAUL     | ADJUSTABLE FRY GRADER   | 1962 |
| WOLD, EINAR      | EVALUATION OF ADULT STEELHEAD SORTING EQUIPMENT AND AIR SPAWNING AT DWORSHAK NATIONAL FISH HATCHERY | 1971 |
| VAN GALLEN, NEIL | DISSERTATION ON A MECHANICAL EGG PICKER   | 1972 |

EVALUATIONS STUDIES

|                              |  |      |
|------------------------------|--|------|
| ARP, ARTHUR H.               | COST ACCOUNTING OF SALMON PRODUCTION IN COLUMBIA RIVER HATCHERY EVALUATION STUDY   | 1969 |
| FELDMANN, GARY               | THE EFFECT OF ACCELERATED GROWTH AND EARLY RELEASE ON THE TIMING, SIZE, AND NUMBER OF RETURNS OF COHO SALMON ( <i>Oncorhynchus kisutch</i> ) | 1974 |
| FELDMANN, GARY & MARTIN FIGG | THE EFFECT OF ACCELERATED GROWTH AND EARLY RELEASE ON TIMING, SIZE AND NUMBERS OF RETURN OF QUINULT SOCKEYE SALMON                           | 1975 |
| FOSTER, ROBERT W.            | HATCHERY EVALUATIONS - WDF STYLE   | 1979 |
| JOHANSEN, JOHN M.            | INDEXES OF EVALUATING A TROUT HATCHERY SYSTEM  | 1965 |
|                              | ANALYSIS OF HATCHERY PERFORMANCE BASED ON INDEXES OF EVALUATION WITH COMMENTS ON THE INFLUENCE OF MORTALITY                                  | 1966 |
| KINCAID, HAROLD L.           | PROGRESS OF STRAIN EVALUATION STUDIES  | 1977 |
| PERRY, TED                   | HATCHERY EVALUATION IN BRITISH COLUMBIA  | 1979 |
| RAYNER, JOHN                 | SALMON PROPAGATION COST IN TERMS OF CATCH OF ADULT FISH OF HATCHERY ORIGIN   | 1958 |
| ROLEY, SHEILA EAGAN          | THE EFFECTS OF PARENTAL AGE-CROSS ON THE CONTRIBUTION OF CHINOOK SALMON TO THE WASHINGTON FISHERY  | 1975 |
| VREELAND, ROBERT R.          | ECONOMIC CONTRIBUTION OF 1965-1966 BROOD COLUMBIA RIVER HATCHERY COHO SALMON   | 1972 |
|                              | SO YOU WANT TO CONDUCT AN EVALUATION STUDY ?   | 1979 |

## SUBJECT INDEX

EXPERIMENTS - GENERAL DIETCALIFORNIA DEPARTMENT OF FISH AND GAME

|              |  |      |
|--------------|--|------|
| WOLF, HAROLD | 1950 CALIFORNIA DEPARTMENT OF FISH AND GAME<br>NUTRITION PROGRESS REPORT | 1950 |
|              | DIET WORK  | 1951 |

FISH AND WILDLIFE SERVICE

|                    |  |      |
|--------------------|--|------|
| BAKER, H.W. JR.    | FEEDING EXPERIMENTS WITH CUTTHROAT TROUT   | 1956 |
|                    | CUTTHROAT FEEDING EXPERIMENT LOT 7-CT  | 1957 |
| BIGEJ, RICHARD G.  | A PROGRESS REPORT ON THE 1961 DIET TRIALS  | 1961 |
| BURROWS, ROGER E.  | FEEDING TRIALS WITH BLUEBACK SALMON<br>FIRST EXPERIMENT                          | 1950 |
|                    | FEEDING TRIALS WITH BLUEBACK SALMON<br>SECOND EXPERIMENT                         | 1950 |
| CANNADY, BRUCE     | DIET TRIALS - FALL CHINOOK SALMON  | 1951 |
| COMBS, B.D.        | RESULTS OF 1954 FEEDING TRIALS   | 1954 |
|                    | AN EVALUATION OF BOUND DIETS   | 1956 |
| FOWLER, LAURIE G.  | 1962 FEEDING TRIALS, SALMON-CULTURAL<br>LABORATORY                               | 1962 |
|                    | 1963 FEEDING TRIALS, SALMON-CULTURAL<br>LABORATORY                               | 1963 |
|                    | NUTRITIONAL STUDIES AT ABERNATHY SALMON-<br>CULTURAL LABORATORY                  | 1964 |
| HALVER, JOHN E.    | 1950 PROGRESS REPORT, NUTRITIONAL REQUIREMENTS<br>OF CHINOOK AND BLUEBACK SALMON | 1950 |
| JOHNSON, HARLAN E. | 1950 COLEMAN HATCHERY PRODUCTION DIET<br>DORENA DAM EXPERIMENTAL HATCHERY        | 1950 |
|                    | ALL-MEAL DIETS FOR CHINOOK SALMON  | 1954 |
| NEWMAN, H. WILLIAM | SUMMARY OF FEEDING TRIALS  | 1952 |
| PARVIN, J.R.       | A POSSIBLE DIET PROBLEM AT THE EAGLE CREEK FISH<br>CULTURAL STATION              | 1957 |
|                    | 1960 DIET TEST ON SILVER SALMON AT THE EAGLE<br>CREEK NATIONAL FISH HATCHERY     | 1960 |



## SUBJECT INDEX

EXPERIMENTS - GENERAL DIET CONT'DFISH AND WILDLIFE - CONT'D

|                      |   |      |
|----------------------|---|------|
| STANDSBY, MAURICE E. | 1950 PROGRESS REPORT, COLLECTION, PROCESSING,<br>AND ANALYSIS OF LEAVENWORTH HATCHERY DIET<br>INGREDIENTS AND ALASKA SALMON VISCERA AND<br>EGGS | 1950 |
|----------------------|---|------|

|               |                              |      |
|---------------|------------------------------|------|
| WOODALL, A.N. | EVALUATION OF FEEDING TRIALS | 1957 |
|---------------|------------------------------|------|

IDAHO DEPARTMENT OF FISH AND GAME

|              |                             |      |
|--------------|-----------------------------|------|
| CUPLIN, PAUL | IDAHO PRODUCTION DIET TESTS | 1963 |
|              | IDAHO PRODUCTION DIET TESTS | 1964 |
|              | IDAHO PRODUCTION DIET TESTS | 1965 |
|              | IDAHO PRODUCTION DIET TESTS | 1966 |
|              | IDAHO PRODUCTION DIET TESTS | 1967 |

OREGON FISH COMMISSION AND OREGON STATE UNIVERSITY

|                     |  |      |
|---------------------|--|------|
| HUBLU, WALLACE F.   | MARION FORKS FIRST FEEDING EXPERIMENT  | 1951 |
|                     | MARION FORKS SECOND FEEDING EXPERIMENT   | 1951 |
|                     | NOTES ON THE EXPERIMENTAL FEEDING PROGRAMS<br>AT THE MARION FORKS LABORATORY DURING 1952 | 1952 |
|                     | 1954 NUTRITIONAL STUDIES AT SANDY, OREGON  | 1954 |
|                     | PRODUCTION TYPE DIET EXPERIMENT, SANDY   | 1955 |
|                     | A PROGRESS REPORT ON PRODUCTION DIET EXPERIMENTS   | 1957 |
|                     | PROGRESS REPORT ON NUTRITION RESEARCH  | 1958 |
| JEFFRIES, ERNEST R. | EXPERIMENTAL DESIGN 1949 AND 1950 FEEDING<br>TRIALS                                      | 1950 |
|                     | 1950 FEEDING EXPERIMENTS   | 1951 |
|                     | WORK DONE BY THE OREGON FISH COMMISSION<br>AT THE SANDY LABORATORY DURING 1952           | 1952 |
| LAW, DUNCAN         | RANCID DIET STUDIES, CONT'D  | 1959 |
|                     | STUDIES ON COTTONSEED OIL MEAL SUBSTITUTES,<br>BINDERS AND A MODIFIED VITAMIN MIX        | 1963 |
| MCKEE, THOMAS B.    | FIRST FEEDING EXPERIMENT, SEPTEMBER 15, 1949 -<br>MARCH 15, 1950                         | 1950 |

## SUBJECT INDEX

EXPERIMENTS - GENERAL DIET CONT'DOREGON FISH COMMISSION AND OREGON STATE UNIVERSITY - CONT'D

|                            |   |      |
|----------------------------|---|------|
| McKEE, THOMAS B.<br>CONT'D | SECOND FEEDING EXPERIMENT, AUGUST 1, 1950 -<br>FEBRUARY 27, 1951  | 1950 |
|                            | 1951 FEEDING EXPERIMENTS  | 1951 |
|                            | SANDY TANK TYPE EXPERIMENTAL DIET PROGRAM<br>A PROGRESS REPORT    | 1955 |
|                            | RANCID DIET STUDIES   | 1959 |
| McKERNAN, DON              | 1950 OREGON FISH COMMISSION NUTRITION RESEARCH<br>PROGRESS REPORT | 1950 |
| SINNHUBER, RUSSELL O.      | 1950 NUTRITION RESEARCH PROGRESS REPORT                           | 1950 |
| WALLIS, JOE                | DIET STUDIES AT OAKRIDGE  | 1955 |
| WOOD, J.                   | 1954 NUTRITIONAL STUDIES - OAKRIDGE LABORATORY                    | 1954 |

OREGON GAME COMMISSION

|              |  |      |
|--------------|--|------|
| RAYNER, JOHN | 1950 OREGON GAME COMMISSION NUTRITION PROGRESS<br>REPORT | 1950 |
|--------------|--|------|

WASHINGTON DEPARTMENT OF FISHERIES

|                 |   |      |
|-----------------|---|------|
| COATES, JOHN A. | FEEDING EXPERIMENTS   | 1954 |
|                 | PROGRESS REPORT ON DIET EXPERIMENTS WITH SALMON                         | 1956 |
| ELLIS, C.H.     | 1950 KALAMA RIVER HATCHERY DIET EXPERIMENT                              | 1950 |
|                 | PROGRESS BRIEFS ON EXPERIMENTAL DIETS WITH<br>SALMON OF THE 1950 BROOD  | 1951 |
|                 | 1952 FEEDING EXPERIMENTS AT KLICKITAT HATCHERY WITH<br>1951 BROOD STOCK | 1952 |

WASHINGTON DEPARTMENT OF GAME

|                   |   |      |
|-------------------|---|------|
| MILLENBACH, CLIFF | NUTRITIONAL PROBLEMS                                  | 1951 |
|                   | WASHINGTON STATE GAME DEPARTMENT - FEEDING<br>PROGRAM | 1952 |

FEEDING EXPERIMENTS

|               |  |      |
|---------------|--|------|
| BANKS, JOE L. | COMPARATIVE RESPONSE OF CHINOOK AND STEELHEAD TO<br>VARIATIONS IN THE ABERNATHY DRY DIET | 1970 |
| ROMEY, DAN    | SPRING CHINOOK ENERGY STORES STUDY   | 1968 |

