APPENDIX A

THE CANADA-BRITISH COLUMBIA OKANAGAN BASIN AGREEMENT

CANADA-BRITISH COLUMBIA OKANAGAN BASIN AGREEMENT

THIS AGREEMENT made as of the 29th day of October, 1969

BETWEEN: THE GOVERNMENT OF CANADA
represented herein by the Minister of Energy, Mines and Resources (hereinafter called "Canada")

OF THE FIRST PART

AND THE GOVERNMENT OF THE PROVINCE OF BRITISH COLUMBIA
represented herein by the Minister of Lands, Forests and Water Resources (hereinafter called "British Columbia")

OF THE SECOND PART

WHEREAS the Governments of Canada and British Columbia recognize the growing need to plan water resources development on a comprehensive basis; and

WHEREAS the economy of the Okanagan Basin is heavily dependent on the quantity and quality of its limited water resource for agricultural production, recreation and tourism, as well as for domestic, municipal and industrial water supply and for the assimilation of wastes; and

WHEREAS the water supply problems in the Basin may involve the re-use of municipal waste water in irrigation systems, increased efficiencies in the use of water for irrigation, and the augmentation of water supply from groundwater and from diversion; and

WHEREAS the Shuswap-Thompson Rivers and the Okanagan River are important habitats for valuable stocks of Pacific Salmon; and

WHEREAS the Shuswap-Thompson system is a potential diversion source for the Okanagan Basin; and

WHEREAS these problems and possible solutions may have not only municipal, regional, provincial, and national significance, but potential implications outside Canada; and

WHEREAS His Excellency, the Governor-in-Council by Order-in-Council, P.C. 1969-7/2051 has authorized the Minister of Energy, Mines and Resources to execute this Agreement on behalf of Canada; and

WHEREAS His Honour, the Lieutenant Governor-in-Council by Order-in-Council No. 2423/1969 has authorized the Minister of Lands, Forests and Water Resources to execute this Agreement on behalf of British Columbia.

NOW THEREFORE THIS AGREEMENT WITNESSETH THAT in consideration of the premises, covenants and agreements herein contained the parties covenant and agree with each other as follows:

1. OBJECTIVE

The purpose of this Agreement is to develop a comprehensive framework plan for the development and management of water resources for the social betterment and economic growth in the Okanagan Basin.

2. SCOPE

The Okanagan Basin is of major significance to the Province of British Columbia. Due to increasing demands likely to be placed on the water resources of this Basin for municipal, industrial, agricultural and recreational uses and for fish and wildlife management and in view of the deterioration of water quality, disturbance of ecological balances, and diminution of water quantity in the Basin, the study will focus on identification and analysis of these problems and the evaluation of economic, engineering, ecological, financial and organizational alternatives for water resource utilization in the solutions to these problems. The planning horizon of the study will be to the year 2020 A.D.

The study will also embrace any areas likely to be affected by the adoption of various alternative solutions including, but not limited to, the possibility of diverting water from the Shuswap-Thompson Basin.

The study may also include the expansion of the present hydrologic and water quality data collection systems and an implementation phase in the form of pilot advance treatment plants and an experimental program of effluent disposal including spray irrigation and other techniques.

3. TERMS OF REFERENCE

The studies leading to the formulation of a comprehensive framework plan for the Okanagan Basin are to be sufficiently broad in scope as to examine possible alternatives for the efficient utilization and provision of an adequate quantity and quality of water in the Basin and in those areas likely to be affected by a diversion. Consequently, the program will include:

(a) ECONOMIC GROWTH STUDIES - as required, to provide a regional, national and internationl market perspective in which to view the emerging patterns of water demand for the Basin. The studies will focus on the regional resource base and on the economic viability of new and existing kinds of industry and agriculture, including tourism and water-based recreations, upon which water demand predictions can be based.

(b) WATER DEMAND STUDIES - as required, to provide an estimate of current demands and a forecast of future water demands by sector - municipal, industrial, agricultural, transportation, fisheries, recreational - to the year 2020 A.D.

(c) WATER SUPPLY STUDIES

(i) Water Quality Studies - as required, to determine present sources and levels of pollution, the relationships between inputs and outputs of nutrients and other chemical parameters in the waters of the Basin; to devise mathematical models to express the nutrient balances and pollution effects; and to determine the extent and range of possible future sources and levels of pollution.

(ii) Water Quantity Studies - As required, to evaluate the existing hydrologic regime of the Basin, including studies of runoff, lake levels, flows, groundwater and geological structure; climatology and meteorology; to evaluate means of regulating flows through storage and diversion; and to evaluate means of augmenting water supplies within the Okanagan Basin.

(d) ECOLOGICAL AND AESTHETIC STUDIES - as required, to determine the effects of water resources development and utilization on the fish and wildlife, and on the aesthetic values of the Basin.

(e) WATER RE-USE AND PILOT PROJECTS FOR ADVANCED TREATMENT OF WASTE WATER - as part of the water quality studies to determine practicability of augmenting water required for irrigation with the waste waters and to develop pilot plants for the control of nutrient discharges through the treatment of municipal and industrial wastes.

(f) STUDIES OF FINANCIAL AND ORGANIZATIONAL STRUCTURES - as required, to broaden the scope of the planning process to include all practical alternatives for the subsequent efficient utilization of the water resources of the Okanagan Basin.

(g) PUBLIC INVOLVEMENT - as required, to enable a comprehensive plan to be truly responsive to the wishes of the people for which it is designed while reflecting the characteristics of the people in the Okanagan Valley and surrounding regions.

4. FINANCING

(a) Canada and British Columbia shall equally share the entire cost of the study, including, but not limited to, the cost of collection of data, field surveys and the cost of consultants engaged as part of the program as well as an equitable share of the items described in (d) hereunder. Salaries of federal and provincial civil servants engaged in the program shall not be paid from funds approved under this Agreement excepting staff specifically assigned to and engaged in studies under this Agreement.

(b) Subject to the terms and conditions of this Agreement and subject to the funds being voted by Parliament, the aggregate sum to which Canada shall be liable in respect of the Agreement is not to exceed $1,000,000 of which not more than $250,000 will be available for financial assistance provided by Canada for the items described under (d) below.

(c) Subject to the terms and conditions of this Agreement and subject to the funds being voted by the Legislative Assembly, the aggregate sum to which British Columbia shall be liable in respect of the Agreement is not to exceed $1,000,000 of which not more than $250,000 will be available for the items described under (d) below.

(d) From time to time during the life of this Agreement, and as part of the Program, Canada and British Columbia may approve and provide financial assistance to local communities and organizations for:

(i) an experimental program of waste water reclamation by irrigation; and

(ii) a pilot advanced treatment installation.

Any project thus approved and constructed shall be operated and maintained by the municipality or local authority. Access shall be provided at all times for personnel authorized to work on the Program.

(e) This Agreement shall take effect on the date that the parties have executed this Agreement. No costs incurred prior to March 25, 1969 shall

be eligible or considered for payment under this Agreement. This Agreement shall terminate four years from the date of signing.

(f) Canada and British Columbia shall keep complete records of all expenditures made severally pursuant to the Agreement and shall support such expenditures with proper documentation. Canada and British Columbia upon request shall make these records and documents available to auditors appointed by the other.

(g) British Columbia shall keep complete financial records of all costs incurred under this Agreement. Upon request, British Columbia will make these records available to auditors appointed by Canada.

(h) Subject to the cost-sharing provisions of this Agreement, Canada shall pay to British Columbia, Canada's share of expenditures made by British Columbia pursuant to this Agreement upon the submission of a claim in a mutually agreed manner and form by British Columbia, certified by a senior official of British Columbia, and bearing a British Columbia audit certificat

(i) Subject to the cost-sharing provisions of this Agreement, British Columbia shall credit Canada for expenditures made directly by Canada pursuant to this Agreement, upon the submission by Canada of a claim in a mutually agreed manner and form.

(j) Each party shall provide the staff including any field staff and administrative facilities necessary to implement any portion of the program assigned to the respective parties.

5. LEGAL IMPLICATIONS

Any studies undertaken under the provisions of this Agreement shall take into account in an appropriate fashion any legal implications necessarily incidental thereto.

6. ADMINISTRATIVE FRAMEWORK OF THE STUDY

Canada and British Columbia shall participate in a process of joint planning. To facilitate this, the following shall be established:

(a) A CANADA-BRITISH COLUMBIA CONSULTATIVE BOARD consisting of six members at a senior level in the public service, three of whom will be appointed by Canada and three by British Columbia. This Board shall be responsible for undertaking the program described herein; shall supervise the Okanagan Study Committee; shall meet at least once each year; and shall report to the Minister of Energy, Mines and Resources of Canada and to the Minister of Lands, Forests and Water Resources of British Columbia on progress of the Program and on the results of the investigation.

(b) AN OKANAGAN STUDY COMMITTEE, reporting to the Canada-British Columbia Consultative Board, will consist of three members appointed by Canada and three members appointed by British Columbia. With the approval of the Board, the Committee may appoint a study director, various sub-committees and other staff to carry out specific portions of the Program. All staff appointments shall be through the Provincial Civil Service Commission on the advice and consent of the Consultative Board. A party hereto may, upon the recommendation of the Board, employ the services of private consulting individuals and firms as required for data collection, planning and implementation.

(c) The Okanagan Study Committee under the supervision of the Board, shall carry out the joint planning studies and pilot projects in accordance with the terms of reference. In addition, the Committee shall involve the public in the planning process.

7. FINAL REPORT

The comprehensive plan resulting from this Agreement shall be accompanied by a final report including a full benefit-cost analysis of the alternative solutions and recommendations for further courses of actions.

8. GENERAL

(a) British Columbia and Canada shall exchange copies of all reports and related available information from prior and current studies for use in the Program.

(b) This Agreement shall not be construed as to vest in Canada any proprietary interest in projects constructed hereunder.

(c) The Agreement may from time to time be reviewed by the parties hereto and with the approval of the Governor-in-Council and the Lieutenant Governor-in-Council, may be revised.

(d) No Member of the Parliament of Canada or Member of the Legislative Assembly of British Columbia shall hold, enjoy or be admitted to any share or part of any contract, agreement, commission or benefit arising out of this agreement.

(e) The Okanagan Study Committee will submit annual reports to the Consultative Board on its findings as well as a final report on or before the expiration date of this Agreement, and other reports as required by the Board.

(f) The Board may make recommendations to both parties regarding further participation in detailed studies beyond the terms of this Agreement and regarding the implementation of the comprehensive plan.

IN WITNESS WHEREOF the Honourable J.J. Greene, Minister of Energy, Mines and Resources, has hereunto set his hand on behalf of Canada and the Honourable Ray Williston, Minister of Lands, Forests and Water Resources, for the Province of British Columbia.

In the Presence of

"A.T. Davidson"

Signed on behalf of the Government of Canada

"J.J. GREENE" Oct. 29, 1969

In the Presence of

"V. Raudsepp"

Signed on behalf of the Province of British Columbia

"Ray Williston" Oct. 29, 1969

APPENDIX B

SUMMARY STATEMENT O.B.W.B. HEARINGS MARCH 1972

SUMMARY STATEMENT ON BRIEFS SUBMITTED AT OKANAGAN BASIN WATER BOARD HEARINGS MAY 26 TO NOV. 23, 1971

(PREPARED BY O.B.W.B. MARCH, 1972)

DESCRIPTION

During the period, May 26, 1971 to November 23, 1971, the Okanagan Basin Water Board sponsored a series of six public meetings to hear the views of local residents relating to water management. Meetings were held in Vernon, Penticton, Princeton, Kelowna, Osoyoos, and Enderby. Total attendance for these meetings was 590 persons.

One hundred and ten written and verbal presentations were made by a variety of organizations and individuals.

Since briefs submitted on behalf of organizations represent the views of many individuals within the group, it is likely that opinions expressed during the meetings represent a much larger population than merely the number of briefs presented or the number of persons attending. The large number of individuals who prepared briefs to express their own views without the guidance of a group are to be commended.

The views expressed during these public meetings were unprompted, and therefore a wide variety of statements relating to water resource management were received. This technique provides for a liberal expression of public opinion; but on the otherhand, does not lend itself to statistical analysis as does a planned questionnaire based on random sampling techniques. The results of public meetings will, therefore, be analyzed and provide good complimentary information to statistical data gathered through a resident survey undertaken by the Okanagan Basin Study.

Key phrases or statements indicating various viewpoints have been placed under appropriate headings, such as - water quality, water quantity, etc., on the following pages. Each brief presented was reviewed, and the number of briefs expressing views similar to each of the key statements were tabulated.

The number of briefs expressing a given view should provide an indication of the relative public concern related to each statement.

SUMMARY STATEMENTS:	NO. SUPPORTING STATEMENT
WATER QUALITY	
1 - Water quality is a local problem	23
2 - Stricter controls for waste should be researched and enforced.	
Waste discharge to streams and lakes should be stopped.	31

SUMMARY STATEMENTS:	NO. SUPPORTING STATEMENT
WATER QUALITY (cont'd.)	
3 - A high level of water quality should be maintained	20
4 - Water quality is important for local industries, tourism and domestic use.	1
5 - Water standards must be maintained to meet health requirements	3
6 - There are water quality problems in upper domestic reservoirs due to recreation, development and other activities which should be controlled, e.g. logging, mining, grazing, etc.	8
7 - Do not feel there is any water pollution in the Valley at present.	-
8 - Water pollution is restricted to relatively small areas at present	-
WATER QUANTITY	
1 - Increasing water demand is a local water resource problem	10
2 - The water resource is of prime importance.	4
3 - Domestic drinking water supply is a local resource problem.	4
4 - Population has outgrown available water supply.	1
5 - Water quantity should be managed more carefully.	24
6 - Water should not be diverted simply to aid developers.	1
7 - Opposed to diversion from the Shuswap.	5
8 - Wish to have more flood control.	4
9 - Water should be diverted from watersheds where it is in excess	1
QUALITY OF ENVIRONMENT	
1 - The Okanagan is a good place to live. Climate, rural atmosphere, scenery, lakes and fruit growing, etc., add to the attractiveness and uniqueness of the Valley.	15
2 - The Okanagan has environmental problems.	2
3 - The present environment of the Okanagan should be maintained or improved.	15
4 - Preserving the environment is more important than achieving higher incomes, economic growth, or more employment in the Valley.	2
5 - Economic growth and preservation of the environment are equally important.	1

SUMMARY STATEMENTS:	NO. SUPPORTING STATEMENT
QUALITY OF ENVIRONMENT (cont'd.)	
6 - Protecting the environment is of secondary importance.	-
7 - A change in human attitude and life style is required to correct environmental problems.	6
TOURISM	
1 - Tourism should be encouraged.	6
2 - Tourism should be restricted. Too many tourists are causing crowding and are adding to local problems	5
AGRICULTURE	
1 - Express concern regarding loss of agricultural land.	3
2 - Wish to see agricultural land retained in agricultural use.	17
3 - Subdivision and development should be planned to protect agricultural land.	14
4 - Agriculture should be assisted to maintain agricultural land use.	11
5 - There is no need to control subdivision of agricultural land, at least in the near future.	-
6 - It would be wrong to support agriculture with public funds or by controlling subdivision.	-
7 - Agriculturists should have the priveledge of sub-dividing.	3
8 - Agriculture is becoming less economic.	4
9 - Fresh fruit and irrigated landscapes are unique features and contribute to tourism.	5
10 - Agriculture contributes greatly to the economy.	5
11 - Large quantities of easily available water are required for a viable agricultural industry.	2
12 - Studies should be done on land use.	1
INDUSTRY AND URBAN DEVELOPMENT	
1 - More industry should not be encouraged in the Valley.	4
2 - Only light, clean industry should be allowed in the Valley.	15
3 - Large industry is permissible if sewage is properly treated.	1

SUMMARY STATEMENTS:	NO. SUPPORTING STATEMENTS
INDUSTRY AND URBAN DEVELOPMENT (con'td.)	
4 - Industrial growth and/or urban development should be slowed down and planned or it will destroy the Valley.	19
5 - The average person does not gain by the increased industrialization and development. Only developers gain.	1
6 - Industrial growth is necessary, but should be planned.	7
7 - Service and recreational industries should be encouraged.	4
8 - By curtailing industry other values will be attained, i.e., increased tourism, higher property values, culture, etc.	2
9 - There should not be any controls on Industrial Development.	-
POPULATION	
1 - Population growth should be controlled.	10
2 - Population increases should be confined to urban areas.	2
3 - Population should be stopped until there is planned growth with proper sewage treatment.	3
4 - There are already plenty of people in the Okanagan. Population should not be allowed to increase.	-
5 - There is no need to regulate population growth presently, but it should be regulated in the future.	-
6 - There is no need to regulate population in the Valley at any time.	-
WILDLIFE	
1 - Animal and bird habitats are threatened. More public effort and management should be directed to protecting fish and wildlife.	10
2 - Wildlife should be protected if it doesn't cost too much.	-
3 - No more protection of wildlife is needed.	-
PARKS, MINING, GRAZING AND FORESTRY	
1 - Logging practices, road construction, and/or mining, have resulted in damage to watersheds.	4
2 - Logging and/or mining practices should be more closely controlled.	7

SUMMARY STATEMENTS:	NO. SUPPORTING STATEMENT
PARKS, MINING, GRAZING AND FORESTRY (cont'd.)	
3 - Areas of unique and natural beauty should be conserved (ecological reserves).	8
4 - Recreational areas and parks should be planned and maintained.	17
5 - Watershed management is important to preserve water quality and quantity.	6
6 - Sustained yield and coordinated forest management meets the objectives of best land use and water management.	1
SOCIO-ECONOMIC	
1 - Education and culture should be encouraged.	3
2 - The public should be informed and consulted regarding water management.	3
INSTITUTIONAL	
1 - A local water management authority is required.	1
2 - The Okanagan Basin Water Board should become a local water management authority.	5
3 - There should be a better way of financing water systems.	2
4 - A valley-wide planning organization is needed.	1
5 - A form of authoritative Water Board is required to carry on after the Okanagan Basin Study is complete.	2

APPENDIX C

P.I.P. TASK FORCE SEVEN RECOMMENDATIONS

RECOMMENDED PLAN AS PRESENTED BY THE PUBLIC THROUGH "PIP" TASK FORCE SEVEN

(FROM PRELIMINARY REPORT NO. 1 "TO OUR CHILDREN'S CHILDREN")

A major assignment of Task Force Seven was to synthesize all the work of the previous six PIP Task Forces and to develop a type of framework plan for the future development and management of the Okanagan's water resource. In carrying out their responsibilities in this regard, the Task Force gave consideration to all recorded inputs received through the "info in" aspect of the Public Involvement Program. The framework plan developed by Task Force Seven is primarily a series of recommendations plus a time chart and maps (the unabridged version is to be found in Preliminary Report #1 and Technical Supplement XII). In providing a condensed version of it now a brief preamble introduces the recommendations:

"Since a unique environment is the key to the very desirable life-style of the Okanagan, we, who live here, should attempt to exert control over social and economic planning so as to prevent deterioration of that physical environment. Any such deterioration would inevitably lead to the deterioration of our unique social and economic environments as well. All planning decisions, at any level of government, should be made only after full assessment of the effect of such decisions on the quality of life in this area, not only for our own sake, but also for the sake of future generations.

We recognize that the Okanagan is not yet in imminent danger of environmental collapse but concern is growing that already there has been too much deterioration. While we recognize that it is necessary to maintain the economic viability of the valley, we do not believe that a rapid growth policy is necessary particularly when such policies have adverse effects on the environment.

We are convinced that the water resource is critical to the maintenance of our environment which in turn preserves the desired life-style. Therefore, it is imperative that sufficient supplies of water be made available, when necessary, for those priorities decided upon through a valley consensus. It is recognized that there are two major categories in water use: consumptive (water not returned to the system, i.e. drinking, orchards, cattle, certain industrial uses, etc.) and non-consumptive (water used but either left in the system or else returned to the system shortly after use, i.e. fishing, swimming, boating, sewage treatment systems, industrial and domestic cooling

systems, etc.). In future Okanagan planning both consumptive and non-consumptive uses must be taken into consideration. However, priorities need to be established for guidance in those years in which the amount of inflow is less than the required diversions. The knowledge of such a system of priorities would greatly influence the decisions concerning future expansion of any segment of the economy.

Results from preliminary study investigations, including hydrological information, economic projections, and computer simulation lead us to the opinion that there is enough water in the mainstem system to provide for all consumptive and non-consumptive uses during most years. In all years there is enough water for consumptive uses if the management process is altered and improved. We further recognize that the present water system also depends on tributary storage. Available preliminary data indicates there could be quantity problems in certain tributaries in drought years. Consideration should therefore be given to increasing tributary storage where possible, pumping from the lake where feasible, and curtailing of population expansion in critical areas.

