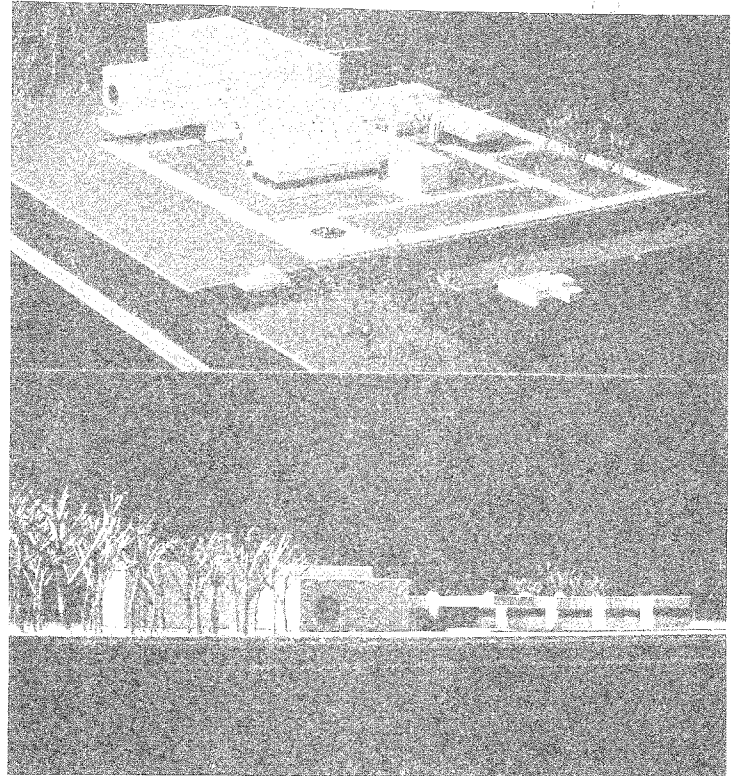
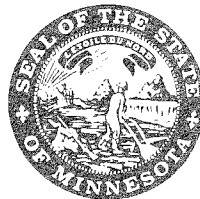




# Biennial Report 1972 - 1974

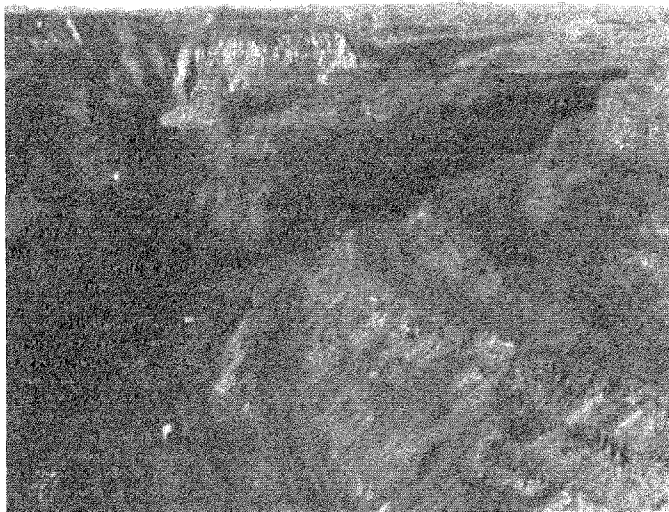


## DEPARTMENT OF IRON RANGE RESOURCES & REHABILITATION



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State of Minnesota



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**STATE OF MINNESOTA**  
**DEPARTMENT OF**  
**IRON RANGE RESOURCES AND REHABILITATION**  
**ST. LOUIS COUNTY COURT HOUSE**  
**HIBBING, MINNESOTA 55746**

January 6, 1975

To the Governor and the Legislature  
of the State of Minnesota

Pursuant to Minnesota Statutes 1974, Section 298.22 Sub. 2, I hereby submit the sixteenth Biennial Report of the Department of Iron Range Resources and Rehabilitation to the Honorable Governor Wendell R. Anderson and the Sixty-Ninth Legislature.