## SUBJECT INDEX

GENERAL EXPERIMENTS

- |                     |  |      |
|---------------------|--|------|
| HUNTER, GEORGE A. & | EXPERIMENTAL PRODUCTION OF ALL FEMALE AND<br>STERILE GROUPS OF COHO SALMON ( <i>Oncorhynchus</i><br><i>kisutch</i> ) | 1980 |
| JOHNSON, HARLAN E.  | RESULTS OF EXPERIMENTS AT THE DORENA DAM<br>EXPERIMENTAL LABORATORY  | 1952 |

FERTILIZERS

- |                 |  |      |
|-----------------|--|------|
| DONALDSON, JACK | GROWTH REPOSE OF TROUT TO LAKE FERTILIZERS | 1956 |
|-----------------|--|------|

FISH CULTURE

- |                               |   |      |
|-------------------------------|---|------|
| ALLEE, BRIAN J.               | ARTIFICIAL PROPAGATION OF QUINULT SOCKEYE<br>SALMON   | 1973 |
| BAUER, JERRY A.               | WHAT HAS ARTIFICIAL PROPAGATION DONE FOR<br>THE UMPQUA RIVER PROGRAM                                  | 1968 |
| BROCK, GERALD R.              | FEASIBILITY OF STRIPED BASS ( <i>Morone saxatilis</i> )<br>CULTURE IN WELL WATER AT CORVALLIS, OREGON | 1976 |
| BROCK, IRVIN R.               | DEVELOPMENT OF A SHELFISH CULTURE PROGRAM<br>IN ALASKA: EGG TAKE TO FED FRY RELEASE                   | 1979 |
| DONALDSON, DR. LAUREN         | RECENT DEVELOPMENT IN FISH CULTURE IN ICELAND,<br>NORWAY, SCOTLAND, AND ENGLAND                       | 1977 |
| DONALDSON, JACK R.            | THE POSSIBILITIES FOR CULTURING CRAY FISH   | 1971 |
| GRAYBILL, JIM                 | FISH CULTURAL PROGRAM AT MT. HOOD COMMUNITY<br>COLLEGE  | 1973 |
| HAGEN, WILLIAM JR.            | THE CONTRIBUTION OF HATCHERIES TO ANGLING   | 1961 |
| KLONTZ, GEORGE W.             | A PHILOSOPHY FISH CULTURE   | 1975 |
| NEILSEN, JAMES R.             | RAISING CATFISH IN OREGON FARM PONDS  | 1970 |
| PERRY, L. EDWARD              | ARTIFICIAL PROPAGATION IN THE COLUMBIA BASIN  | 1976 |
| REID, DAVID A.                | WASTE HEAT UTILIZATION IN FISH CULTURE FACILITIES   | 1980 |
| REISENBICHLER,<br>REGINALD R. | POTENTIAL IMPACT OF ARTIFICIAL PROPAGATIONS OF<br>ANADROMOUS SALMONIDS ON WILD POPULATION             | 1976 |
| SMALLEY, GEORGE               | PRODUCTION RECORD OF KLASKANINE HATCHERY  | 1963 |
| VROMAN, P.                    | CONTRIBUTION OF THE ALSEA HATCHERY TO THE<br>STEELHEAD FISHERY OF THE ALSEA RIVER                     | 1965 |
| WAGNER, HARRY H.              | THE CONTRIBUTION OF HATCHERY-REARED STEELHEAD<br>TROUT TO THE SPORT FISHERY ON THREE OREGON<br>RIVERS | 1961 |

## SUBJECT INDEX

FISH CULTURE - CONT'D

|           |                                  |      |
|-----------|----------------------------------|------|
| WHITE, R. | KLASKANINE RIVER COHO PRODUCTION | 1965 |
|-----------|----------------------------------|------|

FISH PRODUCTION

|  |  |      |
|--|--|------|
| ARP, ARTHUR H.                           | SUCCESSFUL PROPAGATION OF COHO SALMON IN AN UPPER COLUMBIA RIVER HATCHERY                          | 1969 |
| BAILEY, JACK E.                          | PINK SALMON FRY PRODUCTION IN ALASKA   | 1972 |
| BURROWS, ROGER E.                        | ADULT RETURNS OF SALMON REARED IN REUSE AND SINGLE-PASS WATER SYSTEMS                              | 1970 |
| HOLWAY, JAMIESON E.                      | TRANSFERING MODERN ADVANCES IN TROUT CULTURE TO COHO SALMON  | 1975 |
| HUBLON, WALLACE F. &<br>JONES, IRVING W. | OREGON FISH COMMISSION HATCHERY PRODUCTION SUMMARY, 1960-1967 BROOD SALMON AND STEELHEAD           | 1969 |
| KINCAID, HAROLD L.                       | COMPARISONS OF RAINBOW TROUT STRAINS IN HATCHERY AND FIELD TESTS                                   | 1978 |
| OLSON, PAUL R.                           | RELATIONSHIP OF FOOD SUPPLY TO FISH PRODUCTION AT FERN LAKE  | 1967 |
| ROSE, JOE H.                             | OCEAN CATCH DISTRIBUTION OF FALL CHINOOK AND COHO SALMON PRODUCED IN COLUMBIA RIVER HATCHERIES     | 1970 |
| WALLIS, JOE                              | HATCHERY PRODUCTION OF SALMON SMOLTS IN ALASKA   | 1971 |
| ZIMMER, PAUL                             | BRIEF COMMENTS REGARDING FALL CHINOOK AND COHO SALMON HATCHERIES EVALUATION STUDIES-COLUMBIA RIVER | 1968 |

FRANCEFARMING

|                             |  |      |
|-----------------------------|--|------|
| HARACHE, Y. &<br>A. NOVOTNY | FIRST RESULTS OF COHO SALMON FARMING IN FRANCE | 1975 |
|-----------------------------|--|------|

SPAWNING

|                             |   |      |
|-----------------------------|---|------|
| HARACHE, Y. &<br>A. NOVOTNY | FIRST SPAWNING OF MATURE CULTURED COHO IN THE REGION OF BRETAGNE (FRANCE) | 1975 |
|-----------------------------|---|------|

FRY

|                                   |   |      |
|-----------------------------------|---|------|
| BRANNON, E.L.                     | THE WEIGHT OF SOCKEYE FRY IN RELATION TO PHYSICAL FACTORS DURING DEVELOPMENT          | 1963 |
| EMADI, HOSSEIN                    | YOLK SAC MALFORMATION IN PACIFIC SALMON   | 1971 |
| SADDLER, JAMES B. &<br>K.V. KOSKI | COMPARATIVE LIPID AND FATTY ACID FEATURES OF PELLET DIETS CURRENTLY USED IN FISHERIES | 1970 |

## SUBJECT INDEX

GENERAL

|  |   |      |
|--|---|------|
| BUSCH, ROBERT A.                           | THE RANGER TROUT RESEARCH PROGRAM   | 1976 |
| CLARK, JERRY E.                            | RELATIONSHIP BETWEEN AQUACULTURAL DEVELOPMENT AND INSTITUTIONAL CHANGE                                | 1978 |
| DOWNEY, PHILIP C.                          | RETENTION TIME IN CIRCULATING PONDS   | 1979 |
| FOSTER, ROBERT W.                          | THE MUDDY ROAD HOME OR WHO PUT THIS MOUNTAIN IN MY RIVER  | 1980 |
| HALVER, J.E.                               | ENIGMA IN SEA FISH HUSBANDRY  | 1969 |
| HARVEY, DICK                               | LIVING RIVER  | 1973 |
| HUBLON, WALLACE F.                         | SUGGESTIONS CONCERNING 'PROCEEDINGS OF THE N.S.F.C.C.'  | 1967 |
|  | PLANNING COMMITTEE REPORT   | 1968 |
| HUNTER, CHARLES J.                         | AN AIRLIFT FLOATING FISH TANK   | 1975 |
| IVERSON, RON                               | RECENT TRENDS IN THE PACIFIC COAST ANADROMOUS FISH PROGRAM  | 1980 |
| JOHNSON, C.L. &<br>K. OSHIMA<br>A. GORBMAN | FISH CAN SMELL SALT   | 1967 |
| KLONTZ, GEORGE W.<br>(BILL)                | TO TRANSFER OR NOT TRANSFER -- THAT IS THE QUESTION   | 1972 |
|  | PRODUCTION VERSUS PRODUCT: A PARADOX ?  | 1974 |
|  | A METHOD OF POND INVENTORYING   | 1979 |
| MORNING, JOHN R.                           | MOVEMENTS AND ANGLER CATCHES OF TWO STRAINS OF HATCHERY-REARED RAINBOW TROUT IN A SMALL OREGON STREAM | 1975 |
| NORMAN, FRED                               | VOLUNTEER HELP AS A MEANS TO AN END   | 1981 |
| PIGGOTT, ROY K.                            | THE ELWHA CHANNEL   | 1975 |
| ROMEY, DAN &<br>ORVILLE DAHRENS            | SOME COMPARISONS OF NATURAL AND ARTIFICIALLY REARED JUVENILE SPRING CHINOOK SALMON                    | 1970 |
| SOWARDS, CHARLES                           | STUDENT PROJECTS AS A SOURCE OF INTERESTING AND USEFUL INFORMATION                                    | 1971 |
| STROUD, RICHARD K. &<br>GEORGE W. KLONTZ   | FISH HEALTH AND VETERINARY PRACTICE ACTS  | 1974 |
| TODD, NEIL                                 | FRASER VALLEY TROUT HATCHERY-BRITISH COLUMBIA'S FIRST HATCHERY USING A RECIRCULATION SYSTEM           | 1977 |

## SUBJECT INDEX

GENETIC

- |   |  |      |
|---|--|------|
| HUNTER, GEORGE A. &<br>EDWARD M. DONALDSON<br>EDTONE T. STONE | CONTROL OF SEX IN SALMONIDS: PILOT RELEASE OF<br>STERILE AND ALL-FEMALE GROUPS OF COHO SALMON<br>( <i>Oncorhynchus kisutch</i> ) FROM THE CAPILAN<br>SALMON HATCHERY | 1981 |
| MCCORMICK, J. HOWARD  | SEX RATIO CONTROL IN HATCHERY-REARED RUNS<br>OF CHINOOK SALMON ( <i>O. tshawytscha</i> )   | 1962 |
|   | SEX-RATIO CONTROL IN HATCHERY-PROPAGATED<br>RUNS OF CHINOOK SALMON (PROGRESS REPORT)   | 1963 |
| MCINTYRE, JOHN D. &<br>A. KENNETH JOHNSON                     | PROGRESS OF COHO SALMON GENETIC STUDIES AT<br>BIG CREEK  | 1973 |
|   | SELECTING TO INCREASE YIELD OF BIG CREEK<br>COHO SALMON  | 1977 |

GRAVEL SIZE

- |                     |   |      |
|---------------------|---|------|
| PHILLIPS, ROBERT W. | THE INFLUENCE OF GRAVEL SIZE ON SURVIVAL TO<br>EMERGENCE OF COHO SALMON AND STEELHEAD TROUT | 1964 |
|---------------------|---|------|