We are also seriously concerned about the quality of water. Preliminary research by the Study has shown that water quality is declining in varying degrees and in various places throughout the Okanagan system. It is of prime importance that such decline be arrested and when and where possible, reversed. Water quality is critical for consumption, recreation, aesthetics, fish and wildlife.

While the Okanagan Basin Study was established to examine specifically water resources, we have found that activities on land both have an effect on, and are affected by, water quality and quantity and therefore should be taken into account in comprehensive planning. If we wish to plan the development of the Okanagan Valley towards the achievement of the optimum life-style, those activities should be promoted which will enhance the environment, or at least have a minimal negative effect. In assessing the nature of the Okanagan we feel that agriculture, and especially the fruit industry, is an integral component of the quality of life. The second major aspect of Okanagan life that should be protected and enhanced is the recreational potential.

Before outlining our recommendations however, we also believe that it is important to recognize that the Okanagan Basin Study has made people aware of other deficiencies in planning exercises. Throughout the deliberations of the various Task Forces and especially through the work of the PIP staff, it became obvious that there is a major problem of communication between the public and their governments. Often people don't realize what is happening within the operations of their government, or why. Yet democracy demands an enlightened electorate. In this age of rapidly advancing technology and resource

utilization, it is critical that society as a whole continually be aware of the operations and interconnectedness of the components of their physical, social and economic environment. As well, it is increasingly important that people be guided towards maintaining those practices which will enhance the physical, social and economic environment of the valley by legal as well as by educational means. There are too many regulations overlooked intentionally or unintentionally which, if adhered to, would significantly improve the water resource.

Furthermore, a major Task Force concern has been post-study activity and the fear exists that the results of this Study will be shelved and forgotten. As this Study is a unique pilot project in inter-jurisdictional planning, we hope that there will be some type of continuance into an implementation phase, with ongoing public involvement. We feel that the public involvement sector of this Study has been too valuable a factor to abandon, and there should be continuing opportunities for residents to give their views on the future of their valley."

It is from the above beliefs and rationale that Task Force Seven presents the following recommendations based on the earlier work of Task Forces #1 - #6 representing a cross-section of the Okanagan community, towards the planning of an improved Okanagan River Basin:

1. Therefore, we recommend that: *Future planning in the Okanagan should place primary emphasis on environmental protection, giving due emphasis to maintaining the economic viability of the valley.*

2. Therefore, we recommend that: *For purposes of water quantity the Okanagan water system be planned so that all consumptive and non-consumptive uses ~~be~~ met in all but the most severe drought conditions (historically, one in fifty years).*

   We also recommend that: *Provincial legislation concerning strict flood-plain zoning be enacted and enforced, the responsibility of implementation be given to the regional district.*

3. Therefore, we recommend that: *Water quality standards be developed for the Okanagan which will be directed towards the improvement of present water quality and that all practices affecting water quality be made to conform with such standards.*

4. Therefore, we recommend that:

   1) The agricultural industry be the first priority in the management of water after the personal consumptive needs of the present population have been met.

   2) Agriculture be given more attention by senior levels of government so that it becomes a viable industry in the economy of the nation.

   Because:

   i. B. C. has such a small proportion of arable land, that it should be conserved for food production.

   ii. Support payments for an industry which maintains the desired environment (such as agriculture) may prove to be cheaper than cleaning up the pollution of some other industries.

iii. *Agriculture assists in the preservation of green spaces between the urban centres.*

iv. *The small family farm is an important social component in the Okanagan life-style.*

v. *Agriculture provides a great deal of the aesthetic value of the Okanagan.*

vi. *Agriculture provides opportunities for re-cycling human waste.*

Though we are suggesting that agriculture be given this priority in water use, we realize that this is a simplification of the question of the overall direction of planning and we therefore would further recommend the following ideas which are compatible with such a priority:

a) *Each area should be encouraged to develop its own capabilities but any such development should not affect negatively the environment of other areas.*

b) *Future development should be geared towards low, but stable growth policies, such as a projected population in 2020 A.D. of 275,000 to 290,000 people, with the main increase going to the urban central portion, rather than the agricultural north and south.*

c) *In the future, because we desire a high standard of environmental quality, we should no longer actively promote residential growth, industries with waste problems and tourism, because these sectors will likely increase anyway, due to the momentum already built into the Okanagan economy.*

d) *Future growth policies should emphasize the expansion of existing industries, that are compatible with the new standards desired above, rather than seeking to bring in new ones.*

5. Therefore, we recommend that: *Considering the trends towards increased leisure time, and considering the unique recreational possibilities of the Okanagan Valley, the second priority in the management of the water resource should be improving and increasing the quality and quantity of water-based recreational opportunities, with primary emphasis on the needs of the residents. The costs of future developments, including pollution control facilities should be shared by all users, whether resident or tourist.*

6. Therefore, we recommend that: *In the development and management of water resources within the Okanagan Valley, there should be a strong and continuing commitment to the enhancement of sport fisheries, with the planning focus on the needs of the residents.*

7. Therefore, we recommend that: *Strict pollution control standards be instituted and rigorously enforced for industries locating in the Okanagan.*

8. Therefore, we recommend that: *A comprehensive program of education towards proper water resource management and planning be developed for both the "public-at-large" and the "student-in-the-classroom".*

That this program, utilizing as wide a variety of media as possible including booklets, video-tapes, pamphlets, tv, radio the press , films etc. would explain and discuss at least the following:

- *The process of operating Lake Okanagan as a reservoir.*
- *Drought possibility and consequences plus elementary steps to alleviate drought problems including basic practical steps reducing water consumption around the home.*
- *The life-process (especially spawning) of the Columbia sockeye salmon, including on-site tours of the spawning run in the Okanagan River in the fall of the year.*

- *The present institutional and social frameworks for the management of water resources in the Okanagan.*
- *The present operational process of various departments of governments involved in water management.*
- *The possible effects of agricultural practices (cattle, fertilizers, etc.) on water quality, plus plausible management alternatives to alleviate such problems.*

9. Therefore, we recommend that: *All legislation, regulations and guidelines which have been established for the purpose of improved water management should be policed more consistently and more extensively than at present in order to attain and maintain a better environment and that public involvement and participation in this process be encouraged through education.*

10. Therefore, we recommend that: *Upon conclusion of the Canada-British Columbia Okanagan Basin Agreement an Okanagan Basin authority be established by the Provincial and Federal Governments with the responsibility for management of water and other resources in the valley.*

    a) *That such an authority be given real powers in the field of water management and the responsibilities arising therefrom. These responsibilities to include implementation of the recommendations of the Okanagan Water Basin Study and the recommendations of the Public Involvement Program.*

    b) *That such an authority be responsible for the development and co-ordination of a totally comprehensive plan for the future orderly development of the Okanagan Water Basin.*

    c) *That provision be made for continuing public participation so that changing attitudes, perceptions and goals of valley residents would continually be taken into consideration in the planning process.*

In addition to the general recommendations which outline the objectives and the philosophy of Task Force Seven, there are numerous recommendations and suggestions that the Task Force members believe must be acted upon over the next few years in an effort to ensure not only the preservation of the Okanagan Valley but to aid in the improvement and management of the water resource and evolve from an "indepth" consideration of the results of the various research tasks ubdertaken by the Okanagan Basin Study.

11. Therefore we recommend that: *All municipalities undertake programs to ensure that as a minimum standard, no more than 20% of the phosphorus from its sewage waste effluent reach either surface of ground water systems; and in order to achieve the major goal of effectively retarding eutrophication of the lakes in the Okanagan, all municipalities must strive to severely limit the input of all nutrients and other deleterious substances from seage waste effluent to surface and ground water systems.*

    All built-up municipalities and unorganized urban areas must be utilizing some form of sewage collection and treatment by the year 1985 in accordance with the above standards and the timetable accompanying these recommendations - Appendix A (because different communities have begun various treatment systems at various times completion dates are set non only according to the size of the community but also to the degree to which their facilities are currently achieving some measure of phosphorus removal). (Consideration should be given by all governments to continuing studies regarding the feasibility of marketing or otherwise disposing of sewage sludge as a soil conditioner or fertilizer.)

    All industrial plants must adhere to the above standards by 1985 in accordance with the accompanying timetable.

We also recommend that: *In an effort to control all inputs of nutrients (in addition to phosphorus) all positive waste discharges should be removed from the major valley lakes and tributary streams by the year 2000 A.D. Municipal governments should note that when developing new waste treatment systems that may be necessary following the implementation of the recommendation noted previously, overall it may be more economical to initially develop facilities that do not require discharging effluent to receiving waters. Moreover, as will be noted in the aforementioned timetable (Appendix A), it is evisaged that in the near future the minimum standard for phosphorus removal, with expanding population will have to be 90% to achieve the same effect as 80% with today's population.*

There are several possible alternatives to discharging effluent to mainstem lakes and streams:

(i) Spray irrigation of effluent should be utilized as a method of waste disposal wherever feasible throughout the valley.

(ii) Waste stabilization ponds with exfiltration facilities utilizing spray irrigation during the summer might be acceptable for smaller centres provided the overall effect is the removal of 80% phosphorus.

(iii) Consideration should be given to the development of methane gas production facilities utilizing sewage in combination with other municipal and industrial wastes.

(iv) Wherever geologically or geographically impractical to implement (i) or (ii) above, consideration might be given to advanced forms of tertiary treatment.

We also recommend that: *In some areas the possibility exists that individual septic tanks may be an acceptable alternative providing that their efficiency is such as to keep 80% of the phosphorus from entering the water system. A study should be done to establish definite guidelines as to where these would be permitted using such parameters as soil type, residential density, proximity to water table and water courses.*

Until those areas with septic tanks are able to achieve 80% phosphorus removal, regular pump-outs should be instituted on at least a three year rotation; such effluent could be further treated by aeration or through distribution to proper agricultural lands by approved methods.

Consideration should be given to the approval and installation of other biological treatment systems (including the Clivus, etc.) in such areas where septic tanks are unacceptable and regional treatment systems are uneconomical.

12. Therefore, we recommend that: *Specialized agricultural practices (i.e. feedlots, etc.) should be managed so that there are no adverse effects on the water quality.*

13. Therefore, we recommend that: *There be a greater attempt to control and plan for future tourist expansion and that the facilities be developed with regard to consideration for improving the quality of the environment and also diversifying the recreational experience. It is realized that there is also going to be a need to provide additional funding for such programs in order that proper quality control and clean-up be maintained. (Such funds might come, in part, from present allotments used for the promotion of summer tourism: as summer tourism has not been shown to be dependent on advertising - only 2% come as a result of advertising - such funds could be a good investment in helping to educate*

people themselves to maintain the environment for all to continue to enjoy).

There must be an increase in the availability of waste collection facilities for the traveller including:

- *increased number of pump-out stations for mobile trailers, campers, motorhomes, boats, etc.*
- *improved accessibility of the above mentioned pump-out stations*

There must be an alleviation of the crowded beach conditions, including:

- *an increase in the number and diversity of other outdoor recreational opportunities (e.g. hiking, scenic drives, etc.)*
- *more encouragement to industries and orchards to conduct tours and otherwise provide non "water-based attractions"*
- *consideration in certain locations to restricting the number of power craft on a lake at any one time*

We also recommend that: *As the Okanagan is a natural recreational attraction, the enhancement of water-based recreation should enjoy a broader base for financial support than that of local taxes. Studies should be conducted as to the feasibility of establishing methods whereby the tourist may fully participate financially in the development and enhancement of water-based recreational opportunities.*

One possible method would be to assess an annual licence fee for boats which would support a fund for lake management (such a fund, being federal, would be dispersed throughout the nation including the Okanagan).

We also recommend that: *There should be an expansion of facilities to relieve congestion for the local resident (it may be necessary to create certain spots with limited access and limited promotions in order that only residents and very keen visitors would find the place).*

We also recommend that: *It is imperative that provision for improved water-based recreation include the immediate initiation of continuing programs aimed at establishing and maintaining more and better lake access points, and that such points be made more visible to the public. Policies should be developed and implemented to ensure public access and therefore should be maintained for public use.*

In the future all private commercial developments on crown land should be prevented within 660 feet of the lakeshore in an effort to increase the amount of land for public recreational use.

Continuing programs be immediately initiated to establish and maintain more government campsites, and stricter supervision of private campsites, all conforming to new standards of environmental and social quality (i.e. less crowding). Should the achieving of such standards prove to be more expensive than present operations the per-night fee should be raised accordingly - in other words, permit the consumer to contribute!

Lake access points should be posted and the public informed of their rights to beach usage. Such postings should be reasonably noticeable to the public.

In developing future plans regarding the expansion of water-based recreational opportunities, a major criteria should be the capability of a particular area to support a given number of people: When designated capabilities are reached, further development would be prevented; whenever individual capacities

are reached, additional tourists would have to go elsewhere.

14. Therefore, we recommend that: *Certain high potential spawning gravel beds fronting the shoreline be designated and protected in order that natural spawning in the mainstem lakes will be significantly enhanced; moreover, in certain high potential streams, storage reservoirs should be developed to provide water to keep certain areas of the stream bed available for maintenance of fish stock.*

    We also recommend that: *The costs of enhancing the sport fisheries of the Okanagan should not be assessed against local taxes*

15. Therefore, we recommend that: *Regarding possible internal measures that might be taken within a lake system to improve the water quality in the Okanagan Valley, weed harvesting is a reasonable practical method, but it should be used only in the short run to clean up a problem while simultaneously the source of food for the weed problem is also being cleared up. This process would usually be utilized in areas where weeds are deemed objectionable. Should the weeds have an aesthetic value or supply a natural habitat for waterfowl and wildlife, they should not be removed. It is also possible in the case of Wood Lake that some forms of chemical treatment may be effective (but again the provisions mentioned for weed harvesting are applicable).*

16. Therefore, we recommend that: *As a management tool, zoning be implemented in the lake systems with consideration being given to the following activities: Fishing, boating, water-skiing, sailing, canoeing, etc. Such zoning would be necessary in any lake where these activities, in having to compete at large, might seriously override other people's particular pleasure, be seriously jeopardized by other people's activities, or jeopardize the fish stock and/or wildlife and domestic water.*

    In the consideration of zoning particular parts of the lake system for particular uses, any restriction that might be considered should be both discussed with and made known to the public in order that people do not invest in particular modes of water-based recreation only to have noticeable restrictions placed on them shortly thereafter.

17. Therefore, we recommend that: *Policies should be initiated to permit the following:*

    a) *The acquisition and retention of shoreline for potential use as beach land or other forms of water-based recreation and related activities.*

    b) *The restriction of certain lake areas for particular uses, for example:*

        - *Vaseux Lake region - wintering ground for Bighorn Sheep*
        - *Head of Osoyoos Lake - fowl habitat*
        - *Headwaters of Inkaneep Creek - waterfowl habitat*
        - *Cousins Bay at Coldstream - environmental park*
        - *etc.*

        (i) *It is further suggested that there be more provision for mapped recreational reserves around the various lakes.*

    c) *The allocation of certain "set-back footage" around selected major lakes and streams for the purpose of activities such as hiking, riding, cycling, walking, etc.*

        (i) *Moreover, some shoreline on all lakes should be protected now for multiple public use.*

18. Therefore, we recommend that: *Greater protection of the littoral zones in various areas of the lakes be provided and that bulldozing in of the lakeshore should be severely limited. There should be no alteration of the natural conditions of the lakeshore, except where it can be shown that it is for the benefit of the public.*

    An investigation should be carried out regarding the private use of shoreline; moreover, it should be determined who is legally permitted to have leases for wharfs, etc. Any individual without legal right should be required to remove any obstruction. Furthermore, in the future, no such leases should be given out in prime shoreline areas.

19. Therefore, we recommend that: *Flood-plain zones should be defined and mapped and further building on these areas be prohibited. In the future, consideration might be given to buying out present structures already built in the more flood prone areas. (These zones would include at least to the 918 foot elevation on Osoyoos Lake and 1127 foot elevation on Okanagan Lake.) Flood-plain zones could provide a variety of alternate uses: Agriculture, recreation, wildlife habitat, etc.*

20. Therefore, we recommend that: *A rationalization of the water supply and water demand situation be undertaken such that wherever domestic, agricultural and industrial demands exceed the supply available from the tributaries, alterations would be implemented which would require those areas adjacent to the lakes, not already doing so, to draw water from the major lakes themselves. Such alterations would not be at the expense of the present licence holders (especially those holding licences for agricultural purposes) but rather would be paid for by the new developments, through compensation or other fiscal levy.*

21. Therefore, as was mentioned earlier, and is now reiterated for further emphasis, we recommend that: *In an effort to control all nutrient inputs that cause weed problems along lakeshores, all discharges from sewage treatment facilities should be removed from the mainstem lakes by the year 2000 A.D.*

22. Therefore, we recommend that: *In an effort to increase the ability of the river channel to handle its capacity flow, several changes should be made to the structures along its course.*

    Improvements on the Oliver Highway #97 Bridge and in the drainage of Tugulnuit Lake should be undertaken to increase the ability during high flow periods to release more water from Okanagan Lake: In the case of Tugulnuit such improvements would also provide benefits of a recreational nature by keeping it cleaner for both people and fish. In the case of the Oliver Bridge, it should be replaced in that it poses a potentially serious threat to motorists both in its approaches and in its width; since #97 is a major vehicular route, such problems should be corrected in the very near future and when this is done, the water flow constraints could also be overcome.

23. Therefore, we recommend that: *A definite commitment should be made to provide sufficient water for desirable fish species in the Okanagan River during the spawning and incubation periods; this commitment being consistent with higher priorities.*

    The sockeye salmon fishery in the lower Okanagan River must be protected for the native people's fishing rights and for the educational value to school children and the public in the area. Moreover, in this latter regard, some effort should be made to make the spawning areas more accessible to the public; the salmon, however, being very delicate and especially vulnerable at certain times of the year, must be very carefully protected from possible

menace from this public.

Studies should continue on the feasibility and desirability of construction of a spawning channel in the Okanagan River; Such studies should have built-in communication and participation links with the American community in the Columbia - Okanagan Basin!

24. Therefore, we recommend that: *Extended green-belt policies should be implemented along the Okanagan River.*

In keeping with the previously mentioned flood-plain zoning and the suggested "set-backs" from all water courses buffer zones are recommended. Dyking is more effective if set back somewhat from the river bank. In doing this, we could alleviate the severe stress put on the banks during flood as well as providing space for green-belt strips between the banks and the dykes.

Furthermore, it is suggested that consideration be given to the restriction of certain areas for particular uses such as:

- *spawning areas for sockeye salmon*
- *wildlife habitat (ox bows)*
- *environmental park (natural part of channel at McIntyre's Bluff)*

25. Therefore, we recommend that: *Greater co-ordination among all authorities involved should be developed in an effort to schedule instream flows in a manner that would meet not only human demands but also certain critical fish needs (especially downstream).*

We also recommend that: *In three tributaries: Mission, Equesis and Trepanier fisheries, requirements including in-stream flows for spawning be guaranteed for fish enhancement.*

We also recommend that: *In seven other tributaries: Vernon, Whiteman, Powers, Coldstream, Trout, Peachland and Shingle, consideration should be given to facilitating many non-consumptive uses including fish preservation in all but very severe drought years.*

(It is suggested that consideration be given to restriction of certain areas for particular uses. For example:

- *Brent Mountain - Environmental Park*
- *Lambly Creek - multiple-use recreational area*
- *Headwaters of Inkaneep Creek - waterfowl habitat*

We also recommend that: *Consideration should be given to increased multiple-use of certain selected reservoirs for improved natural reproduction of fish and fish enhancement. This requires joint co-operation between Irrigation Districts and Fish & Wildlife people.*

We also recommend that: *An additional number of lakes be opened as is deemed feasible and beneficial to accommodate increase in fishing demand; moreover, a reasonable number of lakes should retain limited access only. Some other lakes with good access could be zoned for a variety of different fishing experiences (e.g. speciality fishing - fly, trophy, etc.) and some might even be allotted to recreational uses in general wherein the fisherman would compete for space with the canoeist, etc. Such lake zoning should be*

developed under the leadership of the Fish & Wildlife Department (Provincial Government).