GROWTH RATES

- |  |  |      |
|--|--|------|
| BILTON, H.T.   | THE INFLUENCE OF OCEAN AGE OF PARENTS ON<br>FRESHWATER GROWTH OF STEELHEAD PROGENY                           | 1980 |
| BRANNON, E.L. &<br>L.A. DONALDSON                      | UNIVERSITY OF WASHINGTON ACCELERATED COHO  | 1979 |
| FAGERLUND, U.H.M. &<br>J.R. MCBRIDE                    | POTENTIAL FOR SEX STEROIDS AS GROWTH PROMOTERS   | 1974 |
| FELDMANN, GARY &<br>MARTIN FIGG                        | GROWTH RATE DIFFERENCE IN SUBPOPULATIONS OF<br>QUINULT SOCKEYE SALMON  | 1976 |
| FOCHT, RICHARD   | PREDICTING THE SIZE - RELATED GROWTH POTENTIAL<br>OF KAMLOOPS TROUT IN AN EQUACULTURE SYSTEM                 | 1979 |
| HAWKES, CLIFFORD L.                                    | A PHOTOGRAPHIC METHOD FOR PRECISE GROWTH<br>MEASUREMENT OF LIVE UNANESTHETIZED FISH                          | 1972 |
| HERSHBERGER, W.K.                                      | GROWTH AND DEVELOPMENT IN YOUNG CHINOOK<br>SALMON DERIVED FROM INTER YEAR-CLASS CROSSES                      | 1974 |
| IWAMA, GEORGE K. &<br>ARTHUR F. TAUTZ                  | A SIMPLE GROWTH MODEL FOR HATCHERY SALMONIDS   | 1979 |
| LAW, DUNCAN K. &<br>JOHN W. WESTGATE<br>DAVID A. LEITH | GROWTH RESPONSES OF CHINOOK SALMON TO<br>HERRING OIL OF VARIOUS QUALITIES                                    | 1976 |
| MAHNKEN, CONRAD V.W.                                   | THE SIZE OF COHO SALMON AND TIME OF ENTRY INTO<br>SEA WATER: PART 1 EFFECTS ON GROWTH AND<br>CONDITION INDEX | 1973 |

## SUBJECT INDEX

GROWTH RATES

|                |  |      |
|----------------|--|------|
| McNAIL, JOHN   | PROGRAMMING FISH GROWTH                      | 1977 |
| SUSAC, JOHN K. | GROWTH ACCELERATION IN A COLD WATER HATCHERY | 1962 |

HATCHERIES

|   |   |      |
|---|---|------|
| AINSWORTH, B.D. JR.                       | PROGRESS REPORT ON RAPID RIVER SALMON HATCHERY                              | 1968 |
| BJORNN, TED                               | THE ROLE OF HATCHERIES: THE FUTURE OF SNAKE RIVER SALMON AND STEELHEAD RUNS | 1976 |
| BRUHN, DAVID                              | HAGERMAN, IDAHO NATIONAL FISH HATCHERY AS A STEELHEAD HATCHERY              | 1979 |
| CHAPMAN, PATRICK F.                       | MCCALL SUMMER CHINOOK SALMON HATCHERY                                       | 1981 |
| CULVER, RAYMOND F.                        | A PREVIEW OF THE COLE RIVER HATCHERY  | 1972 |
| DONALDSON, DR. LAUREN                     | CHUM SALMON HATCHERIES OF JAPAN   | 1972 |
|   | THE PACIFIC SALMON HATCHERY PROGRAM OF THE U.S.S.R.                         | 1978 |
| FOX, CECIL L.                             | WISCONSIN'S BAY FIELD HATCHERY UTILITIES SOME NEW TECHNIQUES                | 1973 |
| HANSEN, RICHARD J.                        | HATCHERY EFFLUENT STANDARDS IN CALIFORNIA                                   | 1973 |
| HULL, MARVIN                              | PROGRESS ? REPORT ON SUMMER-RUN STEELHEAD AT SKAMANIA HATCHERY              | 1974 |
| KACZYNSKI, VIC &<br>BOB HAGER<br>JIM WOOD | REDESIGN OF THE PRIEST RAPIDS SALMON HATCHERY                               | 1981 |
| KLONTZ, G.W. (BILL) &<br>J.G. KING        | STATUS OF THE IDAHO FOOD FISH INDUSTRY                                      | 1974 |
| KLONTZ, G.W. (BILL)                       | TREAT-THINK-AND BE WARY A METHOD OF CONDUCTING A HATCHERY                   | 1977 |
|   | HATCHERY SITE SELECTION OR 'WHY DOES IT HAVE TO BE THIS WAY ?'              | 1981 |
| McNEIL, WILLIAM J.                        | STATUS OF SIMULATED HATCHERIES FOR PINK AND CHUM SALMON                     | 1970 |
| NELSON, DON                               | RESUME ON THE REPORT 'COMMERCIAL TROUT HATCHERIES OF SOUTHERN IDAHO'        | 1973 |
| OLSON, WAYNE H. &                         | DWORSHAK NATIONAL FISH HATCHERY PROGRESS REPORT                             | 1976 |

## SUBJECT INDEX

HATCHERIES - CONT'D

|   |  |      |
|---|--|------|
| PARNISH, EVAN                               | RAPID RIVER HATCHERY--PROGRESS REPORT  | 1976 |
| PARVIN, JOHN R.                             | A DESCRIPTION OF THE DWORSHAK NATIONAL FISH HATCHERY                           | 1969 |
|   | PROGRESS REPORT ON DWORSHAK NATIONAL FISH HATCHERY                             | 1973 |
| QUIDOR, CHARLES R.                          | NIAGARA SPRINGS HATCHERY   | 1967 |
| RASCH, TONY J.                              | SOME USES OF HATCH, A HATCHERY SIMULATION MODEL                                | 1974 |
| REIMERS, PAUL E.                            | THE FALL CHINOOK PROGRAM AT ELK RIVER HATCHERY                                 | 1974 |
| ROYAL, DR. LOYD A.                          | POTENTIALLY HARMFUL HATCHERY PRACTICES   | 1972 |
| ROMEY, DAN                                  | ANNETTE ISLAND HATCHERY 'OPERATION BROODSTRAP'                                 | 1979 |
| SENN, HARRY                                 | CHUM CULTURE IN JAPAN  | 1974 |
| SMITH, MARVIN                               | HISTORY OF MODERN FISH CULTURE   | 1970 |
| SMITH, ROBERT Z.                            | A PRELIMINARY STUDY INTO THE RECREATIONAL VALUE OF FISH HATCHERIES             | 1974 |
| STONE, ELDON T.                             | A DESCRIPTION OF THE CAPILANO HATCHERY   | 1972 |
| TORKKO, CHARLES E. &<br>BERNARD M. KEPSHIRE | DESIGN CONSIDERATION FOR A CHUN AND PINK SALMON HATCHERY AT COLD BAY ALASKA    | 1977 |
| TRUCH, W.P.                                 | THE QUIMSAN RIVER FISH HATCHERY  | 1973 |
| VREELAND, ROBERT R.                         | HOW 'YA GONNA KEEP 'EM HAPPY UP AT THE HATCHERY ONCE THEY'VE SEEN YOUNGS BAY ? | 1981 |

HEMATOLOGY

|   |  |      |
|---|--|------|
| ANDERSON, D.                                  | BASIC HEMATOLOGY FOR FISH CULTURIST  | 1965 |
| COATES, JOHN A.                               | HEMATOPOIETIC EFFECT OF XAMTHOPTERINS AND A 1/100 RATION OF VITAMIN B <sub>12</sub> TO FOLIC ACID WHEN INJECTED INTO YOUNG ANEMIC CHINOOK SALMON                 | 1951 |
| CONTE, F.P. &<br>H.H. WAGNER<br>W.L. BRADFORD | BLOOD STUDIES ON STEELHEAD TROUT ( <i>Salmo gairdneri</i> )-1. MEASUREMENT OF BLOOD VOLUME AND PLASMA VOLUME UTILIZING IODINATED ALBUMIN ( <sup>131</sup> I-HSA) | 1961 |
| HESSER, E.F.                                  | METHODS OF FISH HEMATOLOGY   | 1959 |
| KLONTZ, DR. GEORGE W.                         | HEMATOLOGY AND FISH DISEASES   | 1963 |



## SUBJECT INDEX

HEMATOLOGY - CONT'D

|                      |  |      |
|----------------------|--|------|
| MCCORMICK, J. HOWARD | PERCENTAGE OF SMALL BLOOD CELLS AS AN INDEX TO QUALITY IN FALL CHINOOK FINGERLINGS | 1963 |
| MONTGOMERY, MONTY    | HEMATOLOGY EXPERIMENT  | 1959 |
| WHITMORE, CECIL M.   | SOME OBSERVATIONS IN ANEMIA  | 1959 |
|                      | SOME EFFECTS OF HANDLING ON FISH BLOOD VALUES                                      | 1963 |

HEPATOMA

|                      |   |      |
|----------------------|---|------|
| DOLLAR, ALEXANDER M. | COOPERATIVE INVESTIGATIONS OF TROUT HEPATOMA                                | 1961 |
| HALVER, JOHN E.      | CARCINOGENOSIS IN TROUT   | 1960 |
| SMITH, CHARLIE E.    | AFLATOXICOSIS IN COHO SALMON AND CHANNEL CATFISH                            | 1966 |
| WALES, JOE H.        | USE OF DOMESTICATED RAINBOW, STEELHEAD AND GOLDEN TROUT IN HEPATOMA STUDIES | 1966 |

HISTOLOGY

|                     |  |      |
|---------------------|--|------|
| ASHLEY, LAWRENCE M. | THE ROLE OF HISTOPATHOLOGY IN FISH NUTRITION STUDIES WITH REMARKS ON TROUT HEPATOMAS | 1960 |
| YASUTAKE, WM. T.    | PROGRESS REPORT - HISTOLOGICAL COMPARISON OF SALMONIDS                               | 1954 |
|                     | COMPARATIVE HISTOLOGICAL STUDIES OF WILD AND HATCHERY SALMONIDS                      | 1956 |
|                     | HISTOPATHOLOGY OF THE JUVENILE 'WHIRLING' SILVER SALMON                              | 1965 |

HOLDING

|                |  |      |
|----------------|--|------|
| SHELDON, RAY   | DROP BACK METHOD FOR SORTING FALL CHINOOK                                    | 1970 |
| SEIMENS, LAIRD | TECHNIQUES FOR THE CAPTURE AND HOLDING OF WILD STEELHEAD IN BRITISH COLUMBIA | 1980 |

HOMING

|                   |  |      |
|-------------------|--|------|
| FREITAG, GARY R.  | STRAYING AND HOMING OF TRANSPLANTED DISAPPEARANCE CREEK, ALASKA CHUM SALMON TO BEAVER FALLS HATCHERY, ALASKA | 1980 |
| HEARD, WILLIAM R. | OBSERVATIONS ON HOMING OF COHO SALMON FROM SHORT DISTANCE TRANSPLANTS  | 1980 |

## SUBJECT INDEX

HYBRIDIZATION

- |   |   |      |
|---|---|------|
| EVENSON, MIKE &<br>JIM PRIBBLE<br>JIM LICHATOWICH | EXPERIMENTAL CROSSES OF HATCHERY AND<br>WILD STEELHEAD AT COLE RIVERS HATCHERY OREGON   | 1974 |
| NOBLE, R.   | PRELIMINARY RESULTS OF HYBRIDIZING COASTAL<br>AND PUGET SOUND STOCKS OF FALL CHINOOK  | 1965 |
|   | USE OF HYBRIDIZATION AS A MEANS OF ENHANCING<br>SALMON PRODUCTION   | 1970 |
|   | HYBRIDIZATION AND ITS ROLE IN FISH CULTURE  | 1971 |
| SEIDEL, PAUL R.                                   | EARLY LIFE HISTORY STUDY OF THREE WASHINGTON<br>DEPARTMENT OF FISHERIES COHO SALMON<br>( <i>Oncorhynchus kisutch</i> ) POPULATIONS BY<br>INTER-RACIAL HYBRIDIZATION | 1975 |

IDENTIFICATION

- |                    |  |      |
|--------------------|--|------|
| MORTON, WILLIAM M. | WHEN IS A SALMON A TROUT OR A CHARR OR<br>VICE VERSA ? | 1966 |
|--------------------|--|------|

INCUBATIONS (ALL METHODS)

- |   |   |      |
|---|---|------|
| ALLEE, BRIAN J.                               | DEVELOPMENT OF GRAVEL INCUBATION HATCHERIES<br>FOR CHUM, PINK AND SOCKEYE SALMON ON THE<br>QUINULT INDIAN RESERVATION | 1972 |
| BAILEY, JACK E.                               | INCUBATION OF PINK SALMON EGGS IN A SIMULATED<br>INTERTIDAL ENVIRONMENT   | 1964 |
| BRITTAIN, C.F.                                | EGG AND FRY CABINET   | 1956 |
|   | EXPERIMENTAL SALMON HATCHING IN FLOATING SCOWS  | 1958 |
|   | EGG AND FRY CABINET TESTS---WATER AND AIR<br>TEMPERATURE FLUCTUATIONS   | 1961 |
| DAVIS, J.P. &<br>D.J. MEERBURG<br>T.R. PORTER | UPWELLING INCUBATION BOXES FOR ATLANTIC<br>SALMON ( <i>Salmo salar</i> )  | 1978 |
| FOSTER, ROBERT W.                             | MASS INCUBATION AT WDF HATCHERIES   | 1978 |
| FUSS, HOWARD &                                | EVALUATION OF THREE PLASTIC SUBSTRATES IN<br>THE INCUBATION OF CHUM SALMON  | 1981 |
|   | THE USE OF PLASTIC SUBSTRATES IN THE<br>INCUBATION OF COHO SALMON AT A COLD WATER<br>HATCHERY                         | 1981 |
| JENSEN, ANDRE                                 | TEMPERATURE INCUBATION ANALYSIS AT RINGOLD  | 1968 |
| POON, DEREK C.                                | GRAVEL INCUBATION HATCHERIES FOR PINK AND<br>CHUM SALMON  | 1971 |

## SUBJECT INDEX

INCUBATIONS (ALL METHODS) - CONT'D

|                    |   |      |
|--------------------|---|------|
| LARRICK, WALTER D. | THE INITIAL PHASES OF AN OPERATING CENTRAL<br>INCUBATION FACILITY IN SOUTH EAST ALASKA                                    | 1980 |
| MOORE, KEITH       | A COMPARISON BETWEEN THE USE OF PLASTIC HATCHING<br>JARS AND STANDARD TROUGHS FOR INCUBATING COHO EGGS                    | 1964 |
| RAYMOND, JAMES A.  | RESULTS OF A TEST OF A RECIRCULATING SALMON<br>INCUBATOR FOR ALASKAN VILLAGES WITH LIMITED<br>WATER SUPPLIES              | 1981 |
| ROGERS, BOB        | FREESTYLE INCUBATORS FOR EYEING EGGS: FALL 1981   | 1981 |
| SCHONEMAN, DALE E. | THE PHYSICAL AND CULTURAL ASPECTS OF THE TEHAMA-<br>COLUSA FISH FACILITIES  | 1969 |
|                    | PROGRESS ON THE TEHAMA-COLUSA FISH FACILITIES   | 1971 |
| SENN, HARRY        | POND TRAYS FOR INCUBATING SALMON EGGS   | 1970 |
| SEVERSON, RICHARD  | A CONTROLLED INCUBATION SYSTEM FOR MULTIPLE<br>CORP SALMONID PRODUCTIONS  | 1975 |
| SNYDER, BRUCE P.   | THE USE OF PLASTIC BIO-FILTERS IN HEATH TECNA<br>INCUBATORS AS ARTIFICIAL INCUBATION SUBSTRATE FOR<br>CHUM SALMON ALEVINS | 1977 |
| THOMAS, ALLEN E.   | OPERATIONS OF THE ABERNATHY INCUBATION CHANNEL  | 1964 |
|                    | ABERNATHY INCUBATION CHANNEL  | 1965 |

IODINE

|                                   |   |      |
|-----------------------------------|---|------|
| JOHNSON, CLARENCE L.              | IODINE METABOLISM IN ADULT CHINOOK SALMON | 1966 |
| WOODALL, A.N. &<br>GILLES LAROCHE | THE IODIDE REQUIREMENT OF CHINOOK SALMON  | 1963 |

LIGHT

|                   |   |      |
|-------------------|---|------|
| BURROWS, ROGER E. | THE EFFECT OF CONTROLLED LIGHT ON SEXUAL<br>MATURATION OF ADULT BLUEBACK SALMON     | 1956 |
| COMBS, BOBBY D.   | EFFECT OF LIGHT ON MATURATION   | 1955 |
|                   | THE EFFECT OF CONTROLLED LIGHT ON THE SEXUAL<br>MATURATION OF ADULT BLUEBACK SALMON | 1957 |
|                   | EFFECTS OF LIGHT ON MATURATION OF ADULT BLUEBACK<br>SALMON                          | 1959 |

LOGGING

|                 |  |      |
|-----------------|--|------|
| CEDERHOLM, C.J. | THE IMPACTS OF LOGGING ON SALMONID RESOURCES | 1977 |
|-----------------|--|------|

## SUBJECT INDEX

JACKS

DONALDSON, LAUREN R. RETURN OF ZERO-AGE COHO 'JACKS' FROM THE SEA 1970

MANAGEMENT

GARLICK, LEWIS R. SOME PRINCIPLES OF HATCHERY FEED ROOM ARRANGEMENT AND MANAGEMENT 1955

GUNSOLUS, ROBERT T. ARE WE PROPERLY MANAGING OUR HATCHERY COHO STOCKS ? 1978

HAGER, ROBERT MANIPULATION OF COLUMBIA RIVER HATCHERY COHO STOCKS TO MEET THE NEEDS OF FISHERIES MANAGEMENT 1970

JAMES, MILTON C. HATCHERY RECORD KEEPING 1959

KLONTZ, DR. GEORGE W. THE TEAM 1964

NAGGIAR, MORRIE 'FOLLOW THE FISH' A SELF-GUIDED TOUR OF BONNEVILLE HATCHERY 1966

REIMERS, PAUL E. MEASURING LONG-TERM CHANGES IN THE FALL CHINOOK POPULATION ON ELK RIVER 1977

SENN, HARRY THE EVALUATION OF COHO AT TEN PUGET SOUND HATCHERIES 1968

SUMMARY OF COHO CONTRIBUTIONS FOR PUGET SOUND AND WASHINGTON COASTAL HATCHERIES 1971

VREELAND, ROBERT R. SALMON HOMING -- A MANAGEMENT TOOL ? 1974

MARKING

BELL, THOMAS G. & FREEZE AND LASER MARKING 1970  
GEORGE A. PADGETT  
R.K. FARRELL

BELL, THOMAS G. LASER AND FREEZE MARKING OF SALMONIDS AND CRUSTACEANS FOR IDENTIFICATION 1971

CRAWFORD, BRUCE A. & A STATUS REPORT ON THE EFFECT OF THE USE OF A GENE MARKER ON SURVIVAL IN HATCHERY SUMMER STEELHEAD 1978  
MARK W. CHILCOTE  
STEVEN A. LEIDER

ELLIS, C.H. PRELIMINARY RETURNS OF MARKED FISH FROM COLUMBIA RIVER BARGING EXPERIMENTS 1957

PROGRESS SUMMARY OF WASHINGTON'S HATCHERY EXPERIMENTS 1958

FARRELL, R. KEITH & THE INTERNATIONAL IDENTIFICATION SYSTEM 1966  
LYNN D. WINWARD

HANKS, DELBERT PRESENTATION OF THE OREGON DEPARTMENT OF FISH AND WILDLIFE MOBILE MICRO TAGGING UNIT 1977

## SUBJECT INDEX

MARKING - CONT'D

|  |   |      |
|--|---|------|
| HARACHE, Y.E. &<br>P. LAGARDE<br>P. PROUZET                        | AN INTERNAL MAGENTIC TAG FOR SALMON SMOLTS  | 1977 |
| JEFFERIES, ERNIE   | SUMMARY OF A 1956 BROOD SILVER SALMON MARKING EXPERIMENT AT THE KLASKANINE HATCHERY                           | 1959 |
| JOHNSEN, RICHARD C.  | MARKING JUVENILE SALMON BY IMMERSION IN DMSO-TETRACYCLINE SOLUTIONS   | 1966 |
| JOHNS, IRVING  | MARKING SALMONIDS WITH TETRACYCLINE ANTIBIOTICS   | 1964 |
|  | TETRACYCLINE MARKING AND THERMAL BRAND STUDIES  | 1965 |
|  | TETRACYCLINE MARKING AND THERMAL BRAND STUDIES-A PROGRESS REPORT  | 1966 |
| JOHNSON, HARLAN E.   | HATCHERY RECOVERIES OF MARKED FALL CHINOOK SALMON   | 1957 |
|  | RECOVERIES OF MARKED ADULT FALL CHINOOK SALMON FROM SPRING CREEK AND LITTLE WHITE SALMON                      | 1959 |
|  | RECOVERIES OF MARKED ADULT FALL SALMON AT SPRING CREEK AND LITTLE WHITE SALMON                                | 1960 |
|  | RECOVERIES OF MARKED ADULT SALMON RELEASED FROM SPRING CREEK AND LITTLE WHITE SALMON NATIONAL FISH HATCHERIES | 1961 |
|  | RECOVERIES OF MARKED ADULT SALMON RELEASED FROM SPRING CREEK AND LITTLE WHITE SALMON NATIONAL FISH HATCHERIES | 1962 |
| LEEK, STEVE L.   | TAGGING PROGRAMS AT SPRING CREEK, WILLARD AND CARSON NATIONAL FISH HATCHERIES                                 | 1979 |
| MORTON, K.E.   | OBSERVATION AND SPECULATIONS ON FIN EROSION   | 1973 |
| OLHAUSEN, STEVE K.   | COORDINATION OF CODED-WIRE TAGGING ACTIVITIES AT FEDERAL HATCHERIES IN THE COLUMBIA BASIN                     | 1979 |
| PARENTE, BILL  | 'ZAP!' A PRACTICAL APPLICATION OF THE LASER FOR MARKING FISH  | 1972 |
| PRIBBLE, HOWARD J. &<br>MICHAEL D. EVENSON<br>JAMES A. LICHATOWICH | PRESSURE SPRAY MARKING OF FISH WITH GRANULAR DYES   | 1975 |
| SCHURMAN, GERALD   | A NEW APPROACH TO FISH IDENTIFICATION-THE CODED WIRE TAGGING TRAILER  | 1972 |
| SMITH, ROBERT Z. &<br>STEPHEN L. LEEK                              | MODIFICATION OF THE CODED-WIRE TAG MARKING PROCEDURE  | 1975 |
| UTTER, FRED M.   | GENETIC MARKING: A UNIQUELY VALUABLE TOOL FOR FISH CULTURISTS   | 1977 |