We also recommend that: *Fish management practices be given due priority in water management so that optimum efficiency and production is gained from each fishing lake in the system.*

26. Therefore, we recommend that: *More multiple-use, non developed areas be designated to provide more opportunity for outdoor recreational activity; with the increasing amounts of leisure time becoming available to each of us it will be imperative the facilities be available.*

We also recommend that: *Regulations be developed to permit the acquisition and retention of shoreline on tributary lakes for potential use in various forms of recreational activities.*

Moreover, we should make sure that we have other recreational opportunities besides those which are water-based in order to meet a diversity of interests and also to relieve some of the pressure on the prime water-based sports themselves. An inventory of all recreationary potential, including sites, should be developed for the valley as a basis to longer range planning.

27. Therefore, we redommend that: *Extended green-belt or buffer zone policies be implemented along all significant water courses. The usual benefits to be gained from green-belting, are the provision of open areas both for the recreational use and aesthetic pleasure of residents around these areas as well as in many instances restricting urban sprawl. In addition, control could be established on activities along and adjacent to all water courses for the ultimate protection of the water quantity and quality as well as safeguarding wildlife along these water courses.*

28. Therefore, we recommend that: *Included in an education program there be provision for acquainting the public with the use of sewage sludge as a soil conditioner.*

We also recommend that: *Further publicity should be given to the economic benefits that are possible via agriculture in growing of forage crops with assistance from land spray irrigation sewage disposal.*

29. Therefore, we recommend that: *Consideration must be given to better water management leading to improved water utilization:*

Some consideration should be given in all major municipalities and in any new residential developments to the installation and utilization of water meters or water-use control valves.

Greater re-cycling of water should be encouraged and more studies should be conducted into the potential viability of double water systems for municipalities as well as the feasibility of some of the new home toilet and wast water systems now being studied (e.g. Clivus, etc.).

Due to the tentative state of the art regarding present levels of development of trickle irrigation, this procedure should not at present be considered a prime method for reducing agricultural water consumption or withdrawl: This does not rule out future potentials due to potential refinements in the process.

Further study be conducted as to the necessary collaboration between members of the forest harvesting industries and the Resource Departments of the Provincial and Federal Governments to effect a system of forest management more consistent with the needs of our water resources and the wishes of the residents of the Okanagan.

30. Therefore, we recommend that: *Greater emphasis be given to attempting to spread the tourist demand more evenly throughout the entire calendar year; such things as hiking and other non water-based activities, varied fishing seasons, skiing and other winter sports in controlled areas might help to alleviate some of the summer stress and strain and also provide a more economically viable situation for those valley residents more directly affected by the tourist.*

A fund should be provided to support an educational program for the tourist not only to inform them of the varieties of campsites, etc., that would be available, but also helping to communicate to them the need for proper environmental management while on their vacation.

31. Due to the deteriorating condition of Wood Lake, it is imperative that major efforts be undertaken to eventually retard the rapid process of eutrophication: However, the delicate condition of this lake requires that any activities being undertaken must receive exhaustive study prior to implementation. In this regard, Task Force Seven believes that two alternatives to improving water quality in the Central Okanagan should receive serious consideration and further study. It is possible that some of the nutrient loads in Wood Lake can be reduced by a massive irrigation program which would take Wood Lake water up to the agricultural land and the bench lands beyond, thus depositing most of the nutrients in the soils before water returns to Wood Lake via ground water, etc. In this same geographic area, the recommended removal of sewage outfall from the main lakes system has brought in an effort to provide a suitable winter storage area for the Kelowna and Winfield treated sewage effluent. It may be possible to utilize Duck Lake (Ellison Lake) as a nutrient sink, providing, of course, that Vernon Creek was re-directed to by-pass Ellison Lake. In both of these instances, however, significant questions remain in terms of the implications of the proposals and therefore, we suggest that before any positive action be taken:

1. *Further studies be conducted into the long term advantageous and potentials of utilizing a form of hypo-limnetic irrigation to attempt to arrest the eutrophication process presently going on in Wood Lake.*

2. *Further studies be conducted into the possibility of utilizing Duck Lake (Ellison Lake) as a potential winter reservoir for treated effluent from Kelowna, Rutland, and Winfield. (It might be possible to use this lake as a natural lagoon and nutrient sink; by short-circuiting Vernon Creek so that it does not enter the lake at all, the lake could then be used as a reservoir in the winter and, in the summer, could be pumped out and up onto the east side agricultural lands along with the regular sewage effluent: The study would also investigate various measures to reduce any possible noxious side effects for the local area.)*

32. Therefore, we recommend that: *In all future river basin planning studies, full consideration be given to the effects of land-use, forest management and any other significantly related resource in the development and management of a comprehensive water resource plan.*

Furthermore, we recommend that: *In all river basin planning studies, public involvement be an integral part of such a venture from the outset in order that the social, economic, and environmental goals of the community will be a major influence and continuing component in the development and management of a comprehensive water resource plan.*

APPENDIX D

STUDY PARTICIPANTS

ALPHABETICAL LISTING OF OKANAGAN BASIN STUDY PARTICIPANTS

NAME	AFFILIATION AT START OF STUDY INVOLVEMENT	INVOLVEMENT	
		Field	Task
1. ANDERSON, Dr. T.W.	C.C.I.W.,I.W.D., Environment Canada, Burlington, Ont.	Limnology	121
2. ATKINS, Lynn	Okanagan Basin Agreement, Penticton, B.C.	Public Involvement	170
3. ANDRES, J.E.	F.W.I., F.R.B., Environment Canada, Penticton, B.C.	Fisheries	66
4. BANCROFT, C.G.	B.C.W.I.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Water Quantity	22
5. BAXTER, W.	F.W.I., F.R.B., Environment Canada, Penticton, B.C.	Fisheries	66
6. BENNER, G.B.	B.C.W.I.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Water Quantity	21
7. BERNHARDT, R.	F.W.I., F.R.B., Environment Canada, Penticton, B.C.	Fisheries	66
8. BERZINS, A.	Dayton and Knight Consultants, Vancouver, B.C.	Waste Treatment	113,141
9. BJONBACK, R.D.	W.P.& M., I.W.D., Environment Canada, Vancouver, B.C.	Socio-Economics	205,206
10. BLANTON, Dr. J.O.	C.C.I.W., I.W.D., Environment Canada, Burlington, Ont.	Limnology	120
11. BODNARUK, L.	B.C.P.C.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Water Quality and Waste Treatment	102B, 103 T.S. IV, VI
12. BOWMER, Dr. E.J.	Division of Laboratories, Health Branch, Department of Health and Welfare, Vancouver, B.C.	Water Quality	135
13. BOYD, Forbes C.	F.M.S., Environment Canada, Vancouver, B.C.	Member-Study Committee	1971-74
14. BROOKS, A.C.	Consulting Biologist, Summerland, B.C.	Wildlife Studies	160
15. BROWN, L.	F.W.I., F.R.B., Environment Canada, Penticton, B.C.	Fisheries	66
16. BROWNLEE, C.H.	Soils Division, B.C. Department of Agriculture, Kelowna, B.C.	Waste Treatment Task Force	139
17. BUCHANAN, Dr. R.J.	B.C.W.I.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Interim Coordinator	1969-70
18. BUNGE, J.	B.C.W.I.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Secretary-Consultative Board	1970-71
19. CHMELAUSKAS, A.J.	B.C.P.C.S., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Water Quality Task Force	
20. CLOUGH, B. Ms.	Summer Student, Penticton, B.C.	Socio-Economics	200
21. COLLINS, M.	S.P.& M., I.W.D., Environment Canada, Vancouver, B.C.	Socio-Economics	200, 10, T.S. VIII

ALPHABETICAL LISTING OF OKANAGAN BASIN STUDY PARTICIPANTS

Continued . . .

NAME	AFFILIATION AT START OF STUDY INVOLVEMENT	INVOLVEMENT	
		Field	Task
22. CONNORS, Dr. M.	Consulting Sociologist, Ottawa, Canada	Socio Economics	170
23 GORRIGAN, D.	B.C.P.C.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Coordinator-Water Quality and Waste Treatment - 1972	113, 141, 142, 147
24 CRAWFORD, I.	W.P.& M., I.W.D., Environment Canada, Penticton, B.C.	Public Involvement and Socio-Economics	170
25 DABROWSKI, R.S.	B.C.W.I.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Water Quantity Tasks Technical Assistant	
26. DAVIDSON, H.	G.W. Sinclair and Associates, Penticton, B.C.	Public Involvement	171
27. DE BECK, H.	Water Rights Branch. W.R.S., Dept. Lands, Forests and Water Resources, Victoria, B.C.	Member-Consultative Board	
28. DEW-JONES, J.E.	B.C.P.C.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Waste Treatment Task Force	
29 DRUCE, E.	W.R.S., Lands, Forests & Water Resources, Victoria, B.C.	Socio-Economics	201, 202
30 EDGEWORTH, L. *1	Fisheries Service, Pacific Region, Vancouver, B.C.	Member-Study Committee	1970-71
31 FAST, L. Ms.	Okanagan Basin Agreement, Penticton, B.C.	Socio-Economics	119
32 FEDDES, J.	B.C.P.C.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Water Quality and Waste Treatment	102, 103, T.S. IV, VI
33. FEE, P.	W.Q.L., I.W.D., Environment Canada, Calgary Alberta	Water Quality Analysis	131, 117, 118
34. FERGUSON, H.L.	A.E.S., Environment Canada, Downsview, Ontario	Water Quantity	35, T.S. I
35. FIDLER, M. Ms.	Okanagan Basin Agreement, Penticton, B.C.	Public Involvement	171
36. FINDLAY, D.	F.W.I., F.R.B., Environment Canada, Penticton, B.C.	Limnology	66
37. FOWERAKER, Dr. J.C.	B.C.W.I.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Water Quantity Task Force	47
38. FRASER, A.	B.C.W.I.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Draftsman, Water Quantity	
39. FUMALLE, M.	W.P.& M., I.W.D., Environment Canada, Penticton, B.C.	Socio-Economics	200, 21
40. GARTNER, Dr. G.	Planning Branch, Dept. of Regional Economic Expansion Canada, Victoria, B.C.	Socio-Economic Task	
41. GERMAN, G.R.	F.W.I., F.R.B., Environment Canada, Penticton, B.C.	Limnology	119
42. GILES, G.	B.C.P.C.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Water Quality Evaluator	102, T.S. IV, VI

ALPHABETICAL LISTING OF OKANAGAN BASIN STUDY PARTICIPANTS

Continued . . .

NAME	AFFILIATION AT START OF STUDY INVOLVEMENT	INVOLVEMENT	
		Field	Task
43. GLOVER, M.H.A.	Economic Research, Industrial Development, Trade and Commerce, Victoria, B.C.	Socio-Economic Task Force	201
44. GREGG, B.	Summer Student	Socio-Economics	112
45. GULLIVER, J.	Lundberg Seismic Consultants Limited, Calgary Alberta	Water Quantity	39
46. HALL, G.D.	W.R.S., Lands, Forests and Water Resources, Victoria, B.C.	Socio-Economics	202, 54
47. HALL, P.L.	B.C.W.I.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Water Quantity	28, 41, T.S. I
48. HALLIDAY, L. Ms.	W.R.S., Lands, Forests and Water Resources, Victoria, B.C.	Socio-Economics	112
49. HALSTEAD, E.C.	H.S.D., I.W.D., Environment Canada, Vancouver, B.C.	Hydrology Task Force	38, T.S.I
50. HALSEY, G.	Fish and Wildlife, Department of Recreation and Conservation, Victoria, B.C.	Fisheries	115, 66
51. HAMILTON, Dr. A.L.	F.W.I., F.R.B., Environment Canada, Winnipeg, Manitoba	Limnology	104
52. HAMMERTON, B. Ms.	G.W. Sinclair and Associates, Penticton, B.C.	Public Involvement	171
53. HAUGHTON, E.	B.C.P.C.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Coordinator-Water Quantity and Waste Treatment-1973-74	102, 103, 105, T.S. IV, VI.
54. HAYLEY, B.P.	G.W. Sinclair and Associates, Penticton, B.C.	Public Involvement	171
55. HENDREN, M.K.	Department of Civil Engineering, University of British Columbia, Vancouver, B.C.	Waste Treatment	133, 139, 147
56. HENDERSON, H.A.	B.C.P.C.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Waste Treatment	130
57. HILL, Dr. H.	University of Waterloo, Waterloo, Ontario	Planning & Evaluation	21
58. HINTON, B.R.	Fisheries Consultant, Vancouver, B.C.	Fisheries	163
59. HODGES, R.C.*1	Planning Division, Energy, Mines and Resources, Canada	Co-Chairman, Study Committee - 1970-71	
60. HORSWILL, W.	Okanagan Basin Agreement, Penticton, B.C.	Public Participation (1972).	171
61. HUNTER, H.D.C.	Barrister and Solicitor, Vancouver, B.C.	Socio-Economics	201
62. HUNTER, H.I.	B.C.W.I.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Water Quantity Task Force	60, 180, 101, T.S. I

ALPHABETICAL LISTING OF OKANAGAN BASIN STUDY PARTICIPANTS

Continued . . .

NAME	AFFILIATION AT START OF STUDY INVOLVEMENT	INVOLVEMENT	
		Field	Task
63. JACKSON, K.W.	F.M.S., Environment Canada, Vancouver, B.C.	Water Quality Task Force	
64. JACKSON, L.W. Ms.	Okanagan Basin Agreement, Penticton, B.C.	Secretary - Okanagan Basin Study Office	
65. KASTELEN, W.A.	B.C.P.C.B., W.R.S., Lands, Forests and Water Resources Vernon, B.C.	Water Quality	130, 102
66. KENNEDY, G.F.	Canada-Bio-Research Consultants, Cloverdale, B.C.	Water Quality	139
67. KERR, A. Ms.	G.W. Sinclair and Associates, Penticton, B.C.	Public Involvement	171
68. KIDD, G.J.A.	Underwood, McLellan and Associates, Vancouver, B.C.	Executive Secretary to Consultative Board	
69. KIRBY, A.R.	C.C.I.W., I.W.D., Environment Canada, Burlington, Ont.	Public Involvement	171
70 KOSHINSKY, G.D.	F.W.I., F.R.B., Environment Canada, Penticton, B.C.	Coordinator-Fisheries	66 T.S. IX
71. LANE, Dr. R.K.	C.C.I.W., I.W.D., Environment Canada, Burlington, Ontario	Limnology Task Force	
72. LEACH, T.A.J.	B.C.W.I.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Water Quantity Co-chairman, Study Committee: Coordinator-Water Quantity Studies	T.S. I, III
73. LE BRETON, G.	B.C.W.I.B., I.W.B., Lands, Forests and Water Resources Victoria, B.C.	Water Quantity	38, 39, 40, 47, 41, T.S.I
74. LENNOX, D.H.	Groundwater Sub-Division, I.W.D., Environment Canada, Ottawa	Groundwater Review Board	
75. LERMAN, Dr. A.	C.C.I.W., I.W.D., Environment Canada, Burlington, Ont.	Limnology	117
76. LEWIS, D.	Associated Engineering Services Ltd., Vancouver, B.C.	Waste Treatment	113, 141
77. LIVINGSTON, Dr. E.	Consulting Geologist, Vancouver, B.C.	Groundwater Studies	40
78. LOWE, L.V. Ms.	Okanagan Basin Agreement, Penticton, B.C.	Clerk, Study Office	
79. LUCAS, K.C.*1	Resource Development Service, Department of Fisheries and Forestry, Ottawa, Canada.	Member-Consultative Board - 1970-72	
80. LUNDBERG, R.M.	Lundberg Seismic Consultants Limited, Calgary, Alberta	Groundwater Studies	39
81. LYNCH, A.J.*2	Health Laboratories, B.C. Department of Health Services, Victoria, B.C.	Water Quality Laboratory, Analysis	135-130

ALPHABETICAL LISTING OF OKANAGAN BASIN STUDY PARTICIPANTS

Continued . . .

NAME	AFFILIATION AT START OF STUDY INVOLVEMENT	INVOLVEMENT	
		Field	Task
82. MARR, B.E.	B.C.W.I.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Co-Chairman, Consultative Board.	
83. MASON, Dr. J.L.	Summerland Research Station, Agriculture Canada, Summerland, B.C.	Member-Study Committee	
84. MAWHINNEY, M.R.	C.C.I.W., I.W.D., Environment Canada, Burlington, Ont.	Limnology	117, 118, 120
85. MC DONALD, S.J.	F. & W., B.C. Dept. of Recreation and Conservation, Penticton, B.C.	Fisheries and Socio-Economics	66, 161
86. MC KENZIE, G.	Okanagan Basin Agreement, Penticton, B.C.	Draftsman, Study Office	
87. MC LAREN, R.E.	E.P.S., Environment Canada, Vancouver, B.C.	Member-Consultative Board - 1973-74	
88. MC LEAN, M.P.	F.W.I., F.R.B., Environment Canada, Winnipeg, Manitoba	Limnology	120
89. MC NEIL, R.Y.	Department of Civil Engineering, University of British Columbia, Vancouver, B.C.	Water Quantity - Evaluator	29, 34, 101 T.S. II
90. MEREDITH, J.R.	Bureau of Economics, Dept. of Industrial Development, Trade and Commerce, Victoria, B.C.	Socio-Economics	201
91. MICHNOWSKY, E.	W.Q.L., I.W.D., Environment Canada, Kelowna, B.C.	Water Quality, Okanagan Field Laboratory	
92. MINERS, K.	C.C.I.W., I.W.D., Environment Canada, Burlington, Ont.	Limnology	120
93. MOOIJ, H.	B.C.P.C.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Water Quality	102
94. MORTON, R. Ms.	Okanagan Basin Agreement, Penticton, B.C.	Secretary - Okanagan Basin Study Office	
95. NEILSON, C.L.	Department of Agriculture, Victoria, B.C.	Water Quality Task Force	126
96. NG, H.Y.F.	C.C.I.W., I.W.D., Environment Canada, Burlington, Ont.	Limnology	120
97. NORTHCOTE, Dr. T.G.	F.& W., B.C. Department of Recreation and Conservation University of British Columbia, Vancouver, B.C.	Limnology Task Force	115
98. OBEDKOFF, W.	B.C.W.I.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Water Quantity	36, 53
99. OLDHAM, Dr. W.	Department of Civil Engineering, University of British Columbia, Vancouver, B.C.	Waste Treatment	147, 133, 139
100. OLIVER, D.W.	W.P.& M., I.W.D., Environment Canada, Penticton, B.C.	Socio-Economics	200

ALPHABETICAL LISTING OF OKANAGAN BASIN STUDY PARTICIPANTS

Continued . . .

NAME	AFFILIATION AT START OF STUDY INVOLVEMENT	INVOLVEMENT	
		Field	Task
101. O'RIORDAN, Dr. J.*1	P.& P., Energy, Mines and Resources, Canada, Vancouver, B.C.	Federal Coordinator Socio-Economic Studies; Co-chairman, Study Committee	T.S. VII, Main Report
102. OSTOFOROV, J.E.	Okanagan Basin Agreement, Penticton, B.C.	Draftsman, Study Office	
103. PARSONS, D.	B.C.P.C.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Waste Treatment	139
104. PATALAS, K.	F.W.I., F.R.B., Environment Canada, Winnipeg, Manitoba	Limnology	123
105. PINSENT, M.	F.& W., Dept. of Recreation and Conservation, Victoria, B.C.	Fisheries	T.S. V, IX
106. POMEROY, M.	F.W.I., F.R.B., Environment Canada, Penticton, B.C.	Limnology	119
107. PRINCE, Dr. A.T. *1	I.W.B., Energy, Mines and Resources, Canada, Ottawa	Co-chairman, Consultative Board	
108. PROCTOR, C.	Stanley Associates Engineering Limited, Vancouver, B.C.	Waste Treatment	113, 141
109. RAMSDEN, H.T.	W.S.C., I.W.D., Environment Canada, Vancouver, B.C.	Water Quantity Task Force	
110. REEDER, S.W.	W.Q.L., I.W.D., Environment Canada, Calgary, Alberta	Water Quality Task Force	
111. REINSTRA, Dr. J.M.	Ward and Associates, Vancouver, B.C.	Socio-Economics	205
112. REKSTON, D.E.	B.C.W.I.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Water Quantity	53
113. RICKETTS, K.M. Ms.	Okanagan Basin Agreement, Penticton, B.C.	Typist, Study Office	
114. ROBARTS, R.D.	F.W.I., F.R.B., Environment Canada, Penticton, B.C.	Limnology	119
115. ROBERTS, J.E.	B.C. Research Council, University of British Columbia, Vancouver, B.C.	Water Quality	128, 129
116. ROBERTSON, A.R.D.	B.C.W.I.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Water Quantity	5, 111 T.S. I, III, VII
117. ROSENBERG, H.B.*1	P.& P., Energy, Mines and Resources, Ottawa, Canada	Federal Coordinator for Study	
118. RUNDBERG, H.	F. & W., B.C. Department of Recreation and Conservation Victoria, B.C.	Limnology	115

ALPHABETICAL LISTING OF OKANAGAN BASIN STUDY PARTICIPANTS

Continued . . .