## SUBJECT INDEX

MARKING - CONT'D

|                                    |  |      |
|------------------------------------|--|------|
| VROMAN, PAUL                       | FIN CLIPPING - YES OR NO   | 1976 |
| WALLIS, JOE E.                     | MARKED CHINOOK SALMON IN KACHEMAK BAY, ALASKA                              | 1979 |
| WATSON, ROBERT E.                  | ELOKOMIN ADULT STEELHEAD TAGGING PROGRAM                                   | 1963 |
| WEBER, DOUGLAS                     | MARKING OF PACIFIC SALMON WITH TETRACYCLINE ANTIBIOTICS                    | 1965 |
| WEBER, DOUGLAS &<br>GEORGE RIDGWAY | PROGRESS REPORT ON MARKING OF PACIFIC SALMON WITH TETRACYCLINE ANTIBIOTICS | 1962 |
|                                    | PROGRESS REPORT ON MARKING OF PACIFIC SALMON WITH TETRACYCLINE ANTIBIOTICS | 1963 |
| WISHARD, LISA &<br>JIM SEEB        | GENETIC MARKING: ITS USE IN THE EVALUATION OF COHO FRY PLANTS              | 1977 |
| WORCHESTER, TOM                    | A GUILLOTINE FOR THE REMOVAL OF FISH SNOUTS CONTAINING CODED-WIRE-TAGS     | 1977 |

MATURITY

|                  |  |      |
|------------------|--|------|
| LORZ, HAROLD W.  | ATTEMPTS TO CONTROL EARLY MATURATION OF COHO SALMON                                    | 1966 |
| MASTIN, HENRY E. | FACTORS INFLUENCING ABNORMAL EARLY MATURITY OF FEMALE SILVER SALMON OF HATCHERY ORIGIN | 1955 |

METABOLISM

|                 |  |      |
|-----------------|--|------|
| SMITH, C.E.     | EFFECTS OF NITRITE ON THE BLOOD AND TISSUE OF SALMON AND TROUT                           | 1971 |
|                 | A PRELIMINARY REPORT ON THE EFFECTS OF METABOLIC PRODUCT ON THE QUALITY OF RAINBOW TROUT | 1970 |
| SMITH, R.R.     | HEAD PRODUCED BY LIVING FISH   | 1968 |
| WEDEMEYER, GARY | THE STRESS OF FORMALIN TREATMENTS IN TWO SALMONID FISHES                                 | 1970 |
|                 | HANDLING STRESS AND ITS PHYSIOLOGICAL CONSEQUENCES                                       | 1971 |

MICHIGAN

|                    |   |      |
|--------------------|---|------|
| BORGESON, DAVID P. | STATUS OF MICHIGAN'S SALMON PROGRAM                                   | 1966 |
| DURLING, T.B.      | PROGRESS REPORT ON THE INTRODUCTION OF COHO SALMON IN THE GREAT LAKES | 1967 |

MIGRATION

|             |   |      |
|-------------|---|------|
| DECEW, MARK | AGE AND SIZE OF STEELHEAD TROUT OUTMIGRANTS FROM MARION FORKS HATCHERY, BY SCALE ANALYSIS | 1963 |
|-------------|---|------|

## SUBJECT INDEX

MIGRATION - CONT'D

|   |  |      |
|---|--|------|
| LORZ, HAROLD W.   | AN EVALUATION OF TECHNIQUES FOR AUGMENTING<br>THE NATURAL PHOTOPERIOD TO ADVANCE THE ONSET OF<br>MIGRATION IN WINTER STEELHEAD | 1973 |
| NOBLE, R.E.   | DOWNSTREAM MIGRATION OF SILVER SALMON--TIMING,<br>AGE, SIZE, JACK SILVERS - GROWTH OR INHERITANCE                              | 1958 |
| WAGNER, HARRY H.  | THE SEAWARD MIGRATION AND RETURN OF HATCHERY-<br>REARED STEELHEAD TROUT IN A COASTAL STREAM OF<br>OREGON                       | 1960 |
| WHITMUS, CLIFFORD J. &<br>BRUCE P. SNYDER<br>ERNEST O. SALO | THE 1977 MIGRATORY BEHAVIOR OF JUVENILE CHUM<br>SALMON RELEASED FROM THE HOOD CANAL HATCHERY<br>OF HOODSPORT, WASHINGTON       | 1977 |

MINERALS

|                      |                                |      |
|----------------------|--------------------------------|------|
| DONALDSON, LAUREN R. | MINERALS OF IMPORTANCE TO FISH | 1954 |
|----------------------|--------------------------------|------|

MINTER CREEK

|             |  |      |
|-------------|--|------|
| SALO, ERNIE | MINTER CREEK BIOLOGICAL STATION, WASHINGTON<br>DEPARTMENT OF FISHERIES | 1952 |
|-------------|--|------|

OPERATION

|                    |  |      |
|--------------------|--|------|
| JEFFRIES, ERNEST   | FISH CULTURE OPERATIONS AT THE OXBOW-BROWNLEE<br>DAMS ON THE SNAKE RIVER       | 1961 |
| MORTON, K.E.       | NOTES ON WIZARD FALLS HATCHERY OPERATIONS                                      | 1961 |
| QUIDOR, CHARLES R. | CONSTRUCTION AND OPERATION OF RAPID RIVER<br>HATCHERY                          | 1964 |
| SHANKS, WARREN E.  | FIRST PHASE PILOT PLANT, A PROGRESS REPORT                                     | 1960 |
| SMITH, WENDELL     | FISH CONSERVATION  | 1966 |
| WALLIS, JOE        | THE FIRE LAKE HATCHERY   | 1966 |
| WARD, DAVID L.     | TRINITY RIVER HATCHERY - CALIFORNIA'S NEW<br>SALMON AND STEELHEAD INSTALLATION | 1963 |

OUT-MIGRATION

|                    |   |      |
|--------------------|---|------|
| BUCHANAN, DAVID V. | MONITORING SMOLT OUTMIGRATION OF HATCHERY<br>STEELHEAD IN THE WILLAMETTE RIVER SYSTEM | 1977 |
|                    | EFFECTS OF SIZE ON SMOLT OUT-MIGRATION  | 1979 |

OXYGEN

|                    |  |      |
|--------------------|--|------|
| BERNIER, ADRIAN F. | A TEST OF OXYGEN UNDER PRESSURE IN TROUT<br>DISTRIBUTION | 1960 |
|--------------------|--|------|

## SUBJECT INDEX

OXYGEN - CONT'D

|                   |   |      |
|-------------------|---|------|
| FERGUSON, GREG &  | OXYGEN CONSUMPTION OF COHO SALMON IN A PUMPED SALTWATER RACEWAY   | 1975 |
| MAYO, RONALD D.   | HATCHERY WATER REQUIREMENTS BASED ON SALMONID OXYGEN DEMAND       | 1970 |
| McELWAIN, IVAN B. | THE NEW WATER AERATION SYSTEM AT MESCALERO NATIONAL FISH HATCHERY | 1969 |

PASTEURIZATION

|                             |  |      |
|-----------------------------|--|------|
| LAW, DUNCAN                 | TECHNIQUES IN PASTEURIZATION OF SALMON PRODUCTS  | 1958 |
| LAW, DUNCAN &<br>JOHN FRYER | COMMERCIAL PASTEURIZATION OF SALMON VISCERA AND ITS POSSIBLE EFFECTS ON THE INCIDENCE OF FISH TUBERCULOSIS | 1961 |

PITUITARY

|                 |  |      |
|-----------------|--|------|
| COMBS, BOBBY D. | 1955 PITUITARY EXPERIMENT  | 1955 |
|                 | A REVIEW OF THE PITUITARY EXPERIMENTS AT THE ENTIAT SALMON CULTURAL LABORATORY | 1958 |

POLLUTION

|                      |   |      |
|----------------------|---|------|
| CONGLETON, JAMES L   | POLLUTION ABATEMENT FOR FISH HATCHERIES                         | 1972 |
| EHINGER, PAUL F. JR. | POLLUTION ABATEMENT -- TWENTY COLUMBIA RIVER PROGRAM HATCHERIES | 1974 |
| SMITH, MARVIN        | POLLUTION ABATEMENT FACILITIES AT NATIONAL FISH HATCHERIES      | 1974 |

PRODUCTION

|   |   |      |
|---|---|------|
| McINTYRE, JOHN D. &<br>A. KENNETH JOHNSON   | PRELIMINARY RESULTS OF SELECTIVE BREEDING TO INCREASE THE YIELD OF COHO SALMON PRODUCED AT BIG CREEK HATCHERY | 1974 |
| NOBLE, R.E.                                 | PROGRESS REPORT   | 1964 |
| QUEIROLO, LEWIS E. &<br>RICHARD S. JOHNSTON | A PRELIMINARY MARKET ANALYSIS OF DOMESTICALLY PRODUCED RAINBOW TROUT  | 1976 |
| STAUFFER, GARY D.                           | GROWING SALMON BY THE NUMBERS   | 1972 |

QUALITY (WATER-FISH)

|                   |   |      |
|-------------------|---|------|
| BURROWS, ROGER E. | CHANGES IN FISH CULTURE NECESSARY TO IMPROVE QUALITY OF CHINOOK FINGERLINGS                 | 1968 |
| CHASE, DEAN L.    | PRELIMINARY STUDIES USING SYNTHETIC POLYMERS TO REDUCE TURBIDITY IN A HATCHERY WATER SUPPLY | 1971 |



## SUBJECT INDEX

QUALITY (WATER-FISH) - CONT'D

|   |   |      |
|---|---|------|
| COMBS, BOBBY D.   | VARIATION IN QUALITY CHINOOK SALMON EGGS AND FRY                                | 1968 |
| RUCKER, ROBERT  | GROUND WATER TOXIC TO FISH  | 1970 |
| SHANKS, WARREN  | HATCHERY WATER QUALITY MONITORING   | 1971 |
| WARREN, JAMES W.  | SORE BACK OF RAINBOW TROUT: RESULTS OF 1967 FISH QUALITY EXPERIMENTS            | 1967 |
| <u>REARING PONDS AND PENS</u>                                 |   |      |
| BELL, G.R. &<br>W. GRIFFIOEN<br>O. KENNEDY                    | MORTALITIES OF PEN-REARED SALMON ASSOCIATED WITH BLOOMS OF MARINE ALGAE         | 1974 |
| BURROWS, ROGER E.   | ALTERATIONS IN REARING POND DESIGN  | 1955 |
|   | A RECTANGULAR-RECIRCULATING REARING POND  | 1956 |
|   | ENVIRONMENTAL CONDITIONS IN REARING PONDS                                       | 1957 |
|   | ENVIRONMENTAL LIMITATIONS IN REARING PONDS                                      | 1958 |
|   | FACTORS LIMITING PRODUCTION IN REARING PONDS                                    | 1959 |
|   | REARING POND ENVIRONMENTS   | 1960 |
| CLENDENER, HOMER B.   | EARTHEN REARING PONDS FOR WINTER STEELHEAD PRODUCTION                           | 1972 |
| GARRISON, ROBERT L.   | THE GROWTH OF JUVENILE SALMONIDS IN REARING PONDS                               | 1964 |
| GATES, D.H.   | COMMERCIAL FISH REARING ON CAPE BRETON ISLAND                                   | 1975 |
| KING, JOHN L.   | STEELHEAD FARM PONDS  | 1961 |
| KOSKI, K, VICTOR<br>S.K. SCHRODER<br>R.R. ABBOTT<br>E.A. SALO | PEN REARING OF DR. DONALDSON'S RAINBOW STEEL-HEAD CROSSES AT BIG BEEF CREEK     | 1970 |
| MARLIAVE, IEFFREY B.  | A TIDAL PLANKTON ACCUMULATION FOR IN-SITE REARING OF PINK AND CHUM FRY          | 1980 |
| PRESSEY, R.T.   | REVIEW OF FISH FARMING IN WASHINGTON STATE                                      | 1958 |
| PUTMAN, GEORGE B.   | THE USE OF PERFORMED PLASTIC CONTAINERS AS REARING CAGES FOR SMALL LOTS OF FISH | 1972 |
| SALO, E.O. &<br>R.R. ABBOTT                                   | REARING OF CHINOOK SALMON AT MANCHESTER   | 1970 |
| SALO, E.O.  | CHINOOK SALMON PEN-REARING PROJECT IN PUGET SOUND                               | 1971 |

## SUBJECT INDEX

REARING PONDS AND PENS - CONT'D

|                     |   |      |
|---------------------|---|------|
| SAMS, ROY           | REARING OF COHO AND FALL CHINOOK SALMON IN WAHKEENA PONDS                             | 1967 |
| SCHRODER, S.L.      | PEN REARING OF DR. DONALDSON'S RAINBOW STEELHEAD CROSSES AT BIG BEEF CREEK            | 1970 |
| SMITH, QUENTIN      | RESULTS OF THE FIRST YEAR OPERATION OF A NEW HATCHERY USING BURROWS PONDS             | 1967 |
| WESTROPE, ARTHUR E. | FISH HATCHERIES AND REARING FACILITIES IN THE CHAMBERS CREEK BASIN TACOMA, WASHINGTON | 1976 |

REARING SYSTEMS

|                               |  |      |
|-------------------------------|--|------|
| ALLEE, BRIAN J.               | DEVELOPMENT OF A COHO SALMON ( <i>Oncorhynchus kisutch</i> ) BROODSTOCK HOLDING SYSTEM FOR A COMMERCIAL OCEAN REARING PRC RAM AT OREGON AQUA-FOODS | 1980 |
| HOPLEY, CHARLES W. JR         | COWLITZ SPRING CHINOOK REARING DENSITY STUDY   | 1980 |
| KOLB, RICHARD                 | A HISTORY OF THE WASHINGTON DEPARTMENT OF FISHERIES PINK SALMON REARING PROGRAM  | 1975 |
| SANDERCOCK, F.K. & E.T. STONE | THE EFFECT OF REARING DENSITY ON SUBSEQUENT SURVIVAL OF CAPILANO COHO  | 1979 |
| TRUCH, W.P.                   | A NEW FISH HATCHERY AND REARING FOR THE PROVINCE OF ALBERTA  | 1972 |
| VAIL, JANE P.                 | A STUDY OF THE EFFECTS OF A CENTRIFUGAL WASTEWATER CONCENTRATOR ON FISH HATCHERY REARING WATER   | 1973 |

REHABILITATION

|                |  |      |
|----------------|--|------|
| VAN TINE, J.A. | QUINSAM RIVER PINK SALMON REHABILITATION AND STUDIES | 1980 |
|----------------|--|------|

RE-USE SYSTEMS

|                          |   |      |
|--------------------------|---|------|
| KLONTZ, GEORGE W. (BILL) | RECENT ADVANCES IN BIO-FILTER PERFORMANCE                             | 1978 |
| LIAO, PAUL B.            | FISH HATCHERY WATER RECONDITIONING REUSE SYSTEMS                      | 1972 |
| OWSLEY, DAVID E.         | 'FLUIDIZED BEDS'-- THE LATEST TECHNOLOGY IN REUSE SYSTEMS             | 1981 |
| WILLIAMS, WARREN         | BUFFERING REQUIREMENTS IN FISH HATCHERY RECONDITIONING RE-USE SYSTEMS | 1972 |

SAFETY

|               |        |      |
|---------------|--------|------|
| BARNABY, J.T. | SAFETY | 1958 |
|---------------|--------|------|

## SUBJECT INDEX

SAFETY - CONT'D

|                |              |      |
|----------------|--------------|------|
| BITLE, FRED W. | ALARM SYSTEM | 1969 |
|----------------|--------------|------|

SALMON-CULTURAL LABORATORY

|                   |  |      |
|-------------------|--|------|
| BURROWS, ROGER E. | ENTIAT SALMON CULTURAL LABORATORY                                      | 1951 |
|                   | PROGRAM OF THE ABERNATHY SALMON-CULTURAL LABORATORY                    | 1961 |
|                   | APPLICATION OF RESEARCH DEVELOPMENTS AT THE SALMON-CULTURAL LABORATORY | 1966 |

SALMON WASTE

|                |   |      |
|----------------|---|------|
| MIYAUCHI, DAVE | SUMMARY OF THE SALMON WASTE COLLECTION REPORT                             | 1951 |
| PIGOTT, GEORGE | PROGRESS REPORT- CONTAINERS FOR SHIPPING OF PRESERVED ALASKA SALMON WASTE | 1950 |

SMOLTIFICATION

|   |   |      |
|---|---|------|
| BOUCK, GERALD R. &<br>STANDLEY D. SMITH               | MORTALITY OF EXPERIMENTALLY DESCALED COHO SALMON SMOLTS IN FRESHWATER AND IN SEAWATER                                       | 1977 |
| CONTE, FRANK P. &<br>HARRY WAGNER<br>T.O. HARRIS      | SALINITY ADAPTATION IN STEELHEAD TROUT AND COHO SALMON IN RELATION TO MIGRATION DISPOSITION                                 | 1963 |
| FELDMANN, GARY &<br>DAVID SMITH                       | A PRELIMINARY REPORT ON THE EFFECT OF SIZE AND TIMING ON GILL ATPASE ACTIVITY OF SOCKEYE SALMON ( <i>O. nerka</i> )         | 1976 |
| FELDMANN, GARY &<br>SHARI CURTRIGHT                   | PRELIMINARY REPORT ON THE EFFECT OF SIZE AND TIMING ON GILL ATPASE IN QUINULT SOCKEYE AND STEELHEAD AND QUEETS FALL CHINOOK | 1977 |
| FESSLER, JAMES L.                                     | SOME SMOLT CHARACTERISTICS IN SUMMER STEELHEAD  | 1973 |
| JOHNSON, S.L. &<br>R.D. EWING<br>JAMES A. LICHATOWICH | A SIMPLIFIED PROCEDURE FOR MONITORING (NA + K)--ACTIVATED ATPASE IN GILL TISSUE   | 1975 |
| LORZ, HAROLD W.                                       | THE EFFECT OF TEMPERATURE ON GILL ATPASE ACTIVITY, SALINITY TOLERANCE AND MIGRATION IN WITH STEELHEAD TROUT                 | 1973 |
|   | EFFECTS OF COPPER IONS IN FRESHWATER ON GILL ATPASE ACTIVITY, MIGRATION AND SEAWATER ADAPTATION OF JUVENILE COHO SALMON     | 1975 |
|   | EFFECTS OF SELECTED HERBICIDES ON SMOLTING IN COHO SALMON   | 1980 |

## SUBJECT INDEX

SMOLTIFICATION - CONT'D

- |                              |  |      |
|------------------------------|--|------|
| WAGNER, HARRY H.             | PHOTOPERIOD AND THE PARR-SMOLT METAMORPHASES<br>IN STEELHEAD TROUT   | 1970 |
|                              | PARR-SMOLT TRANSFORMATION IN WINTER STEELHEAD<br>AS AFFECTED BY PHOTOPERIOD AND TEMPERATURE                          | 1971 |
| ZAUGG, W.S.                  | USING GILL ATPASE ACTIVITY TO DETERMINE THE<br>INFLUENCE OF PHOTOPERIOD ON PARR-SMOLT<br>TRANSFORMATION IN STEELHEAD | 1971 |
|                              | FACTORS WHICH INFLUENCE SMOLT DEVELOPMENT AND<br>ADAPTATION OF SALMONIDS   | 1975 |
| ZAUGG, W.S. &<br>L.R. McLain | INFLUENCE OF TEMPERATURE ON GILL ATPASE ACTIVITY<br>IN COHO SALMON   | 1973 |

SPAWNING

- |                                      |   |      |
|--------------------------------------|---|------|
| BITLE, FRED W.                       | RAINBOW TROUT SPAWN TAKING  | 1961 |
| BLISS, J.D.                          | 1957 DIAMOND LAKE EGG TAKE  | 1957 |
| BRANNON, ERNEST L.                   | SUCCESS OF ARTIFICIAL INCUBATION FACILITIES AND<br>SPAWNING CHANNELS WITH FRAZIER RIVER SOCKEYE SALMON                | 1969 |
| CAMMADY, BRUCE                       | SPRING CHINOOK SALMON HOLDING AND SPAWNING<br>OPERATIONS  | 1956 |
| COSSETTE, B.J.                       | A HOLDING DEVICE USED WHILE SPAWNING SALMON   | 1972 |
| HULL, MARVIN &<br>CHARLES HILTZ      | NEW TOOL FOR SPAWNING   | 1963 |
| HULL, MARVIN                         | TESTING EXTENDED DAYLIGHT HOURS WITH TUNGSTEN<br>LIGHT FOR EARLIER SPAWNING OF SUMMER-RUN<br>STEELHEAD                | 1970 |
| HURLEY, D.A.                         | EFFECT OF SPAWNING DENSITY OF SOCKEYE SALMON ON<br>THE NUMBER OF RESULTING FRY  | 1965 |
| JOHNSON, A. KENNETH &<br>DON BARRETT | UP, UP, AND AWAY IN A FISH LOCK WITH SPECIAL<br>EMPHASIS ON THE NEW BONNEVILLE SALMON HATCHERY<br>SPAWNING FACILITIES | 1975 |
| KACZYNSKI, VIC W.                    | CONCEPTUAL REDESIGN OF MID-COLUMBIA SPAWNING<br>CHANNELS TO RACEWAYS  | 1979 |
| KNOWLES, VERN                        | A COMPARISON OF TECHNIQUES FOR SPAWNING<br>STEELHEAD TROUT  | 1964 |
| OWEN, T.G.                           | NEW DEVELOPMENTS IN THE PRODUCTION AND USE OF SALMON<br>PITUITARY EXTRACTS FOR INDUCED SPAWNING                       | 1979 |
| RICHARDSON, THOMAS                   | THE TEHAMA-COLUSA SALMON SPAWNING CHANNELS<br>'A SUMMARY OF THE FIRST FOUR AND ONE-HALF<br>YEARS OF OPERATION'        | 1975 |