NAME	AFFILIATION AT START OF STUDY INVOLVEMENT	INVOLVEMENT	
		Field	Task
119. RUSSELL, Dr. S.O.	Department of Civil Engineering, University of British Columbia, Vancouver, B.C.	Water Quantity	29, 34
120. SAETHER, O.A.	F.W.I., F.R.B., Environment Canada, Winnipeg, Manitoba	Limnology	122
121. SALKI, A.	F.W.I., F.R.B., Environment Canada, Winnipeg, Manitoba	Limnology	123
122. SCOTT, G.R.	Okanagan Basin Agreement, Victoria, B.C.	Socio-Economics	209
123. SINCLAIR, G.W.	G.W. Sinclair and Associates, Penticton, B.C.	Coordinator-Public Involvement	171 172
124. SLEZAK, M.W.	B.C.P.C.B., W.R.S., Dept. Lands, Forests and Water Resources, Victoria, B.C.	Member-Study Committee; Coordinator-Water Quality and Waste Treatment (1970-1972).	
125. SMITH, H.	Okanagan Basin Agreement, Penticton, B.C.	Public Involvement Socio-Economics	170 15
126. SMYTH, W.W.K.	B.C.W.I.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Water Quantity	5, 111, T.S. 1, III
127. ST. JOHN, Dr. B.	C.C.I.W., I.W.D., Environment Canada, Burlington, Ont.	Limnogeology	121
128. STAPLE, G.R.	W.P.M., I.W.D., Environment Canada, Vancouver, B.C.	Socio-Economics	205, 206
129. STEVENSON, Dr. D.W.	Summerland Research Station, Agriculture Canada, Summerland, B.C.	Waste Treatment Task Force	139
130. STOCKNER, Dr. J.G.	F.W.I., F.R.B., Environment Canada, Winnipeg, Manitoba	Limnology Coordinator (1970-1973)	T.S.V
131. STRACHAN, Dr. C.C.	Summerland Research Station, Agriculture Canada,	Member-Study Committee, 1970-1971	
132. TAIT, J. Ms.	W.P.M., I.W.B., Environment Canada, Penticton, B.C.	Socio-Economics	15, 200
133. THOMAS, C.H.	W.R.S., Lands, Forests and Water Resources, Victoria B.C.	Provincial Coordinator, Socio-Economics	T.S.VII
134. THOMSON, A.M.	Okanagan Basin Agreement, Penticton, B.C.	Study Director	
135. TINNEY, Dr. E.R.*1	P.& P., Energy, Mines and Resources, Ottawa, Canada	Member-Consultative Board	
136. TOFTE, G.	W.S.C., I.W.D., Environment Canada, Vancouver, B.C.	Water Quantity	52
137. TOWNSHEND, A.R.	C.C.I.W., I.W.D., Environment Canada, Burlington, Ont.	Waste Treatment Task Force	

ALPHABETICAL LISTING OF OKANAGAN BASIN STUDY PARTICIPANTS

Continued . . .

NAME	AFFILIATION AT START OF STUDY INVOLVEMENT	INVOLVEMENT	
		Field	Task
138. VALLENTYNE, Dr. J.R.	F.W.I., Fisheries Research Board of Canada, Winnipeg, Manitoba	Limnology Task Force	
139. VENABLES, W.N.	B.C.P.C.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Member-Consultative Board	
140. VERNON, E.H.	F.& W., Department of Recreation and Conservation, Victoria, B.C.	Member-Study Committee	
141. WALDEN, C.C.	B.C. Research Council, University of British Columbia Vancouver, B.C.	Limnology	117
142. WALLACE, T.J.	W.S.C., I.W.D., Environment Canada, Vancouver, B.C.	Water Quantity	43, 52
143. WIGGINS, M.	W.P.& M., Environment Canada, Vancouver, B.C.	Member-Study Committee (1974) Replaced Dr. J. O'Riordan	
144. WILLCOCKS, T.J.	F.W.I., F.R.B., Environment Canada, Vancouver, B.C.	Fisheries	66, 163
145. WILLIAMS, D.J.	C.C.I.W., I.W.D., Environment Canada, Burlington, Ont.	Limnology	117, 118, 120, 124
146. WILLINGTON, Dr. R.P.	Faculty of Forestry, University of British Columbia Vancouver, B.C.	Water Quantity	180
147. WILSON, S.C. Ms.	Okanagan Basin Agreement, Penticton, B.C.	Typist, Study Office	
148. WREGGITT, R.	Okanagan Basin Agreement, Penticton, B.C.	Socio-Economics	203
149. WRIGHT, J.B.	Atmospheric Environment Service, I.W.D., Environment Canada, Vancouver, B.C.	Water Quantity	44, 52
150. ZALANFY, J.G.	B.C.W.I.B., W.R.S., Lands, Forests and Water Resources Victoria, B.C.	Water Quantity	36, 60

NOTES:

A. *1 - Federal members associated with the Department of Energy, Mines and Resources at the initiation of the Study, were transferred to the Department of the Environment following its formation in June, 1971.

B. *2 Provincial members associated with the Public Health Chemistry Section of the Division of Laboratories, Health Branch, B.C. Department of Health and Welfare at the initiation of the Study were transferred to Chemistry Laboratory, B.C. Water Resources Service in 1971.

C. Most of the federal study participants shown did not commence their affiliation with the Study until after the change shown in *1 had occurred. Their affiliation is therefore shown as being with the Department of the Environment.

KEY TO ABBREVIATIONS

A.E.S.	Atmospheric Environment Service	F.W.I.	Freshwater Institute
B.C.P.C.B.	British Columbia Pollution Control Branch	H.S.D.	Hydrologic Service Division
B.C.W.I.B.	British Columbia Water Investigations Branch	I.W.D.	Inland Waters Directorate
C.C.I.W.	Canada Center for Inland Waters	W.P.M.	Water Planning and Management Branch
E.P.S.	Environmental Protection Service	W.Q.L.	Water Quality Laboratory
F.M.S.	Fisheries and Marine Service	W.R.S.	Water Resources Service
F.R.B.	Fisheries Research Board	W.S.C.	Water Survey of Canada
F.& W.	Fish and Wildlife Branch		

APPENDIX E

PUBLIC INVOLVEMENT TASK FORCE MEMBERS

ALPHABETICAL LISTING OF OKANAGAN BASIN PUBLIC INVOLVEMENT TASK FORCE MEMBERS

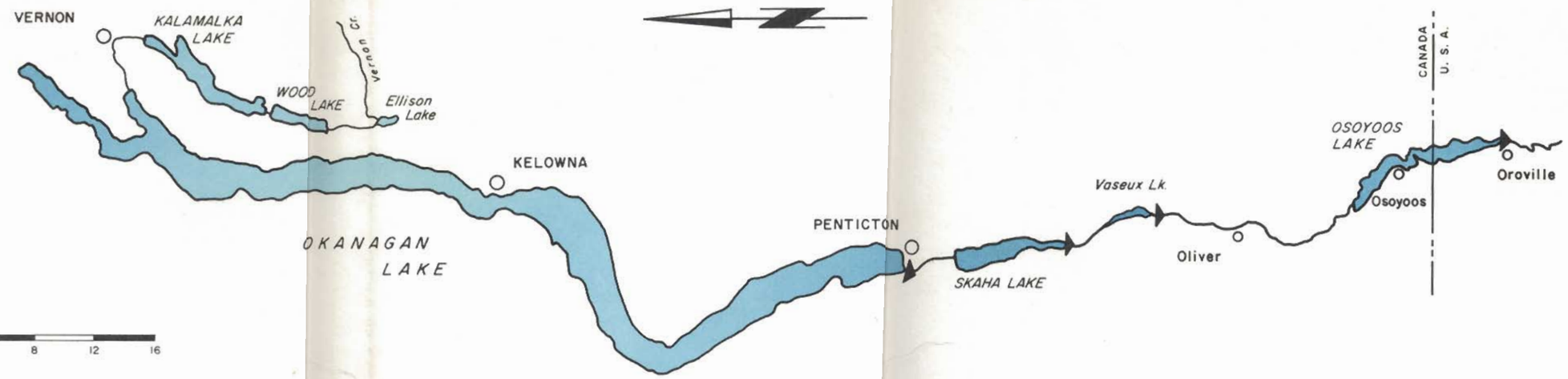
	NAME	PROFESSION OR AFFILIATION	ADDRESS	TASK FORCE
1.	A. Allan	Professional-Agronomist	c/o B.C.D.A., Courthouse Vernon	6
2.	E. Anthony	District Engineer, B.C. Water Resources Professional	1420 Water Street, Kelowna	2 & 7
3.	D. Barcham	Planner	C.O.R.D., 540 Groves Avenue Kelowna	2 & 7 Alt.
4.	Mayor B. Barkwill	Political	District of Summerland, P.O. Box 159, Summerland	1 & 7 Alt.
5.	L. Bawtree,	Logger-Rancher (Past Chairman)	Okanagan Basin Water Board 540 Groves Avenue, Kelowna	1 & 7
6.	F. Becker (Deceased)	Former Mayor	3205 - 20th Street, Vernon	6
7.	Ralph Belamy	Trade Unionist	Klinger Road, Okanagan Landing	6 & 7
8.	J. Belsham	Agricultural Researcher	Dept. of Agriculture 3103 - 32nd Avenue, Vernon	6
9.	Mrs. S. Black	Housewife	Crawford Road, Oyama	6 & 7 Alt.
10.	Hans Blattner	Alderman	R.R.#3, Hayes Road, Armstrong	6 & 7
11.	H. Bohn	Business proprietor/Conservationist	Okanagan Falls	3 & 7
12.	Mike Booth	Industrial Chemist	c/o Hiram Walker & Sons Winfield	5 & 7 Alt.
13.	Dwight Brown	Industrial Chemist	Casabello Wines, Penticton	7
14.	Jim Browne	Alderman	c/o City Hall, Penticton	4 & 7 Alt.
15.	D. Burtch	Jaycee	R.R.#1, Glenmore Drive, Kelowna	5
16.	Reverend Campbell	Theologian	3702 - 17th Avenue, Vernon	6
17.	T. Connelly	Planner	North Okanagan Regional Dist. 3109 - 31st Avenue, Vernon	2 & 7
18.	W. Cook	Realtor	Osoyoos	3
19.	D. Corbishley	Rotarian	R.R.#1, Oliver	3
20.	Sid Cornock	City Assessor	Penticton	4
21.	M. Covert	Vegetable Producer	Island Road, Oliver	3
22	G. Creighton	Retired Professional Engineer	Box 251, Okanagan Falls	3 & 7
23.	Bill Kane	Alderman	City Hall, Kelowna	5
24.	I. Cumming	Theologian	Naramata Centre, Naramata	4 & 7
25.	F. Van Duzee	Sec'ty Flood Control Committee	Osoyoos	3

26.	Dave Evans	Farmer/Sportsman	So. Okanagan Sportsmen's Association, Oliver	3 & 7
27.	P. Farmer,	Chairman-RDOS	Regional District, Okanagan-Similkameen	1
28.	S. Fleming	Mayor	City Hall, 3400 - 30th Street, Vernon	1
29.	S. Forrest	Fish & Game enthusiast	1190 Penticton Avenue, Penticton	4
30.	O. Foster	Agriculturist	Lansdowne, R.R.#2, Armstrong	6
31.	Doug Fraser	Orchardist	Osoyoos	3 & 7
32.	H. Fritz	Jaycee	1630 Duncan Ave., Penticton	4
33.	J.E. Fry	Ecologist	Pritchard Drive, R.R.#1, Westbank	5 & 7
34.	Bob Graham	Municipal Clerk	Dist. of Spallumcheen Box 100, Armstrong	2 & 7
35.	B. Harvey	Professional Engineer	c/o Vernon Irrigation 2904 - 29th Avenue, Vernon	6 & 7
36.	Rev. Ian Hind	Theologian	1488 Aspen Court, Kelowna	5 Alt.
37.	Mrs. Ken Hornby	Housewife	Naramata	4 & 7 Alt.
38.	B. Hume	Chairman	Assoc. of B.C. Irrigation Districts, 1481 Water St. Kelowna	2
39.	Dave Hurn	Wildlife & Conservation Officer Professional	Dept. Recreation and Conservation, 152 Main St. Penticton	2 & 7
40.	Bill Kane	Former Alderman	Kelowna	5
31	H. "Butch" Kaneda	Industrialist	c/o Noca Dairy, 3204 - 27th Avenue, Vernon	6 & 7 Alt.
42.	W. Kastelen	Professional	B.C.P.C.B., Vernon	2
43.	K. King	Orchardist	3940 Lakeshore Drive, Penticton	4
44.	John M. Kosty	Alderman	R.R.#2, Westside, Vernon	6
45.	F. Laird	Mayor	152 Main Street, Penticton	1
46.	E. Lane	Land Surveyor/Professional	Box 166, Kelowna	5 & 7 Alt.
47.	W.L. Lawrence	Alderman	Box 161, Peachland	1 & 7 Alt.
48.	H. Lever	Business Proprietor	Apex Janitor Service, R.R.#1, Peachland	5
49.	O. Litke	Regional District Director	R.R.#3, Vernon	6 & 7 Alt.
50.	Ian Loomer	Logger	1321 King St. Penticton	4 & 7 Alt.
51.	D. Lovedahl	Technician	Water Resources Service Water Rights Branch 1420 Water Street, Kelowna	2

52.	D. MacKay	Professional	City Engineer, City Hall Vernon	2
53.	J. McCoubrey	Regional District Director	R.R.#1, Winfield	5
54.	Dr. D. McMullen	Agricultural Scientist	c/o Entomology Dept. Summerland Research Station Summerland	4
55.	G. Meldrum	Alderman	Beach Avenue, Peachland	5
56.	S. Mepam	Agriculturist	Osoyoos	3 Alt.
57.	Frank Metcalf	Technician	Okanagan Flood Control Office Court House, Penticton	2
58.	Judge C.W. Morrow	Judge	#209-3618-30th Avenue, Vernon	6
59.	Frank Oakes	Alderman	West Bench, Penticton	7
60.	Bill Parchomchuk	Professional/Okanagan Basin Water Bd.	540 Groves Avenue, Kelowna	2 & 7
61	J. Passmore	Business Proprietor	c/o Alpine Distributors Box 159, Vernon	6
62.	A. Pitt	Tourist Resort Operator	c/o Belvedere Resort, Winfield	5 & 7 Alt.
63.	Dave Porteous	Alderman	Crestview Heights, Osoyoos	3 & 7
64.	R. Postill	Mayor	Dist. of Coldstream R.R.#2, Vernon	1
65.	Hilbert Roth	Mayor	1435 Water Street, Kelowna	1
66.	B. Rouw	Finance Manager	1472 St. Paul St.,Kelowna	5
67.	J. Sawicki	Teacher	2204 - 34th Street, Vernon	6
68.	Ruth Schiller	Fruit Stand Operator	Osoyoos	3 & 7 Alt.
69.	B. Scott	Irrigation District Secretary	R.R.#1, Okanagan Falls	3 & 7
70.	Warren Seabrook	Industrialist	c/o Noca Dairy, 3204 - 27th Avenue, Vernon	6 & 7
71	Jack Shaw	Mayor	Village Office, Box 301 Osoyoos	1 & 7 Alt.
72.	G. Sidney	Mayor	Dist. of Spallumcheen, Box 100, Armstrong	1
73.	Elmer Siemens	Tourist Facility Operator	2784 Skaha Lake Road, Sun Valley Motel, Penticton	4
74	C. Sladen,	Irrigation District Manager	1481 Water Street, Kelowna	5
75.	Norman Slingsby		R.R.#2, Vernon	6
76.	Dr. M.R. Smart	Professional(Director-Health Unit)	North Okanagan Health Unit 3300 - 37th Avenue, Vernon	2 & 7
77.	J. Smith	Mayor	City Hall, Box 40, Armstrong	1
78.	Wally Smith	Orchardist/Press Commentator	R.R.#2, Oliver	2
79.	F. Snowsell	Retired Teacher	63 Sioux Square, Hiawatha Park Lakeshore Drive, Kelowna	5 & 7
80.	Father Stephens	Theologian	St. Anne's Church, Osoyoos	3

81.	Dr. D. Stevenson	Professional/Agricultural Scientist	Dept. of Agriculture Summerland Research Station	2 & 7
82.	J.H. Stuart	Agriculturalist/Alderman	Regional Director, Central Okanagan Regional District R.R.#3, Kelowna	1 & 7
83.	Roy Sturgess	Alderman	1st Avenue, Oliver	3
84.	Bill Sullivan	Realtor	Kelowna	7
85.	Jack Tait	Sales Representative	R.R.#1, Oliver	3
86.	H. Thompson	Alderman	P.O. Box 631, Oliver	3
87.	H. Thompson	Planner	Planning Director, R.D.O.S. 1101 Main Street, Penticton	2 & 7 Alt.
88.	G. Thomson	Agriculturist	4193 Paret Road, Kelowna	5
89.	Harold Thwaite	Mayor	Dist. of Peachland P.O. Box 390, Peachland	1
90.	R. Topping	Mayor	Village Office, Box 638 Oliver	1
91.	S.J. Truscott	Biologist	B.C.P.C.B., Vernon	2
92.	H.G. Wilson	Professional Engineer	c/o Stewart Morgan AR & Co. 3003 - 34th Street, Vernon	6 & 7 Alt.
93.	Rev. John Wollenberg	Theologian	1421 Richmond, Kelowna	5
94.	Olive Woodley	Environmentalist	Box 129, Vernon	6 & 7
95.	Gavin Young	Professional/Agricultural Researcher	Dept. of Agriculture, Spall Road, Kelowna	5 & 7
96.	Lorna Young	Housewife	R.R.#4, Kelowna	5 & 7

MAP SECTION

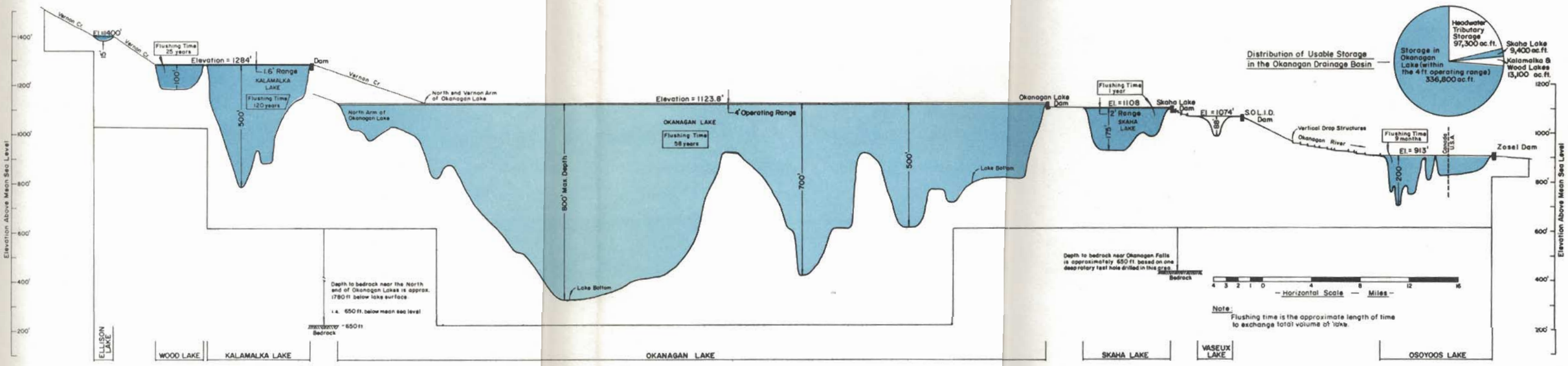


PLAN

SCALE

MILES

4 0 4 8 12 16



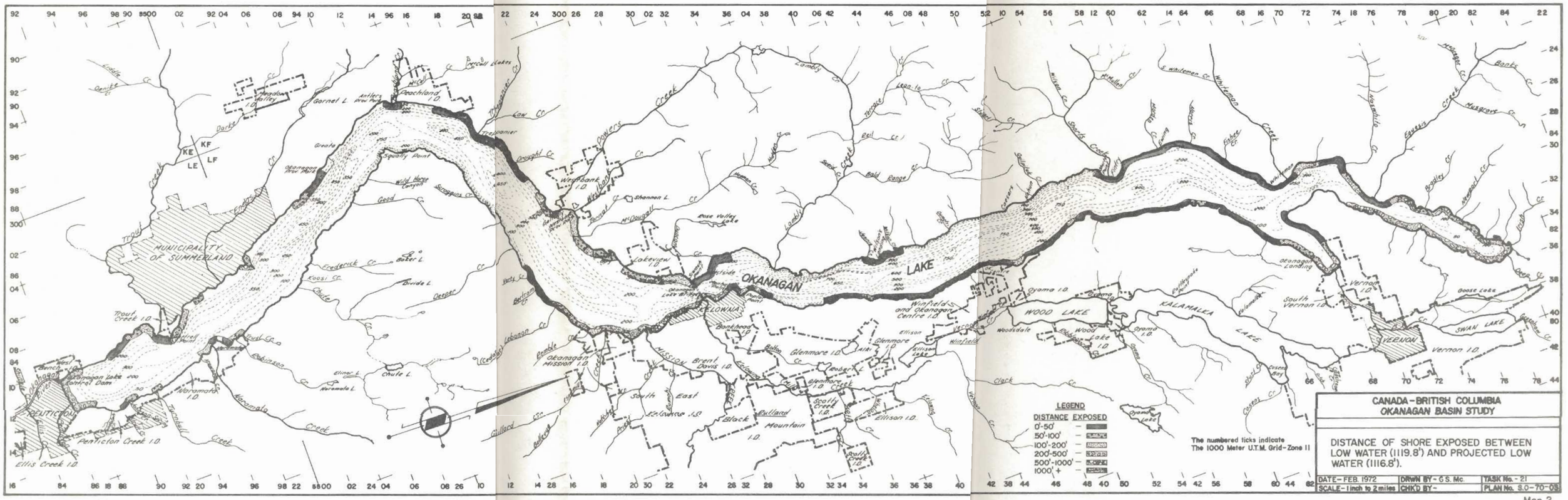
Distribution of Usable Storage in the Okanagan Drainage Basin

Note:
Flushing time is the approximate length of time to exchange total volume of lake.