## SUBJECT INDEX

SPAWNING - CONT'D

|                            |  |      |
|----------------------------|--|------|
| SALO, E.O. &<br>K.V. KOSKI | THE UNIVERSITY OF WASHINGTON SPAWNING CHANNEL<br>AT BIG BEEF CREEK | 1967 |
| SWARTZ, DON                | HOLDING AND SPAWNING SPRING CHINOOK IN REDUCED<br>PHOTOPERIODS     | 1975 |
| WINGFIELD, WILLIAM C.      | SALINE SPAWNING OF RAINBOW TROUT AT ROARING<br>RIVER HATCHERY      | 1972 |
|                            | HOLDING SUMMER STEELHEAD ADULTS OVER TO SPAWN<br>A SECOND YEAR     | 1976 |

SPERM

|   |   |      |
|---|---|------|
| HORTON, HOWARD F. DR.                           | ADVANCES IN CRYO-PRESERVATION OF SALMONID SPERM | 1968 |
| STOSS, J. &<br>IAN BAKER<br>EDWARD M. DONALDSON | STORAGE OF SALMON SPERM BY CRYOPRESERVATION     | 1981 |

STAMINA

|                   |  |      |
|-------------------|--|------|
| BURROWS, ROGER E. | EFFECT OF FINGERLING STAMINA ON ADULT SURVIVAL           | 1964 |
| COMBS, BOBBY D.   | TUNNEL TESTS OF CHINOOK SALMON FINGERLING                | 1960 |
| THOMAS, ALLAN E.  | THE USE OF STAMINA AS A MEASURE OF FINGERLING<br>QUALITY | 1962 |

STEELHEAD

|   |   |      |
|---|---|------|
| ANDERSON, ROBERT D &<br>LAUREN DONALDSON    | WINTER RUN STEELHEAD TROUT RETURNS TO THE<br>UNIVERSITY OF WASHINGTON   | 1971 |
| BARGER, LARRY                               | THE BOGACHIEL WINTER STEELHEAD SEMINATURAL<br>REARING POND  | 1969 |
| CRAWFORD, BRUCE &<br>WAYNE BRUNSON          | REPORT ON THE CAUSE AND TREATMENT MORTALITY<br>AT THE WELLS DAM HATCHERY AND AT THE WASHBURN<br>ISLAND REARING POND   | 1974 |
| EWING, R.D. &<br>M.C. EVENSON<br>E.K. BIRKS | RELATIONSHIPS BETWEEN SEX, COLORATION AND MIGRATION<br>TENDENCY IN STEELHEAD TROUT  | 1981 |
| FESSLER, JAMES L.                           | CHANGES IN CHEMICAL COMPOSITION, COEFFICIENT<br>OF CONDISTION AND BODY MORPHIOLOGY ASSOCIATED<br>WITH THE PARR-SMOLT TRANSFORMATION IN STEEL-<br>HEAD TROUT | 1981 |
| FORTUNE, JOHN                               | PROGRESS REPORT ON CONTRIBUTION OF HATCHERY<br>PRODUCED SUMMER STEELHEAD TO SILETZ RIVER  | 1971 |

## SUBJECT INDEX

STEELHEAD - CONT'D

|                                       |   |      |
|---------------------------------------|---|------|
| HULL, MARVIN                          | PROGRESS WITH SUMMER-RUN STEELHEAD, SKAMANIA HATCHERY   | 1961 |
|                                       | INCREASED SIZE IN SUMMER RUN STEELHEAD ADULTS   | 1968 |
| KLONTZ, G.W. (BILL & LESLIE SCHAEFFER | THE OREGON STEELHEAD DEMONSTRATION PROJECT  | 1981 |
| STAUFFER, GARY D.                     | STEELHEAD REARING IN LAKE QUINAULT  | 1971 |
| SWAFFORD, JERRY                       | PERFORMANCE OF THREE CROSSES OF DESCHUTES SUMMER STEELHEAD AT ROUND BUTTE HATCHERY MADRAS, OREGON | 1975 |
| WAGNER, HARRY H.                      | HOW DO ADULT HATCHERY STEELHEAD DIFFER FROM WILD ANCESTORS ?                                      | 1972 |

STOCKING AND LOADING

|                  |   |      |
|------------------|---|------|
| APPLEBY, ANDY    | '78 BROOD GREEN RIVER COHO POND LOADING/SIZE AT RELEASE STUDY               | 1981 |
| PIPER, ROBERT G. | AN APPROACH TO ESTABLISHING A LOADING CAPACITY FORMULA FOR TROUT HATCHERIES | 1967 |
|                  | METHOD OF CALCULATING CARRYING CAPACITIES IN FISH                           | 1971 |
| WAGNER, HARRY H. | EFFECT OF STOCKING LOCATION OF JUVENILE STEELHEAD TROUT ON ADULT CATCH      | 1968 |

SURVIVAL

|                              |  |      |
|------------------------------|--|------|
| BILTON, H.T.                 | RETURNS OF ADULT COHO SALMON FROM ACCELERATED AND NORMALLY REARED JUVENILES RELEASED FROM ROSEWALL CREEK, BRITISH COLUMBIA | 1979 |
|                              | EFFECTS OF SIZE AND TIME OF JUVENILE RELEASE ON ADULT COHO RETURNS   | 1980 |
| BILTON, H.T. & J.A. VAN TINE | THE SECOND B.C. COHO SIZE AND TIME OF RELEASE EXPERIMENT: PRELIMINARY RETURNS TO THE QUINSAM HATCHERY                      | 1981 |
| BURROWS, ROGER E.            | ADULT SURVIVALS OF SALMON REARED UNDER ENVIRONMENTAL CONTROL   | 1969 |
| CLEAVER, FRED                | SOME EFFECTS OF MARKING CHINOOK SALMON BY FIN CLIPPING   | 1967 |
| HORAK, DONALD L.             | CAN THE STAMINA TUNNEL BE USED TO PREDICT SURVIVAL OF HATCHERY REARED RAINBOW TROUT  | 1970 |

## SUBJECT INDEX

SURVIVAL - CONT'D

|  |  |      |
|--|--|------|
| LEITH, DAVID A. &<br>JEAN P. LAGASSE<br>ORVILLE F. DAHRENS | EFFECTS OF LIPID NUTRITION ON POST-RELEASED<br>SURVIVAL OF COHO SALMON                             | 1975 |
| MCINTYRE, JOHN D. &<br>A. KENNETH JOHNSON                  | RELATIVE SURVIVAL OF TWO TRANSFERRING PHENOTYPES<br>IN BIG CREEK COHO SALMON: A PRELIMINARY REPORT | 1976 |
| REIMERS, PAUL E.   | SURVIVAL AND CONTRIBUTION OF FALL CHINOOK<br>SALMON FROM ELK RIVER HATCHERY                        | 1979 |
| SWARTZ, DON  | WILLAMETTE RIVER SPRING CHINOOK SURVIVAL STUDY   | 1971 |

TEMPERATURE

|  |   |      |
|--|---|------|
| ADAMS, BRYANT L.   | SMOLT CHARACTERISTICS DEPENDENT ON WATER<br>TEMPERATURE   | 1971 |
| BANKS, JOE L.  | EFFECT ON DIFFERENT REARING TEMPERATURES<br>ON GROWTH OF CHINOOK FINGERLINGS  | 1969 |
|  | CONTROLLED TEMPERATURE REARING OF FALL<br>CHINOOK SALMON  | 1973 |
| BIGEJ, RICHARD G.  | THRESHOLD TEMPERATURES FOR THE NORMAL<br>DEVELOPMENT OF BLUEBACK SALMON   | 1958 |
| BOUCK, GERALD R. &<br>GARY A. CHAPMAN<br>PHILLIP W. SCHNEIDER<br>DONALD G. STEVENS | EFFECTS OF HOLDING TEMPERATURES ON REPRODUCTIVE<br>DEVELOPMENT IN ADULT SOCKEYE SALMON<br>( <i>Oncorhynchus nerka</i> ) | 1975 |
| BURROWS, ROGER E.  | EFFECT OF CONTROLLED TEMPERATURES ON SALMON EGGS  | 1954 |
|  | THE EFFECT OF STREAM TEMPERATURE PATTERNS ON THE<br>SURVIVAL OF PINK SALMON EGGS  | 1955 |
| CHAPMAN, GARY A.   | EFFECTS OF TEMPERATURE DURING A SIMULATED<br>MIGRATION OF ADULT SOCKEYE SALMON<br>( <i>Oncorhynchus nerka</i> )         | 1967 |
| COMBS, BOBBY D.  | RELATIONSHIP BETWEEN WATER TEMPERATURE AND TIME<br>OF HATCH OF CHINOOK SALMON EGGS                                      | 1956 |
|  | THE STAGE OF DEVELOPMENT AT WHICH CHINOOK SALMON<br>EGGS CAN WITHSTAND COLD WATER TEMPERATURES                          | 1957 |
| DONALDSON, JOHN R.   | EFFECT OF VARIATION OF TEMPERATURES ON EGGS   | 1954 |
| FESSLER, JAMES L.  | WATER TEMPERATURE CONTROLS IN EXPERIMENTAL<br>HATCHERY  | 1967 |
| FOX, CECIL L.  | THE HEATED WATER SYSTEM AT MICHIGANS PLATT<br>RIVER HATCHERY  | 1969 |

## SUBJECT INDEX

TEMPERATURE - CONT'D

- |                              |   |      |
|------------------------------|---|------|
| HOLT, R.A. &<br>J.E. SANDERS | EFFECTS OF WATER TEMPERATURE ON INFECTION<br>OF YOUNG SALMONIDS BY CHONDROCOCCUS COLUMNARIS                           | 1973 |
| HOLWAY, JAMIESON E.          | TEMPERATURE UNITS PER INCH OF GAIN PER 30<br>DAYS (TU/INCH GAIN): ITS SIGNIFICANCE AND USE                            | 1976 |
| OLSON, P.A.                  | TEMPERATURES AND COLUMBIA RIVER CHINOOK SALMON<br>EGGS  | 1958 |
| SEYMOUR, ALLYN H.            | EFFECT OF HIGH CONSTANT TEMPERATURES UPON<br>THE MORTALITY AND GROWTH OF CHINOOK SALMON<br>EGGS, FRY, AND FINGERLINGS | 1954 |
| TRUCH, W.P.                  | AN UNEXPLAINABLE DECLINE IN GROUNDWATER<br>TEMPERATURES AND ITS CONSEQUENCES AT THE<br>DORION FISH HATCHERY (ONTARIO) | 1976 |
| WAGNER, HARRY H.             | AN OBSERVATION OF THE EFFECT OF TEMPERATURE ON<br>PARR-SMOLT TRANSFORMATION IN STEELHEAD TROUT                        | 1969 |
| WOLD, EINAR                  | OPTIMUM TEMPERATURE FOR INCUBATING STEELHEAD<br>EGGS  | 1970 |