PROFILE

PLAN AND PROFILE of OKANAGAN MAIN VALLEY LAKES

Map 1

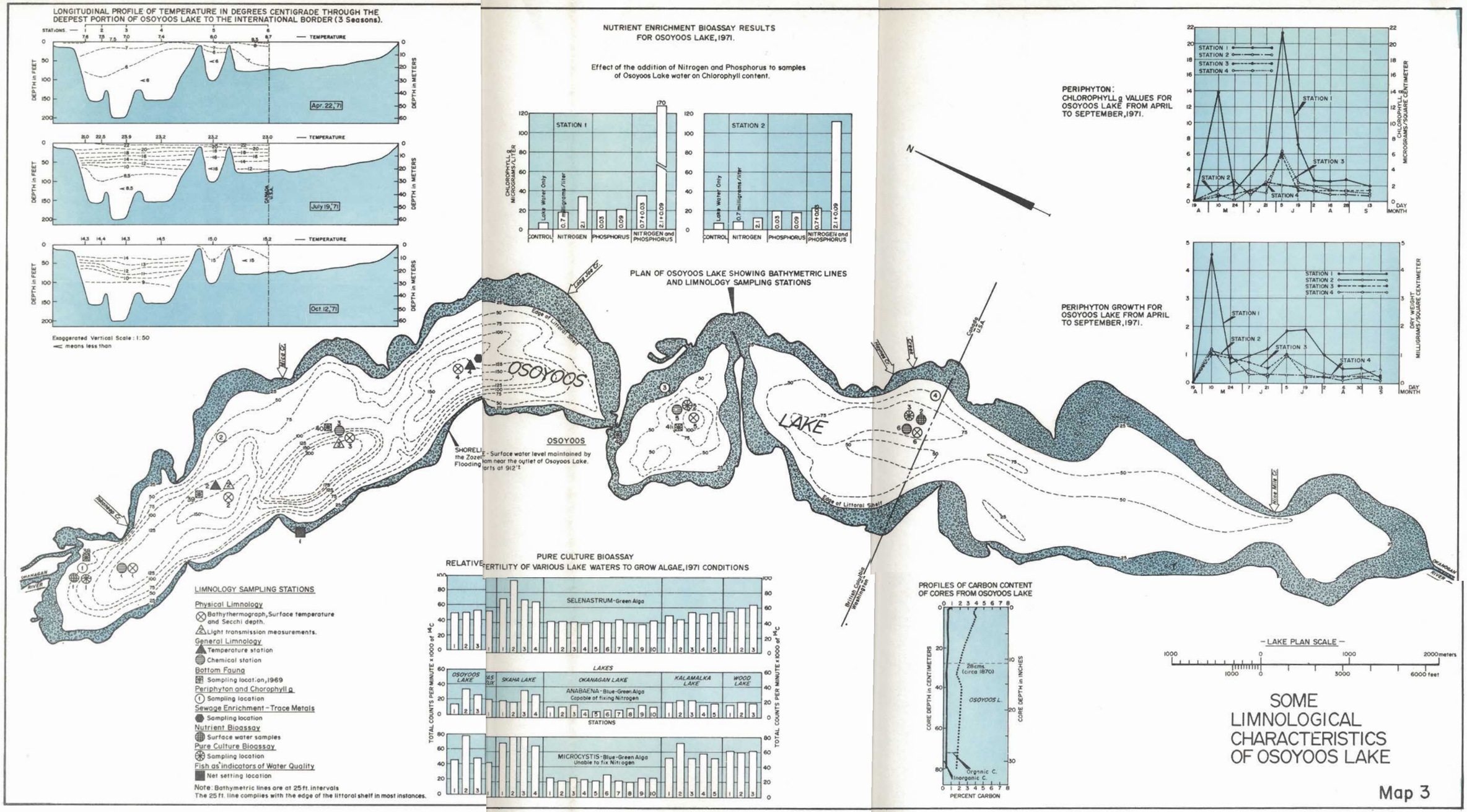


CANADA - BRITISH COLUMBIA
OKANAGAN BASIN STUDY

DISTANCE OF SHORE EXPOSED BETWEEN LOW WATER (1119.8') AND PROJECTED LOW WATER (1116.8').

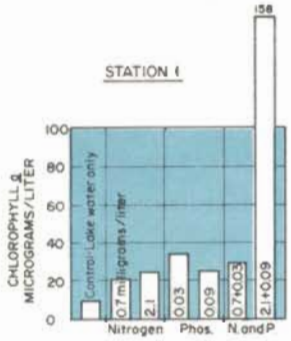
DATE - FEB. 1972	DRWN BY - G.S. Mc.	TASK No. - 21
SCALE - 1 inch to 2 miles	CHK'D BY -	PLAN No. S.O-70-05

Map 2

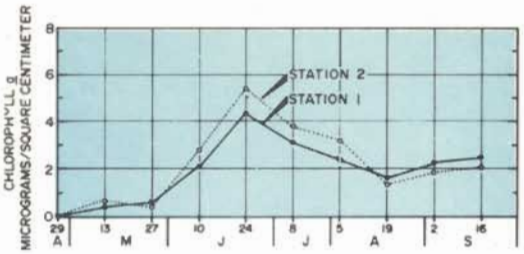

LONGITUDINAL PROFILE OF TEMPERATURE IN DEGREES CENTIGRADE THROUGH THE DEEPEST PORTION OF OSOYOOS LAKE TO THE INTERNATIONAL BORDER (3 Seasons).
STATIONS
TEMPERATURE
DEPTH in FEET
DEPTH in METERS
Apr. 22,'71
July 19,'71
Oct. 12,'71
Exaggerated Vertical Scale: 1:50
means less than
NUTRIENT ENRICHMENT BIOASSAY RESULTS FOR OSOYOOS LAKE, 1971.
Effect of the addition of Nitrogen and Phosphorus to samples of Osoyoos Lake water on Chlorophyll content.
STATION 1
STATION 2
CHLOROPHYLL a MICROGRAMS/LITER
Lake Water Only
0.7 milligrams/liter
2.1
0.03
0.09
0.7+0.03
2.1+0.09
CONTROL
NITROGEN
PHOSPHORUS
NITROGEN and PHOSPHORUS
PERIPHYTON: CHLOROPHYLL a VALUES FOR OSOYOOS LAKE FROM APRIL TO SEPTEMBER, 1971.
STATION 1
STATION 2
STATION 3
STATION 4
CHLOROPHYLL a MICROGRAMS/SQUARE CENTIMETER
DAY MONTH
PERIPHYTON GROWTH FOR OSOYOOS LAKE FROM APRIL TO SEPTEMBER, 1971.
DRY WEIGHT MILLIGRAMS/SQUARE CENTIMETER
PLAN OF OSOYOOS LAKE SHOWING BATHYMETRIC LINES AND LIMNOLOGY SAMPLING STATIONS
OSOYOOS
LAKE
Edge of Littoral Shelf
Long Joe Cr.
Mica Cr.
Canada U.S.A.
Nine Mile Cr.
British Columbia
Washington
OKANAGAN RIVER
SHORELI
the Zozel
Flooding
E - Surface water level maintained by
am near the outlet of Osoyoos Lake.
arts at 912'±
LIMNOLOGY SAMPLING STATIONS
Physical Limnology
Bathythermograph, Surface temperature and Secchi depth.
Light transmission measurements.
General Limnology
Temperature station
Chemical station
Bottom Fauna
Sampling location, 1969
Periphyton and Chorophyll a
Sampling location
Sewage Enrichment - Trace Metals
Sampling location
Nutrient Bioassay
Surface water samples
Pure Culture Bioassay
Sampling location
Fish as indicators of Water Quality
Net setting location
Note: Bathymetric lines are at 25 ft. intervals
The 25 ft. line complies with the edge of the littoral shelf in most instances.
PURE CULTURE BIOASSAY
RELATIVE FERTILITY OF VARIOUS LAKE WATERS TO GROW ALGAE, 1971 CONDITIONS
SELENASTRUM-Green Alga
LAKES
OSOYOOS LAKE
SKAHA LAKE
OKANAGAN LAKE
KALAMALKA LAKE
WOOD LAKE
ANABAENA-Blue-Green Alga
Capable of fixing Nitrogen
STATIONS
MICROCYSTIS-Blue-Green Alga
Unable to fix Nitrogen
TOTAL COUNTS PER MINUTE x 1000 of 14C
PROFILES OF CARBON CONTENT OF CORES FROM OSOYOOS LAKE
CORE DEPTH in CENTIMETERS
CORE DEPTH in INCHES
28cms. (circa 1870)
OSOYOOS L.
Organic C.
Inorganic C.
PERCENT CARBON
LAKE PLAN SCALE
1000 0 1000 2000 meters
1000 0 3000 6000 feet
SOME LIMNOLOGICAL CHARACTERISTICS OF OSOYOOS LAKE
Map 3

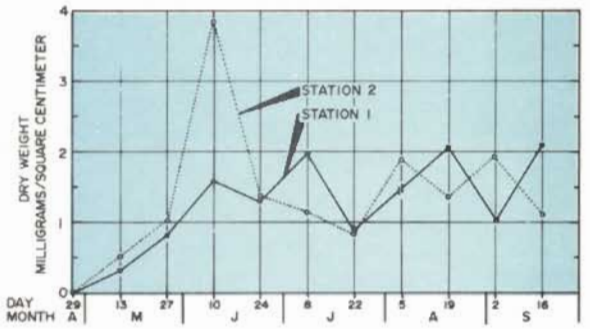
NUTRIENT ENRICHMENT BIOASSAY RESULTS FOR VASEUX LAKE 1971.

Effect of the addition of Nitrogen and Phosphorus to samples of Vaseux Lake water on Chlorophyll content.

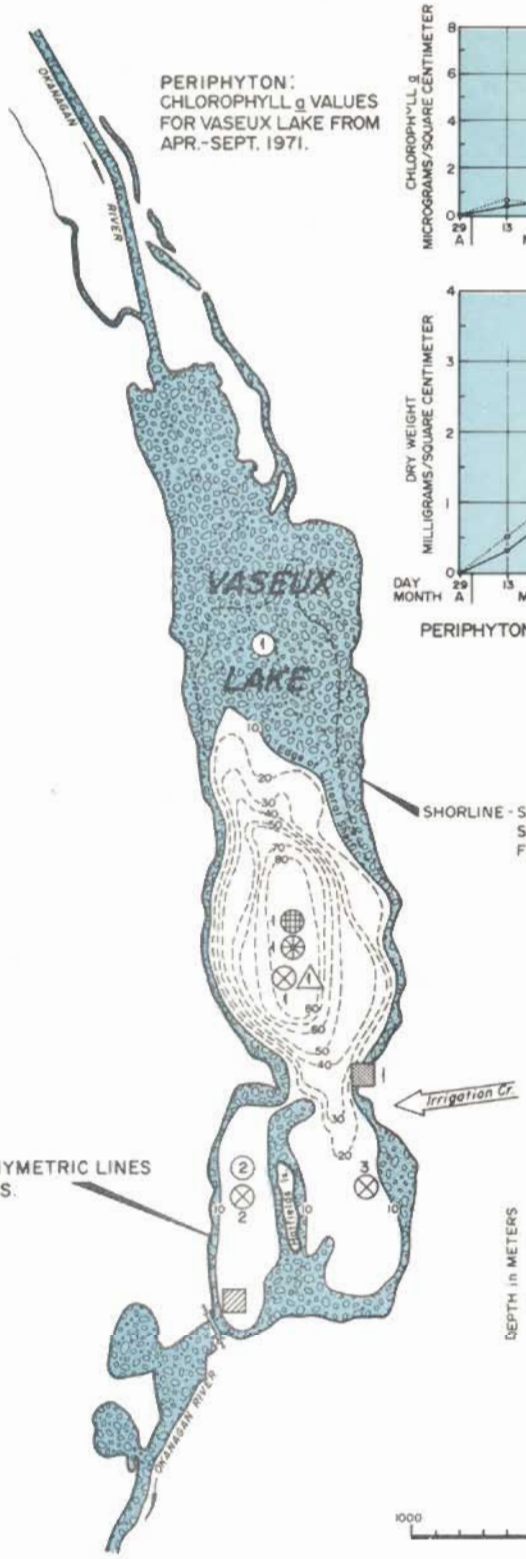


PERIPHYTON: CHLOROPHYLL a VALUES FOR VASEUX LAKE FROM APR.-SEPT. 1971.





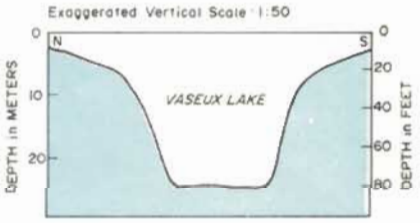
PERIPHYTON GROWTH FOR VASEUX LAKE FROM APR-SEPT. 1971.



SHORLINE - Surface water level maintained at approx. 1074' with the S.O.L.I.D Dam near the outlet of Vaseux Lake. Flooding starts at 1076'.

PLAN OF VASEUX LAKE SHOWING BATHYMETRIC LINES AND LIMNOLOGY SAMPLING STATIONS.

LONGITUDINAL PROFILE OF VASEUX LAKE



LIMNOLOGY SAMPLING STATIONS

Physical Limnology

- Bathythermograph, surface temperature and Secchi depth.
- Light transmission measurements
- Recording thermographs

Periphyton and Chlorophyll a

- Sampling location

Nutrient Bioassay

- Surface water samples

Pure Culture Bioassay

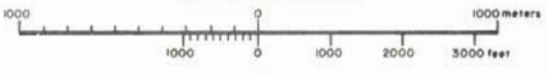
- Sampling location - See Graph on Map 3

Fish as indicators of water quality

- Net setting location

Notes: Bathymetric lines are at 10 ft intervals. The 10 ft. line complies with the edge of the littoral shelf in most instances.

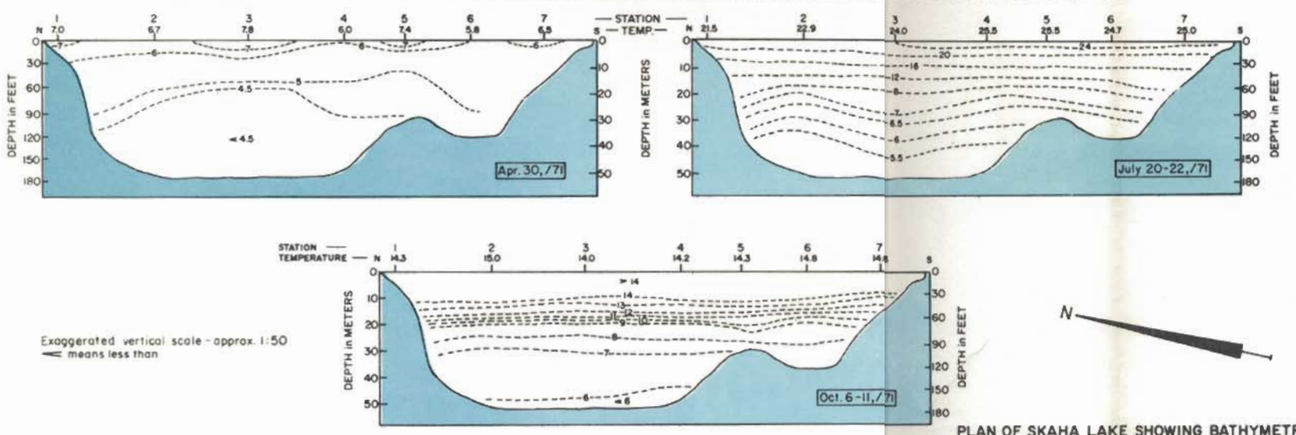
-LAKE PLAN SCALE-



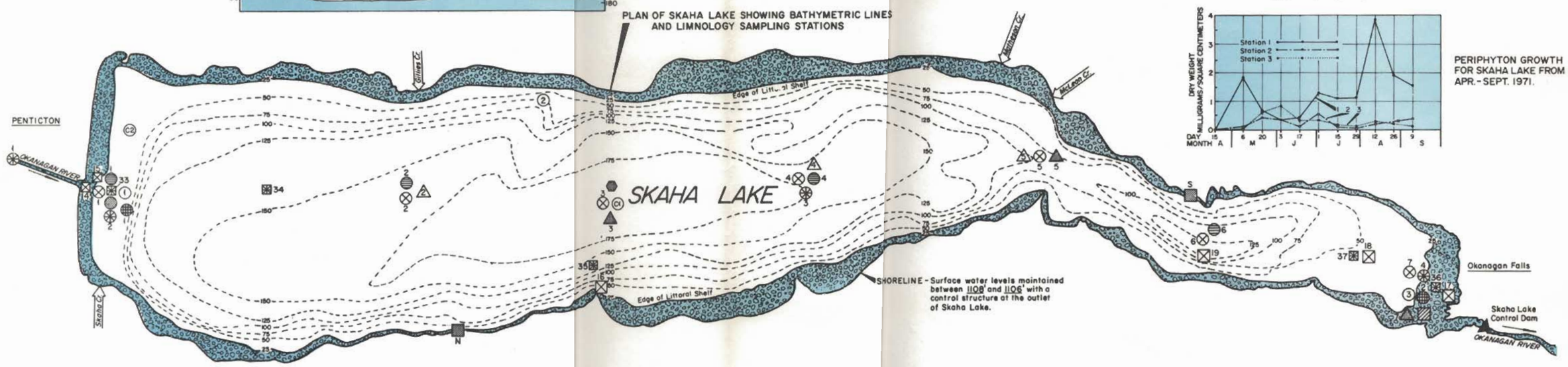
SOME LIMNOLOGICAL CHARACTERISTICS OF VASEUX LAKE

Map 4

LONGITUDINAL PROFILE OF TEMPERATURE IN DEGREES CENTIGRADE THROUGH THE DEEPEST PORTION OF SKAHA LAKE (3 Seasons)



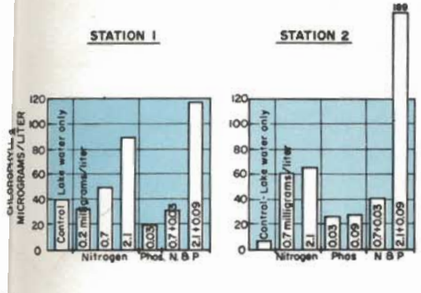
PLAN OF SKAHA LAKE SHOWING BATHYMETRIC LINES AND LIMNOLOGY SAMPLING STATIONS

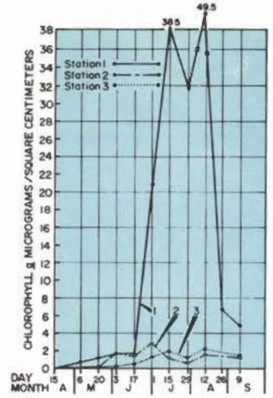


NUTRIENT ENRICHMENT BIOASSAY RESULTS FOR SKAHA LAKE

1971

Effect of the addition of Nitrogen and Phosphorus to samples of Skaha Lake water on Chlorophyll content.