TETRACYCLINE

- |   |  |      |
|---|--|------|
| JUNGE, CHARLES O.<br>A.K. JOHNSON<br>IRVING JONES | ELECTROCUTING AND TETRACYCLINE MARK SAMPLING<br>OF BIG CREEK HATCHERY COHO RETURNS | 1967 |
|---|--|------|

TISSUE CULTURE

- |   |   |      |
|---|---|------|
| FRYER, JOHN &<br>ALEX YUSHA<br>K.S. PILCHER | METHODS FOR THE PREPARATION OF TISSUE CULTURE<br>FROM SALMONID FISHES | 1962 |
| MCCAIN, B.                                  | CHARACTERIZATION OF FIVE FISH CELL LINES                              | 1965 |

TOXIN AND TOXICITY

- |   |   |      |
|---|---|------|
| BAKER, R.J. &<br>M.D. KNITTEL<br>J.L. FRYER | MEASUREMENT OF COPPER STRESS IN SALMONIDS BY<br>INCREASED SUSCEPTIBILITY TO A BACTERIAL INFECTION | 1979 |
| BUCKLEY, JAMES &<br>CECIL M. WHITMORE       | SUBLETHAL EFFECTS OF WEST POINT TREATMENT<br>PLANT EFFLUENT ON COHO SALMON                        | 1974 |
| HENDRICKS, JERRY D.                         | A NATURALLY OCCURRING TOXIN AND CARCINOGEN IN<br>COTTONSEED PRODUCTS                              | 1977 |
| SCHNEIDER, PHILLIP JR.                      | CADMIUM TOXICITY  | 1970 |
| SMITH, CHARLIE E.                           | STUDIES ON NITRITE TOXICITY IN RAINBOW TROUT  | 1973 |
| WILLIAMS, WARREN                            | NITRITE TOXICITY IN TROUT HELD IN WATER REUSE<br>SYSTEMS  | 1971 |



## SUBJECT INDEX

TOXIN AND TOXICITY - CONT'D

- |                      |  |      |
|----------------------|--|------|
| WESTGARD, RICHARD L. | THE PRODUCTION OF A FISH TOXIN IN HATCHERY REARING PONDS | 1966 |
|----------------------|--|------|

TRANSPORTATION

- |                    |  |      |
|--------------------|--|------|
| BITLE, FRED W.     | TRANSPORTATION OF FISH-PLASTIC BAGS WITH OXYGEN  | 1960 |
| HELMS, BILL        | (PRESENTED BY RALPH GARBUTT) AERIAL FISH DROP EXPERIMENTS                                | 1961 |
| HORTON, HOWARD F.  | THE EFFECTS OF TIME, DENSITY, MOTION AND STARVATION ON THE SURVIVAL OF TRANSPORTED TROUT | 1964 |
| JOHNSON, BARNEY W. | TRANSPORTATION OF FRESHLY SPAWNED, FERTILIZED PINK SALMON EGGS BY AIR                    | 1954 |
| KOSKI, R.O.        | RECENT DEVELOPMENTS IN FISH TRANSPORTATION IN OREGON                                     | 1961 |

TRAPS

- |             |                                   |      |
|-------------|-----------------------------------|------|
| WARD, DAVID | A NEW TYPE FISH TRAPPING FACILITY | 1958 |
|-------------|-----------------------------------|------|

VACCINATION

- |                     |   |      |
|---------------------|---|------|
| NOVOTNY, ANTHONY J. | THE SIZE OF COHO SALMON AND TIME OF ENTRY INTO SEA WATER: PART 2 EFFECTS OF VIBRIO VACCINATION  | 1973 |
| JOHNSON, KEITH A.   | TEST FOR ANTIGENIC INTERFERENCE WITH HIVAX* <i>Vibrio anguillarum</i> AND REMOVAX* ERM COMBINATION BACTERINS FOR IMMERSION VACCINATION OF FALL CHINOOK SALMON AND RAINBOW TROUT | 1979 |
| JOHN, KEITH A.      | EVALUATION OF AN EXPERIMENTAL <i>Aeromonas salmonida</i> VACCINE  | 1980 |

WASTE

- |                    |   |      |
|--------------------|---|------|
| LEITH, DAVID A.    | WASTE DISCHARGES FROM REPRESENTATIVE SALMON CULTURING FACILITIES IN OREGON                | 1976 |
| LEONARD, DENNIS W. | NATURAL ZEOLITES IN FISH CULTURE  | 1978 |
| LIAO, PAUL B.      | AMMONIA PRODUCTION RATIO AND ITS APPLICATION TO FISH CULTURE SYSTEMS PLANNING AND DESIGNS | 1974 |

WASTE-HEAT

- |                     |   |      |
|---------------------|---|------|
| TRUCH, W.P.         | POTENTIAL FISH-CULTURE APPLICATION FROM THE USE OF WASTE HEAT | 1977 |
| WALTERS, KENNETH W. | WASTE HEAT AQUACULTURE  | 1977 |

## SUBJECT INDEX

WATER

|                               |   |      |
|-------------------------------|---|------|
| FLATOW, ROBERT E.             | UPDATING ULTRA-VIOLET LIGHT WATER PURIFICATION  | 1972 |
| JOHNSON, CLARENCE<br>BRACKISH | WATER ENVIRONMENT FOR RAISING FISH  | 1972 |
| KOLB, RICHARD                 | SETTLING OF WATER BORNE SOLIDS USING<br>READILY AVAILABLE MATERIALS                                   | 1981 |
| MATTSON, CHESTER R.           | DEVELOPMENT OF GROUND WATER FOR SALMON<br>ENHANCEMENT CHANNELS  | 1979 |
| MCLEAN, W.E. &<br>A. BOREHAM  | AERATION OF HATCHERY WATER SUPPLIES   | 1980 |
| WOLD, EINAR                   | MONITORING THE EFFICIENCY OF WATER RECONDITIONING<br>PRETREATMENT FACILITIES WITH BIOASSAY TECHNIQUES | 1972 |

HEATED WATER

|                   |   |      |
|-------------------|---|------|
| BROCK, IRVIN R.   | UTILIZATION OF 'WASTE' HEAT FOR A FISH HATCHERY<br>IN INFERIOR ALASKA | 1980 |
| KEPSHIRE, BERNARD | GROWTH OF PINK CHUM AND CHINOOK SALMON IN<br>HEATED WATER             | 1971 |
| MORTON, K.E.      | EXPERIMENTAL HEATING OF POND WATER TO START<br>RAINBOW ON A DRY DIET  | 1960 |
| TREFFRY, GARY A.  | A HEATED WATER SUPPLY   | 1970 |
| WALLIS, JOE       | REARING SALMONIDS IN POWER PLANTS COOLING PONDS                       | 1970 |

WATER RE-USE

|  |  |      |
|--|--|------|
| BITLE, FRED W.   | WATER REUSE  | 1966 |
| BRUIN, W.J. &<br>LAURA M. MAMAW<br>JOHN W. NIGHTINGALE | USE OF A CLINOPTILOLITE AMMONIA REMOVAL FILTER<br>IN A RECIRCULATING SALMON REARING FACILITY   | 1979 |
|  | EVALUATION OF FISH GROWTH AND NITROGENOUS WASTE<br>HANDLING IN A RECIRCULATING SALMON REARING<br>FACILITY WITH A CLINOPTILOLITE FILTER | 1980 |
| COMBS, BOBBY D.  | PRELIMINARY EXPERIMENTS IN WATER REUSE   | 1963 |
|  | THE RECLAMATION OF WATER   | 1964 |
|  | THE RECLAMATION AND REUSE OF WATER   | 1965 |
|  | PROGRESS IN WATER RECLAMATION STUDIES  | 1971 |
| ELLIS, JAMES N.  | THE RECIRCULATING HATCHING UNITS AT THE COLLEGE<br>OF FISHERIES, UNIVERSITY OF WASHINGTON  | 1964 |

## SUBJECT INDEX

WATER RE-USE

|   |  |      |
|---|--|------|
| HIGGS, KENNE                            | PRACTICAL APPLICATIONS OF WATER REUSE SYSTEMS<br>IN REGION ONE HATCHERIES  | 1968 |
| LIAO, PAUL                              | THE NITRIFICATION PROCESS FOR RECONDITIONING<br>FISH HATCHERY WATER  | 1971 |
| MAYO, RONALD D.                         | A PROGRAM FOR THE STUDY OF FISH HATCHERY<br>WATER TREATMENT SYSTEMS AT THE BOZEMAN FISH<br>CULTURE DEVELOPMENT CENTER IN MONTANA | 1971 |
| RIDENHOUR, RICHARD L.                   | OPERATION OF THE HUMBOLDT STATE COLLEGE<br>RECIRCULATING FISH HATCHERY: 1957-1963  | 1963 |
| ROMEY, DANIEL B. &<br>ROBERT A. RATTRAY | CRYSL LAKE: ALASKA'S NEW WATER RE-USE FISH<br>HATCHERY   | 1974 |
| UDWIN, ELLIS                            | SELECTION OF WATER TREATMENT TECHNIQUES FOR<br>HATCHERY WATER SUPPLIES   | 1970 |
| WALLIS, JOE                             | AN INDOOR BURROWS REUSE SYSTEM   | 1970 |

WATER TEMPERATURE

|               |   |      |
|---------------|---|------|
| BRUHN, DAVE & | SOME EFFECTS ON RAINBOW TROUT BROODSTOCK OF<br>REDUCING WATER TEMPERATURE FROM 59° F TO 52° F | 1975 |
|---------------|---|------|

WATER-WASTE

|                    |  |      |
|--------------------|--|------|
| FOX, CECIL L.      | AN ENGINEERING FIRM LOOKS AT HATCHERY WASTEWATER<br>TREATMENT                            | 1973 |
| MCDANIEL, DAVID W. | HATCHERY WASTEWATER TREATMENT AS VIEWED BY THE<br>BUREAU OF SPORT FISHERIES AND WILDLIFE | 1973 |
| SWEENEY, JAMES     | FEDERAL LAWS AS THEY RELATE TO HATCHERY<br>WASTEWATER TREATMENT                          | 1973 |

WYOMING

|            |  |      |
|------------|--|------|
| TERRY, DON | WYOMING'S PROJECTED TEN YEAR FISHERIES PROGRAM | 1963 |
|------------|--|------|

YUGOSLAVIA

|                |                               |      |
|----------------|-------------------------------|------|
| WILLOUGHBY, H. | TROUT FISHERIES OF YUGOSLAVIA | 1965 |
|----------------|-------------------------------|------|

ZINC

|                  |  |      |
|------------------|--|------|
| TRIPP, MARTIN J. | ACUTE COPPER AND ZINC TOXICITY IN CHINOOK SALMON   | 1964 |
| SHEARER, KARL    | A SIMPLE MODEL TO DESCRIBE ZINC STATUS IN TROUT  | 1981 |
| WEDEMEYER, GARY  | UPTAKE AND DISTRIBUTION OF ZINE 65 IN THE<br>COHO SALMON EGG ( <i>Oncorhynchus kisutch</i> ) | 1967 |