PERIPHYTON: CHLOROPHYLL a VALUES FOR SKAHA LAKE FROM APR. - SEPT. 1971.

PERIPHYTON GROWTH FOR SKAHA LAKE FROM APR. - SEPT. 1971.

LIMNOLOGY SAMPLING STATIONS

Physical Limnology
- Bathythermograph, Surface temperature and Secchi Depth
- Light transmission measurements
- Recording thermographs
- Vertical array of recording thermographs

General Limnology
- Temperature station
- Chemical station

Geolimnology - Diatom Succession
- Core sample location

Bottom Fauna
- Sampling location 1969, 1971-

Periphyton and Chlorophyll a
- Sampling location

Sewage Enrichment - Trace Metals
- Sampling location

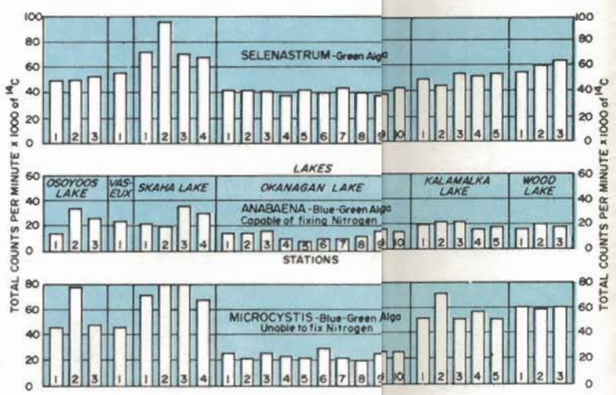
Nutrient Bioassay
- Surface water samples

Pure Culture Bioassay
- Sampling location

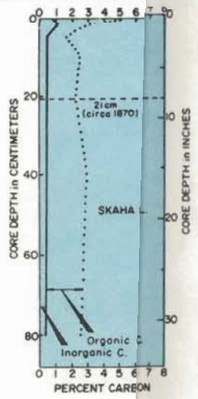
Fish as indicators of Water Quality
- Net setting location

Notes: Bathymetric lines are at 25 ft. intervals. The 25 ft. line complies with the edge of the littoral shelf in most instances.

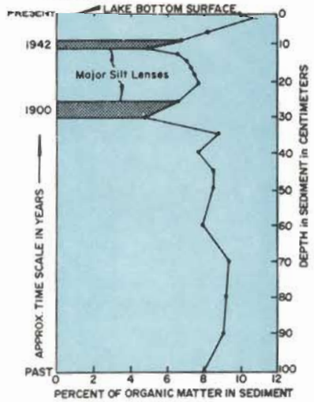
PURE CULTURE BIOASSAY
RELATIVE FERTILITY OF VARIOUS LAKE WATERS TO GROW ALGAE, 1971 Conditions



PROFILES OF CARBON CONTENT OF CORES FROM SKAHA LAKE



PLOT OF CORE SAMPLE FROM THE MAXIMUM SKAHA LAKE DEPTH



- LAKE PLAN SCALE -

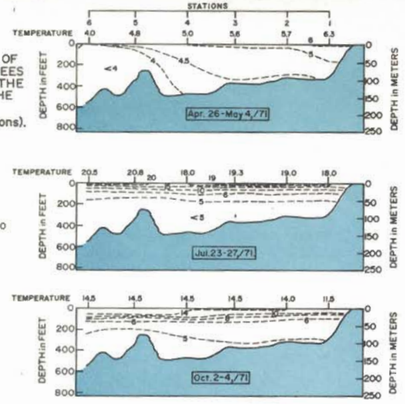
1000 0 1000 2000 meters

1000 0 3000 6000 feet

SOME LIMNOLOGICAL CHARACTERISTICS OF SKAHA LAKE

Map 5

LONGITUDINAL PROFILE OF TEMPERATURE IN DEGREES CENTIGRADE THROUGH THE DEEPEST PORTION OF THE SOUTHERN SECTION OF OKANAGAN LAKE (3 Seasons).

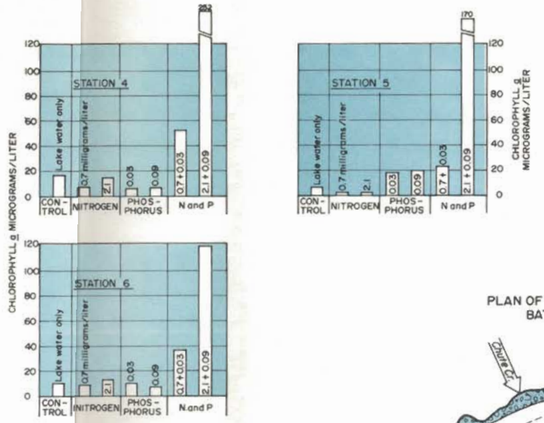


Exaggerated Vertical Scale : 1:50

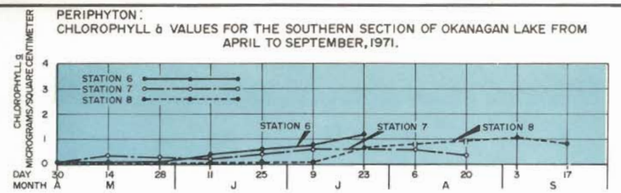
< means less than

NUTRIENT ENRICHMENT BIOASSAY RESULTS FOR THE SOUTHERN SECTION OF OKANAGAN LAKE, 1971.

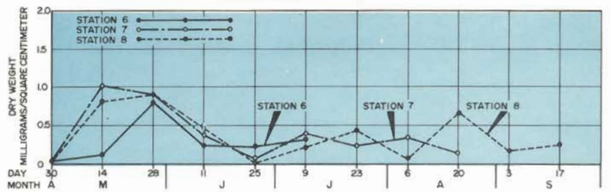
Effect of the addition of Nitrogen and Phosphorus to samples of Okanagan Lake water on Chlorophyll content.



PERIPHYTON: CHLOROPHYLL a VALUES FOR THE SOUTHERN SECTION OF OKANAGAN LAKE FROM APRIL TO SEPTEMBER, 1971.

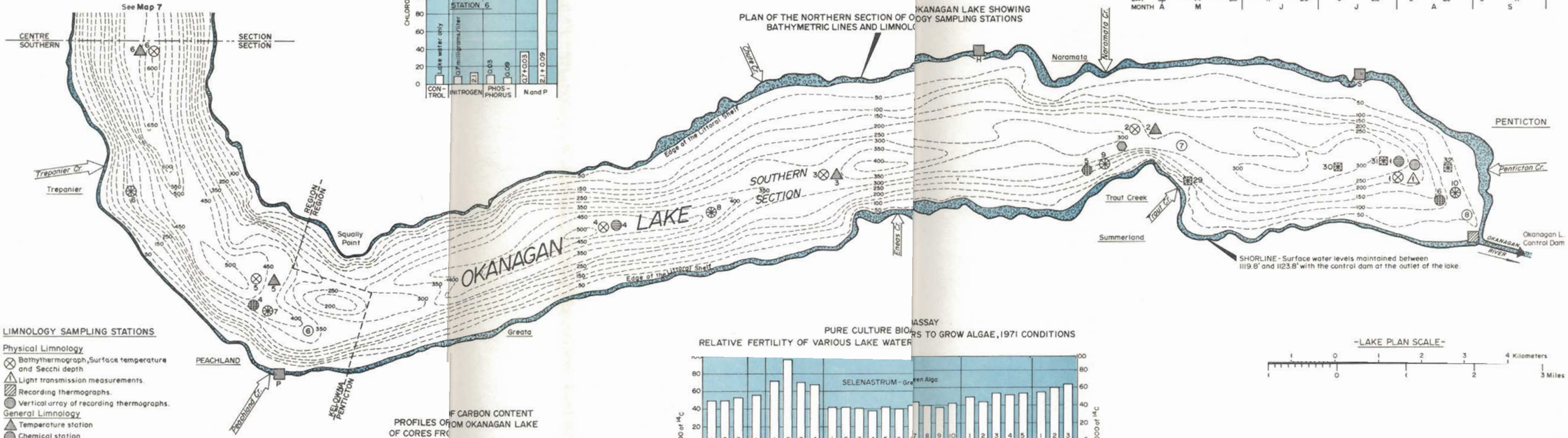


PERIPHYTON GROWTH FOR THE SOUTHERN SECTION OF OKANAGAN LAKE FROM APRIL TO SEPTEMBER, 1971.



See Map 7

PLAN OF THE NORTHERN SECTION OF OKANAGAN LAKE SHOWING BATHYMETRIC LINES AND LIMNOLOGY SAMPLING STATIONS



LIMNOLOGY SAMPLING STATIONS

Physical Limnology
- Bathythermograph, Surface temperature and Secchi depth
- Light transmission measurements.
- Recording thermographs.
- Vertical array of recording thermographs.

General Limnology
- Temperature station
- Chemical station

Bottom Fauna
- Sampling location, 1969

Periphyton and Chlorophyll a
- Sampling location

Sewage Enrichment - Trace Metals
- Sampling location

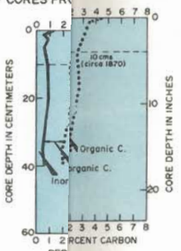
Nutrient Bioassay
- Surface water samples

Pure Culture Bioassay
- Sampling location

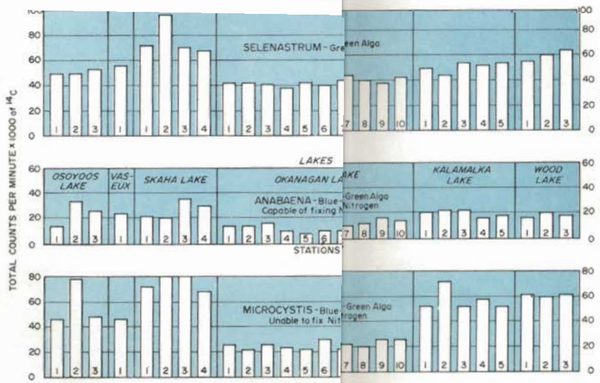
Fish as indicators of Water Quality
- Net setting location

Notes, Bathymetric lines are at 50 ft. intervals
The edge of the littoral shelf is at approximately 25 ft. depth in most instances

PROFILES OF CARBON CONTENT OF CORES FROM OKANAGAN LAKE



PURE CULTURE BIOASSAY RELATIVE FERTILITY OF VARIOUS LAKE WATERS TO GROW ALGAE, 1971 CONDITIONS



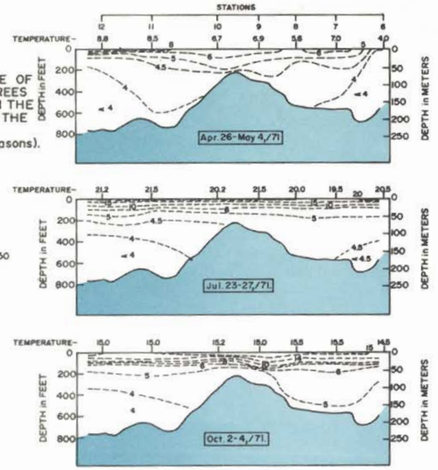
-LAKE PLAN SCALE-

0 1 2 3 4 Kilometers
0 1 2 3 Miles

SOME LIMNOLOGICAL CHARACTERISTICS OF THE SOUTHERN SECTION OF OKANAGAN LAKE.

Map 6

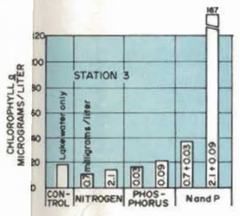
LONGITUDINAL PROFILE OF TEMPERATURE IN DEGREES CENTIGRADE THROUGH THE DEEPEST PORTION OF THE CENTRE SECTION OF OKANAGAN LAKE (3 Seasons).



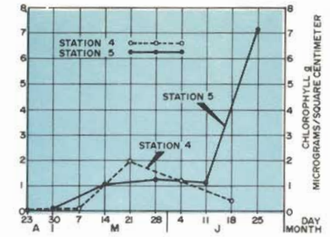
< means less than
Exaggerated Vertical Scale: 1:50

NUTRIENT ENRICHMENT BIOASSAY RESULTS FOR THE CENTRE SECTION OF OKANAGAN LAKE, 1971.

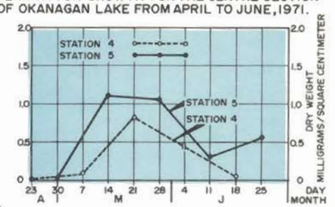
Effect of the addition of Nitrogen and Phosphorus to samples of Okanagan Lake water on Chlorophyll content.

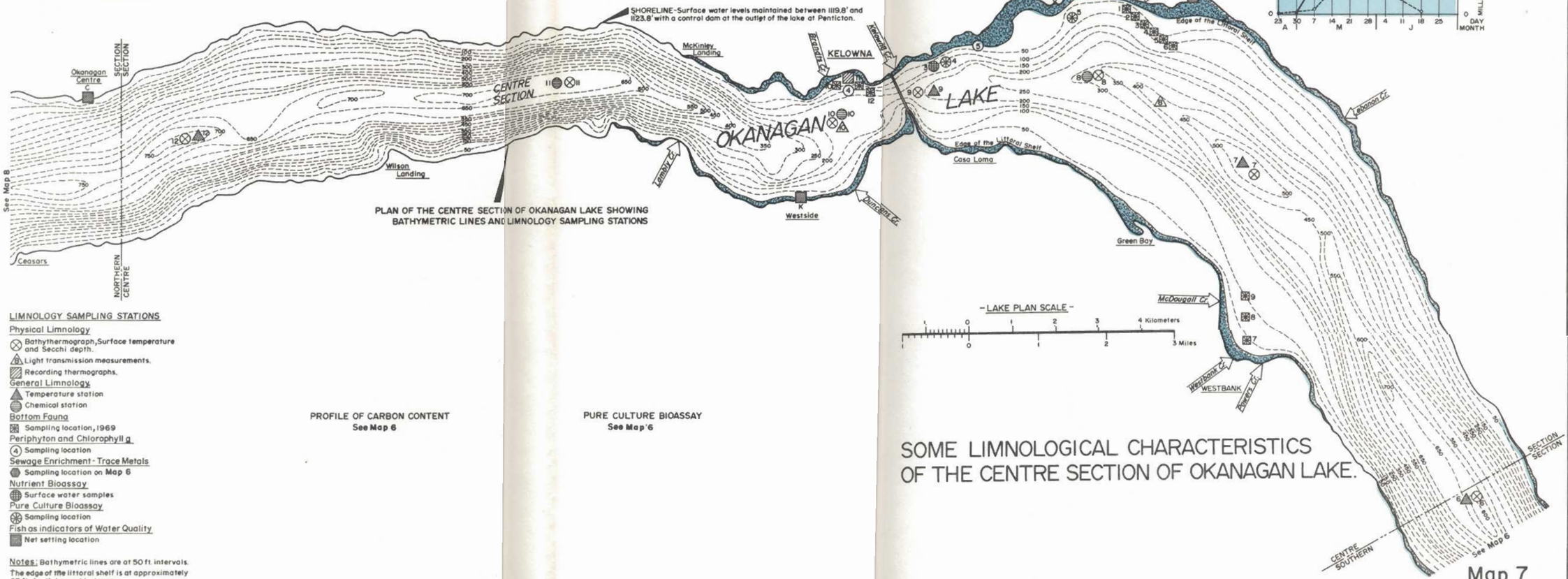


PERIPHYTON:
CHLOROPHYLL a VALUES FOR THE CENTRE SECTION OF OKANAGAN LAKE FROM APRIL TO JUNE, 1971.



PERIPHYTON GROWTH FOR THE CENTRE SECTION OF OKANAGAN LAKE FROM APRIL TO JUNE, 1971.





PLAN OF THE CENTRE SECTION OF OKANAGAN LAKE SHOWING BATHYMETRIC LINES AND LIMNOLOGY SAMPLING STATIONS

LIMNOLOGY SAMPLING STATIONS

Physical Limnology
- Bathythermograph, Surface temperature and Secchi depth.
- Light transmission measurements.
- Recording thermographs.

General Limnology
- Temperature station
- Chemical station

Bottom Fauna
- Sampling location, 1969

Periphyton and Chlorophyll a
- Sampling location

Sewage Enrichment - Trace Metals
- Sampling location on Map 6

Nutrient Bioassay
- Surface water samples

Pure Culture Bioassay
- Sampling location

Fish as indicators of Water Quality
- Net setting location

Notes: Bathymetric lines are at 50 ft. intervals.
The edge of the littoral shelf is at approximately 25 ft. depth in most instances.

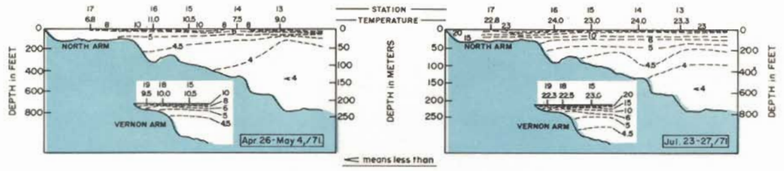
PROFILE OF CARBON CONTENT
See Map 6

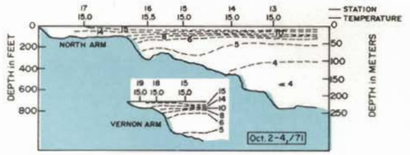
PURE CULTURE BIOASSAY
See Map 6

SOME LIMNOLOGICAL CHARACTERISTICS OF THE CENTRE SECTION OF OKANAGAN LAKE.

Map 7

LONGITUDINAL PROFILE OF TEMPERATURE IN DEGREES CENTIGRADE THROUGH THE DEEPEST PORTION OF THE NORTHERN SECTION OF OKANAGAN LAKE (3 Seasons)

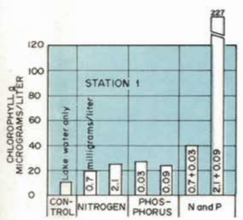


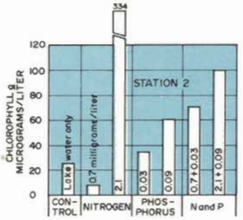


Exaggerated Vertical Scale: 1:50

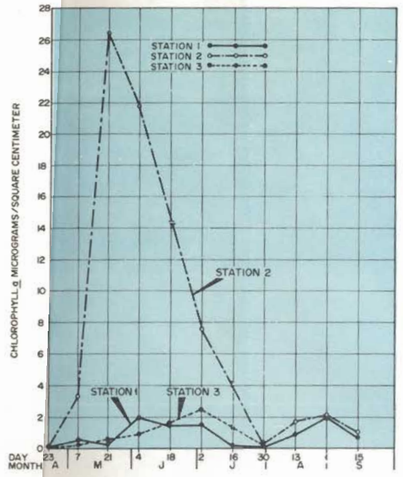
NUTRIENT ENRICHMENT BIOASSAY RESULTS FOR THE NORTHERN SECTION OF OKANAGAN LAKE, 1971.

Effect of the addition of Nitrogen and Phosphorus to samples of Okanagan Lake water on Chlorophyll content.

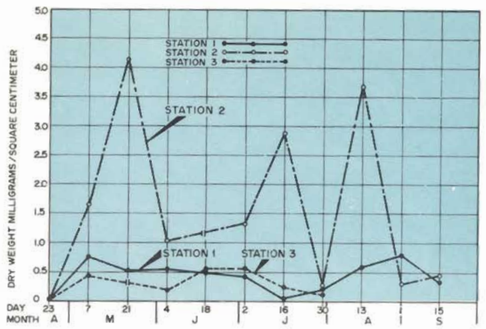


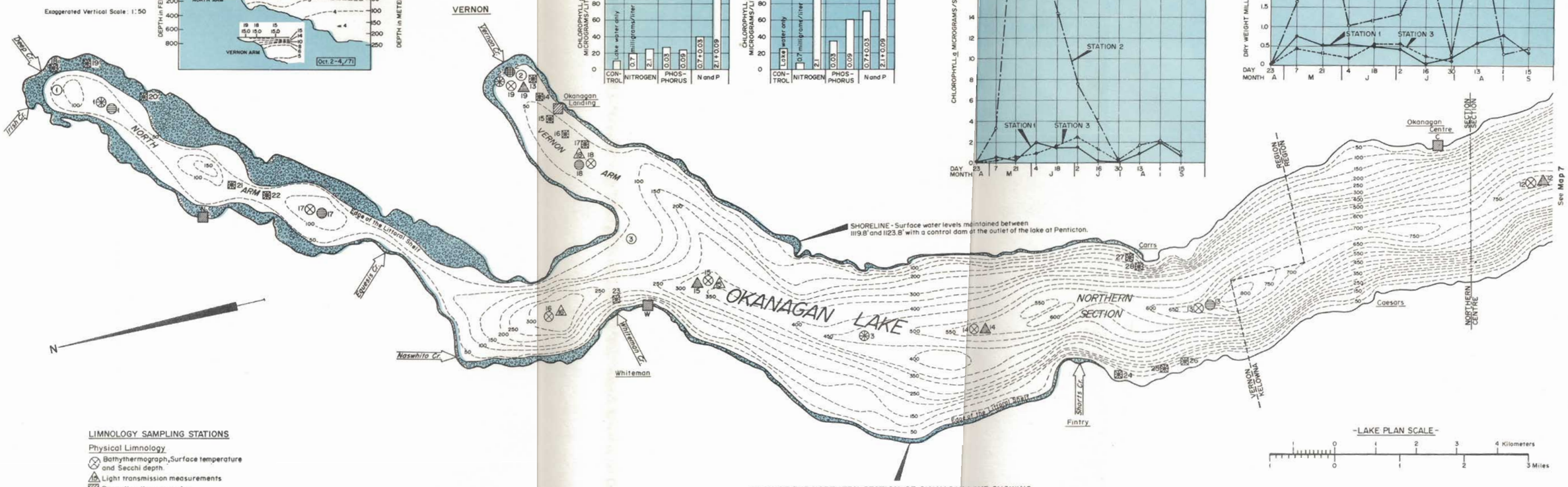


PERIPHYTON:
CHLOROPHYLL a VALUES FOR THE NORTHERN SECTION OF OKANAGAN LAKE FROM APRIL TO SEPTEMBER, 1971.



PERIPHYTON GROWTH FOR THE NORTHERN SECTION OF OKANAGAN LAKE FROM APRIL TO SEPTEMBER, 1971.





PLAN OF THE NORTHERN SECTION OF OKANAGAN LAKE SHOWING BATHYMETRIC LINE AND LIMNOLOGY SAMPLING STATIONS

LIMNOLOGY SAMPLING STATIONS

Physical Limnology
- Bathythermograph, Surface temperature and Secchi depth.
- Light transmission measurements.
- Recording thermographs.

General Limnology
- Temperature station
- Chemical station

Bottom Fauna
- Sampling location, 1969

Periphyton and Chlorophyll a
- Sampling location

Sewage Enrichment and Trace Metals
- Sampling location - on **Map 6**

Nutrient Bioassay
- Surface water samples

Pure Culture Bioassay
- Sampling location - See Graph on **Map 6**

Fish as indicators of Water Quality
- Net setting location

Notes: Bathymetric lines are at 50 ft. intervals.
The edge of the littoral shelf is at approximately 25 ft. depth in most instances.

PROFILE OF CARBON CONTENT
See Map 6

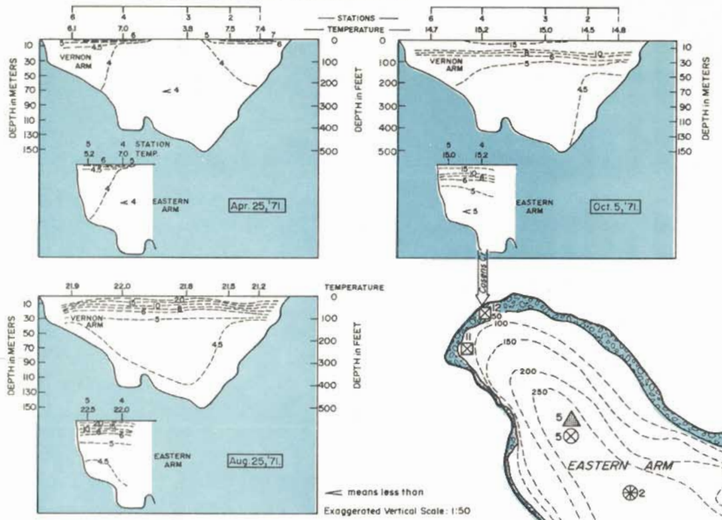
PURE CULTURE BIOASSAY
See Map 6

-LAKE PLAN SCALE-
0 1 2 3 4 Kilometers
0 1 2 3 Miles

SOME LIMNOLOGICAL CHARACTERISTICS OF THE NORTHERN SECTION OF OKANAGAN LAKE

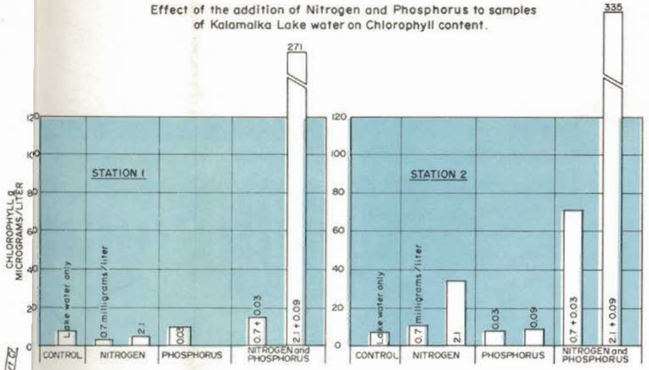
Map 8

LONGITUDINAL PROFILE OF TEMPERATURE IN DEGREES CENTIGRADE THROUGH THE DEEPEST PORTION OF KALAMALKA LAKE (3 Seasons).

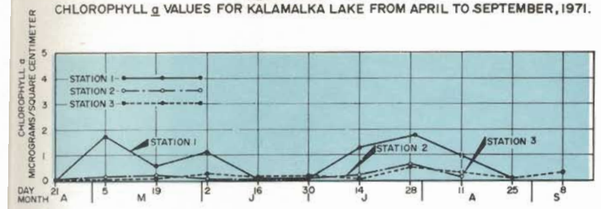


NUTRIENT ENRICHMENT BIOASSAY RESULTS FOR KALAMALKA LAKE, 1971.

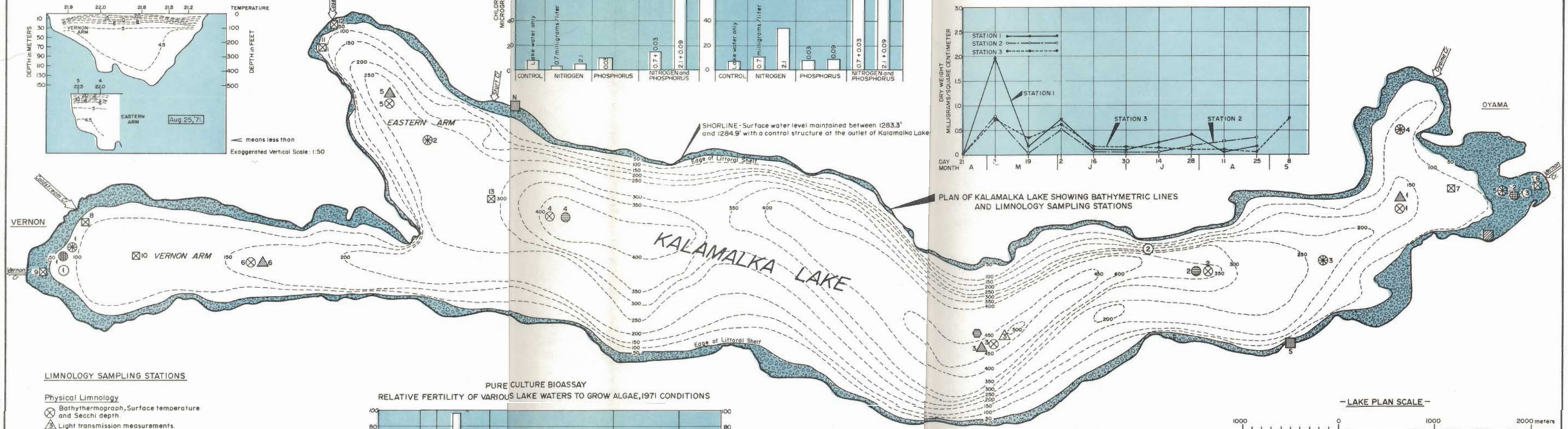
Effect of the addition of Nitrogen and Phosphorus to samples of Kalamalka Lake water on Chlorophyll content.



PERIPHYTON: CHLOROPHYLL a VALUES FOR KALAMALKA LAKE FROM APRIL TO SEPTEMBER, 1971.



PERIPHYTON GROWTH FOR KALAMALKA LAKE FROM APRIL TO SEPTEMBER, 1971.



LIMNOLOGY SAMPLING STATIONS

Physical Limnology
- Bathythermograph, Surface temperature and Secchi depth.
- Light transmission measurements.
- Recording thermographs

General Limnology
- Temperature station
- Chemical station

Bottom Fauna
- Sampling location, 1971

Periphyton and Chlorophyll a
- Sampling location

Sewage Enrichment - Trace Metals
- Sampling location

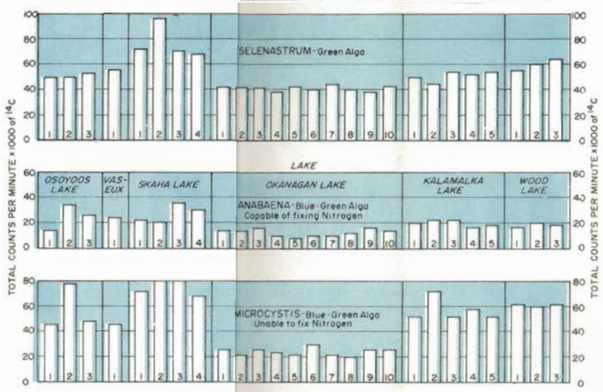
Nutrient Bioassay
- Surface water samples

Pure Culture Bioassay
- Sampling locations

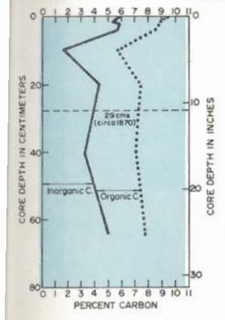
Fish as indicators of Water Quality
- Net setting location

Notes: Bathymetric lines are at 50 ft. intervals. The 50 ft. line complies with the edge of the littoral shelf in most instances.

PURE CULTURE BIOASSAY RELATIVE FERTILITY OF VARIOUS LAKE WATERS TO GROW ALGAE, 1971 CONDITIONS



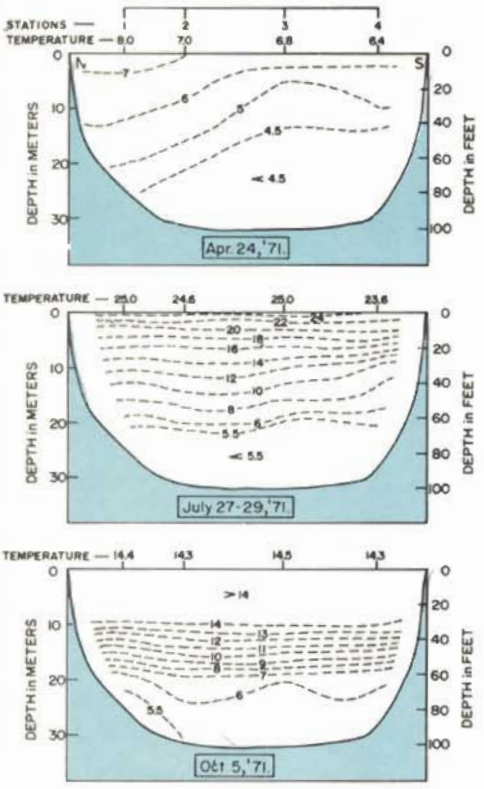
PROFILES OF CARBON CONTENT OF CORES FROM KALAMALKA LAKE



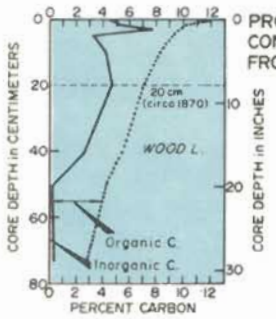
SOME LIMNOLOGICAL CHARACTERISTICS OF KALAMALKA LAKE

Map 9

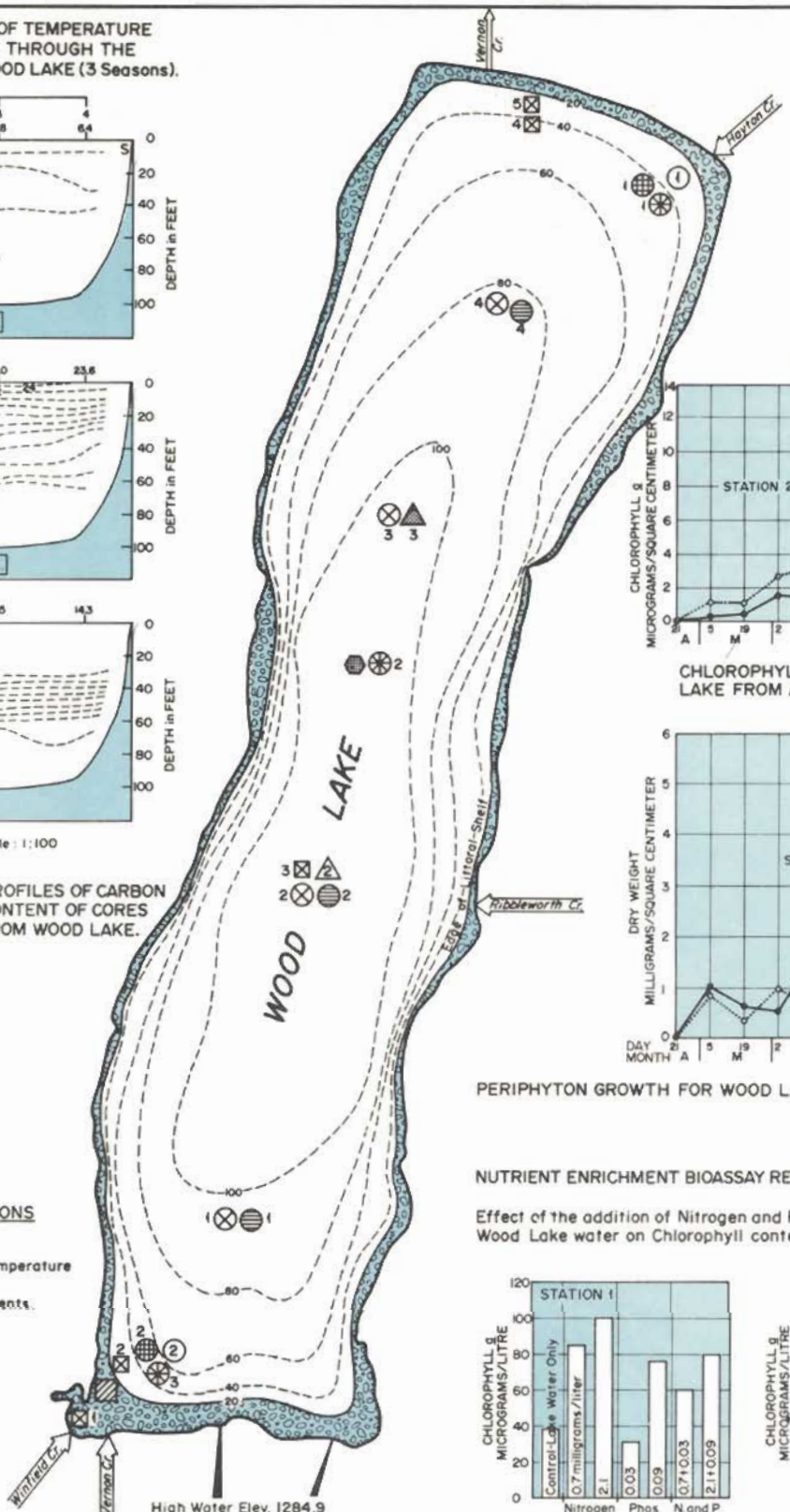
LONGITUDINAL PROFILE OF TEMPERATURE IN DEGREES CENTIGRADE THROUGH THE DEEPEST PORTION OF WOOD LAKE (3 Seasons).



Exaggerated Vertical Scale : 1:100
< means less than



PROFILES OF CARBON CONTENT OF CORES FROM WOOD LAKE.



PLAN OF WOOD LAKE SHOWING BATHYMETRIC LINES & LIMNOLOGY SAMPLING STATIONS

LIMNOLOGY SAMPLING STATIONS

Physical Limnology
- Bathythermograph, Surface temperature and Secchi depth.
- Light transmission measurements.
- Recording thermographs.

General Limnology
- Temperature station
- Chemical station

Bottom Fauna
- Sampling location 1971

Periphyton and Chlorophyll a
- Sampling location

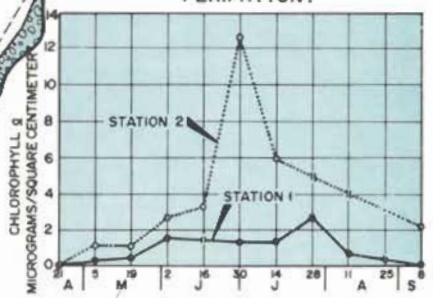
Nutrient Bioassay
- Surface water samples

Pure Culture Bioassay
- Sampling location - See Graph on **Map 9**

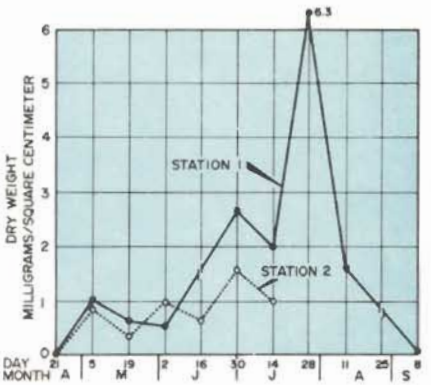
Sewage Enrichment - Trace Metals
- Sampling location

Notes: Bathymetric lines are at 20ft. intervals. The 20ft. line complies with the edge of the littoral shelf in most instances.

PERIPHYTON:



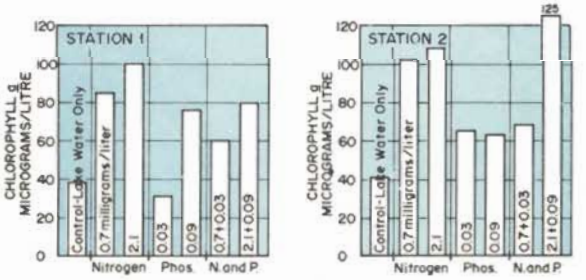
CHLOROPHYLL a VALUES FOR WOOD LAKE FROM APR.-SEPT. 1971.



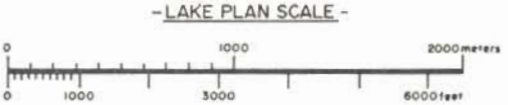
PERIPHYTON GROWTH FOR WOOD LAKE FROM APR.-SEPT. 1971.

NUTRIENT ENRICHMENT BIOASSAY RESULTS FOR WOOD LAKE, 1971.

Effect of the addition of Nitrogen and Phosphorus to samples of Wood Lake water on Chlorophyll content.

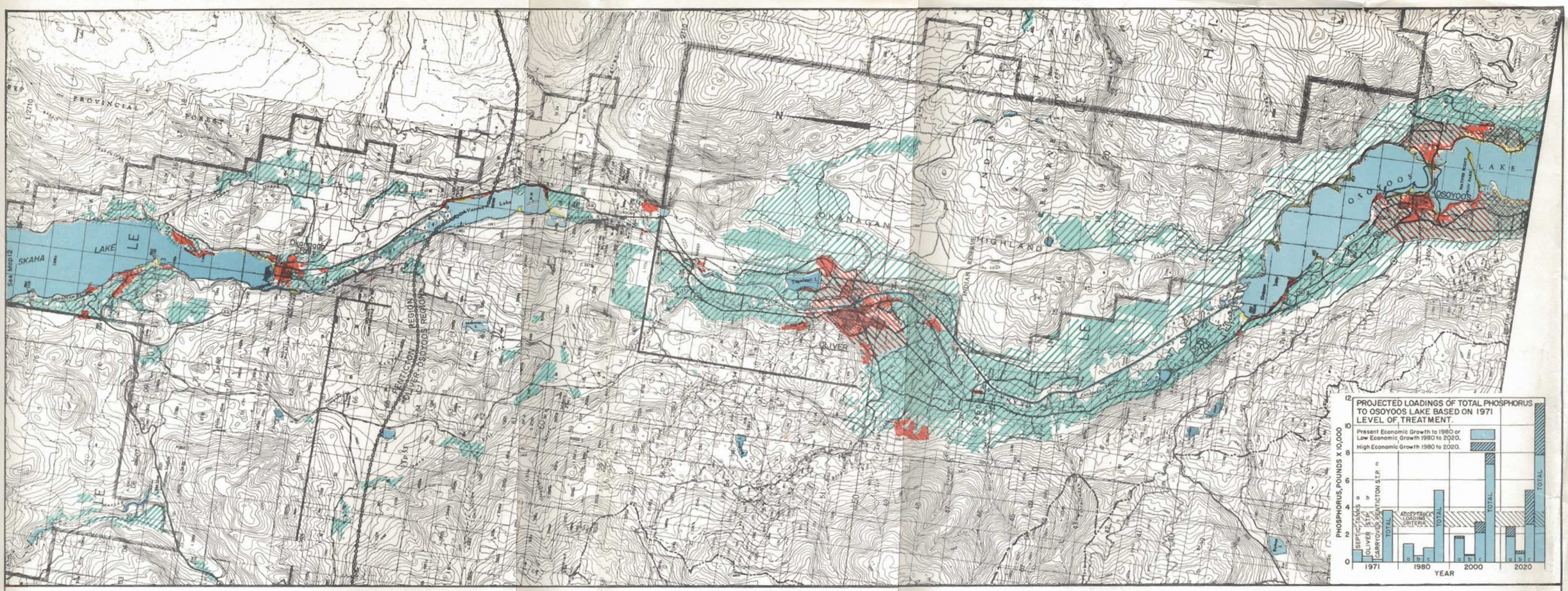


- LAKE PLAN SCALE -



SOME LIMNOLOGICAL CHARACTERISTICS OF WOOD LAKE

Map 10



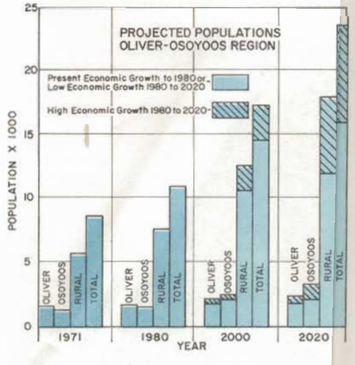
-PLAN SCALE-

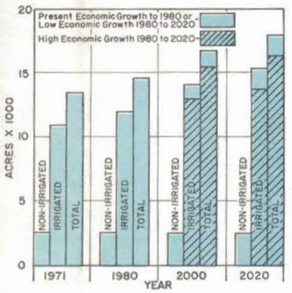
0 1 2 3 Miles

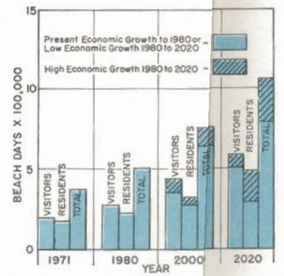
0 1 2 3 4 Kilometers

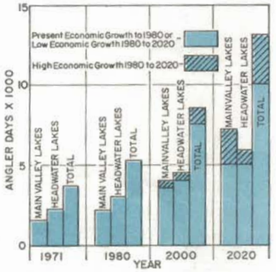
-LEGEND-

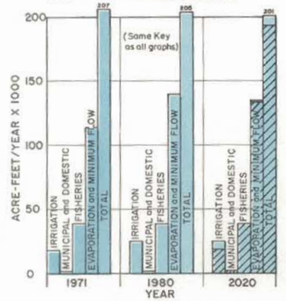
- Existing Agricultural Development (1971).
- Potential Agricultural Development to 2020. (Maximum for All Projections)
- Existing Urban Development (1971).
- Potential Urban Development to 2020. (Low Economic Growth Projection III, Minimum).
- Potential Urban Development to 2020. (High Economic Growth Projection II, Maximum).
- Existing Recreational Development (1971).
- Potential Recreational Sites
- Okanagan Watershed Boundary
- Economic Regions
- Lakes





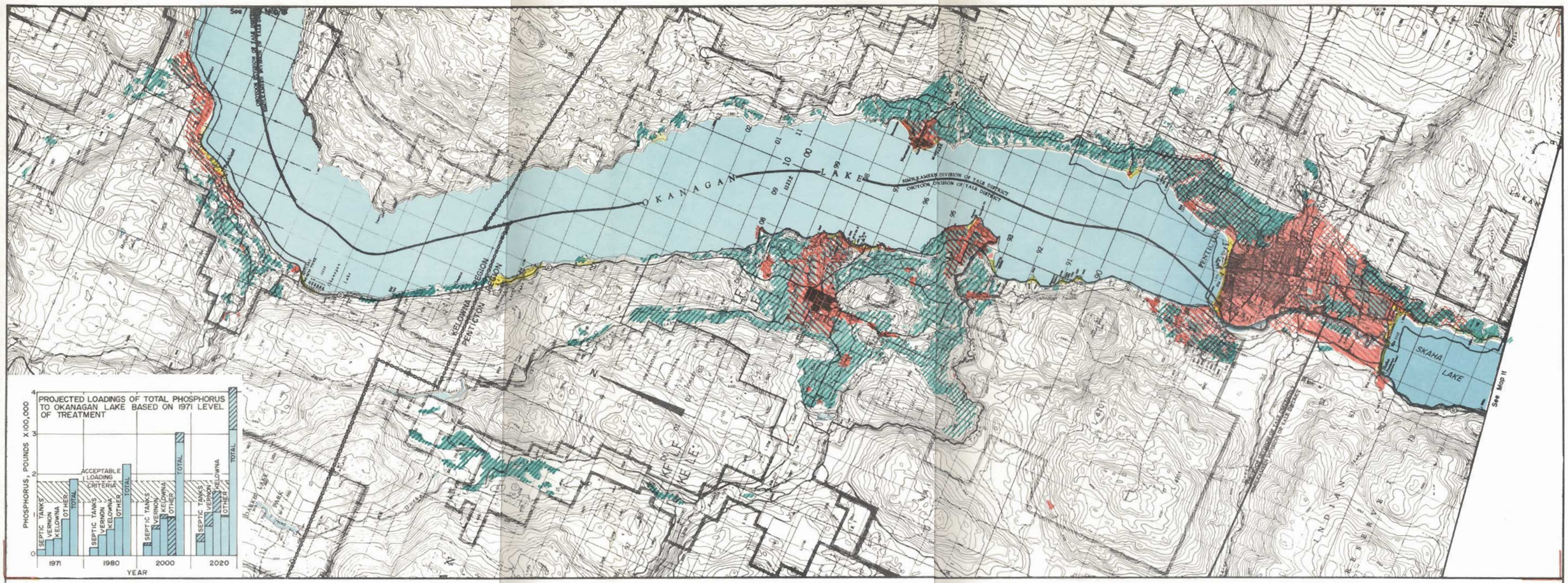






EFFECT OF PROJECTED GROWTH ON WATER AND WATER RELATED RESOURES IN THE OLIVER-OSOYOOS REGION, 1971 to 2020.

Map 11



- PLAN SCALE -

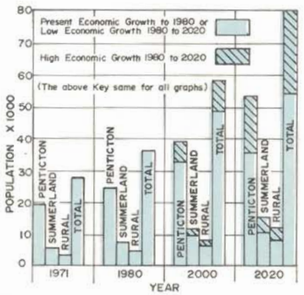
0 1 2 3 Miles

0 1 2 3 4 Kilometers

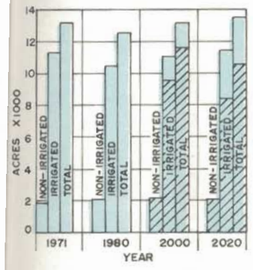
- LEGEND -

- Existing Agricultural Development (1971).
- Potential Agricultural Development to 2020. (Maximum for All Projections)
- Existing Urban Development (1971).
- Potential Urban Development to 2020. (Low Economic Growth Projection III, Minimum).
- Potential Urban Development to 2020. (High Economic Growth Projection II, Maximum).
- Existing Recreational Development (1971).
- Potential Recreational Sites
- Okanagan Watershed Boundary
- Economic Regions
- Lakes

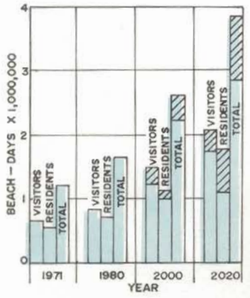
PROJECTED POPULATIONS, PENTICTON REGION



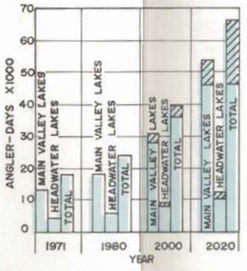
PROJECTED AGRICULTURAL LAND USE, PENTICTON REGION.



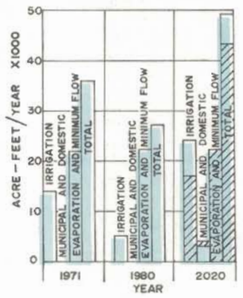
PROJECTED BEACH DAYS, PENTICTON REGION.



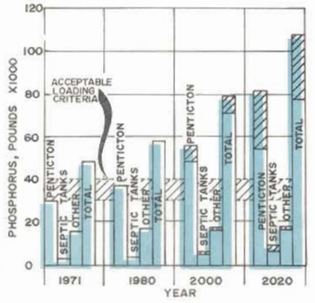
PROJECTED ANGLER DAYS PENTICTON REGION



PROJECTED WATER REQUIREMENTS FOR THE OKANAGAN RIVER REGION FROM PENTICTON TO S.O.L.I.D. DAM.

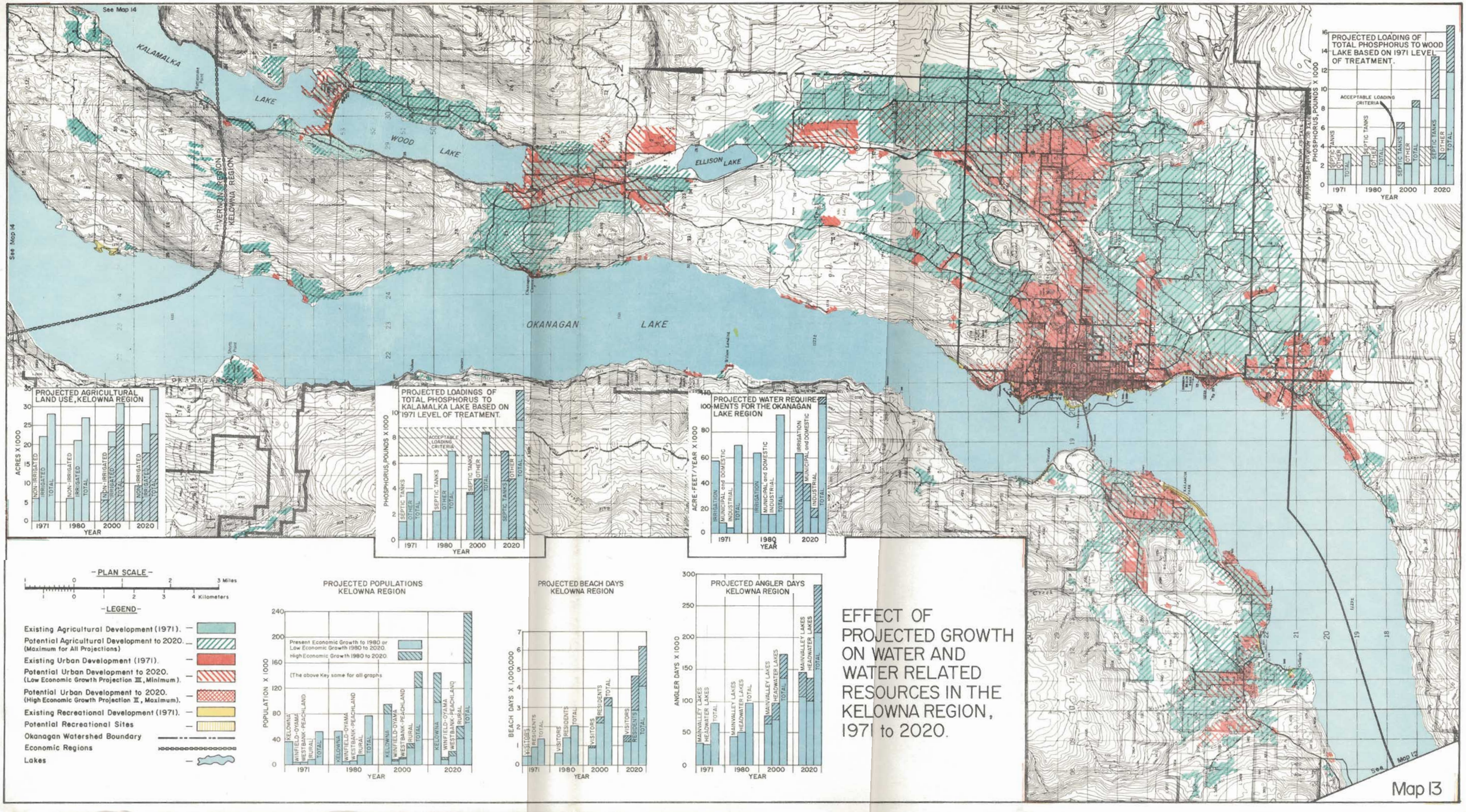


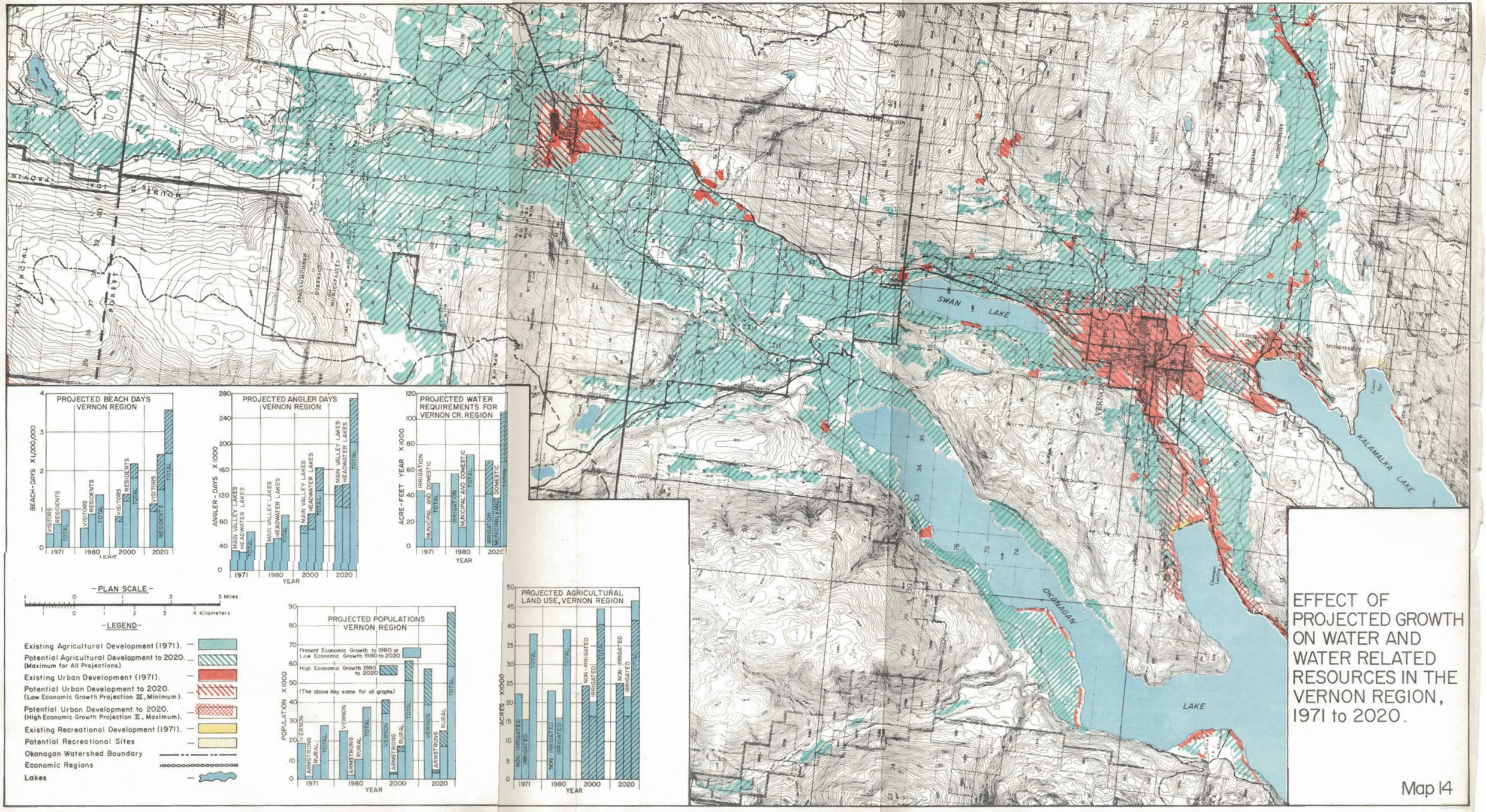
PROJECTED LOADINGS OF TOTAL PHOSPHORUS TO SKAHA LAKE BASED ON 1971 LEVEL OF TREATMENT



EFFECT OF PROJECTED GROWTH ON WATER AND WATER RELATED RESOURCES IN THE PENTICTON REGION, 1971 to 2020.

Map 12


See Map 14
KALAMALKA LAKE
WOOD LAKE
ELLISON LAKE
OKANAGAN LAKE
VERNON REGION
KELOWNA REGION
See Map 14
PROJECTED LOADING OF TOTAL PHOSPHORUS TO WOOD LAKE BASED ON 1971 LEVEL OF TREATMENT.
PHOSPHORUS, POUNDS X 1000
ACCEPTABLE LOADING CRITERIA
SEPTIC TANKS
OTHER
TOTAL
1971
1980
2000
2020
YEAR
PROJECTED AGRICULTURAL LAND USE, KELOWNA REGION
ACRES X 1000
NON-IRRIGATED
IRRIGATED
TOTAL
PROJECTED LOADINGS OF TOTAL PHOSPHORUS TO KALAMALKA LAKE BASED ON 1971 LEVEL OF TREATMENT.
PROJECTED WATER REQUIREMENTS FOR THE OKANAGAN LAKE REGION
ACRE-FEET/YEAR X 1000
IRRIGATION
MUNICIPAL and DOMESTIC
INDUSTRIAL
MUNICIPAL and INDUSTRIAL
PLAN SCALE
3 Miles
4 Kilometers
LEGEND
Existing Agricultural Development (1971).
Potential Agricultural Development to 2020. (Maximum for All Projections)
Existing Urban Development (1971).
Potential Urban Development to 2020. (Low Economic Growth Projection III, Minimum).
Potential Urban Development to 2020. (High Economic Growth Projection II, Maximum).
Existing Recreational Development (1971).
Potential Recreational Sites
Okanagan Watershed Boundary
Economic Regions
Lakes
PROJECTED POPULATIONS KELOWNA REGION
POPULATION X 1000
Present Economic Growth to 1980 or Low Economic Growth 1980 to 2020.
High Economic Growth 1980 to 2020.
(The above Key same for all graphs
KELOWNA
WINFIELD-OYAMA
WESTBANK-PEACHLAND
RURAL
TOTAL
PROJECTED BEACH DAYS KELOWNA REGION
BEACH DAYS X 1,000,000
VISITORS
RESIDENTS
TOTAL
PROJECTED ANGLER DAYS KELOWNA REGION
ANGLER DAYS X 1000
MAINVALLEY LAKES
HEADWATER LAKES
TOTAL
EFFECT OF PROJECTED GROWTH ON WATER AND WATER RELATED RESOURCES IN THE KELOWNA REGION, 1971 to 2020.
See Map 15
Map 13



EFFECT OF PROJECTED GROWTH ON WATER AND WATER RELATED RESOURCES IN THE VERNON REGION, 1971 to 2020.

Map 14