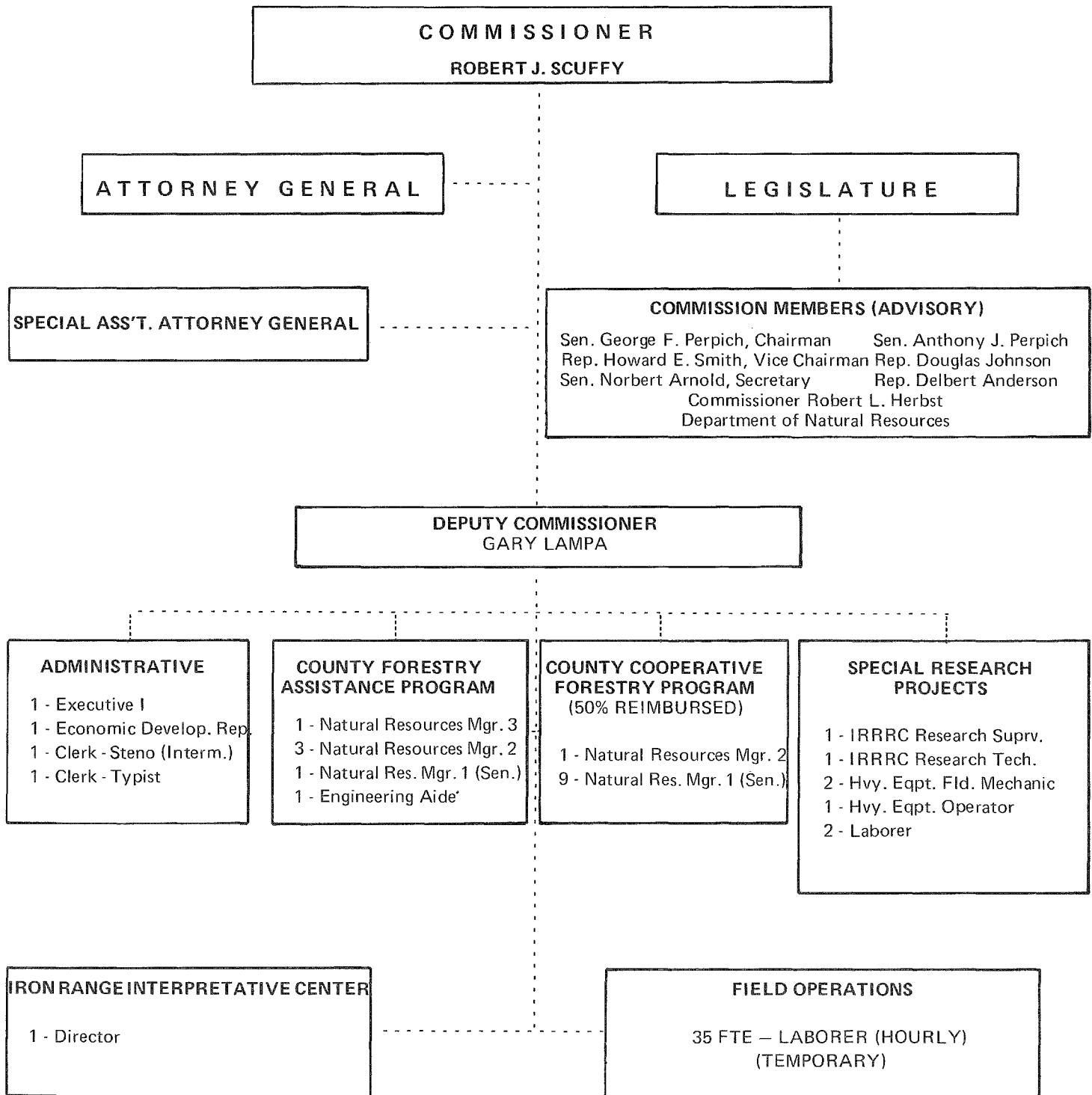
This report is for fiscal years ending June 30, 1973 and June 30, 1974.

Copies of this report are made available for members of the State Legislature and all State departments as well as Federal, County and local agencies. Schools and libraries and the public may obtain copies upon request.

Respectfully submitted,

  
ROBERT J. SCURRY, Commissioner

ORGANIZATION CHART  
DEPARTMENT OF IRON RANGE RESOURCES & REHABILITATION  
MINNESOTA STATUTES — SECTION 298.22



## Past IRRR Commissioners

Herbert J. Miller, Minneapolis*	July 1, 1941 to June 30, 1942
Robert E. Wilson, Minneapolis	July 1, 1942 to May 1, 1949
Ben P. Constantine, Eveleth	May 1, 1949 to November 20, 1950
Edward G. Bayuk, Eveleth	November 21, 1950 to April 30, 1955
Kaarlo J. Otava, Mountain Iron	May 1, 1955, to January 4, 1961
Hyrom S. Sorenson, Bagely**	January 5, 1961 to February 2, 1961
A. M. DeYoannes, Virginia	February 3, 1961 to May 1, 1971

\*Director from July 1, 1941 to April 18, 1942

\*\*Acting Commissioner

## PAST IRR&R COMMISSION MEMBERS

Senator Robert O. Ashbach, St. Paul	July 1, 1967 to June 30, 1969
Senator C. A. Dahle, Duluth	May 1, 1943 to August, 1949
Senator M. J. Galvin, Winona	May 1, 1943 to February 4, 1947
Senator K. F. Grittner, St. Paul	April 21, 1955 to April 21, 1959
Senator Carl A. Jensen, Sleepy Eye	July 1, 1969 to January 2, 1973
Senator Leo J. Lauerman, Olivia	July 1, 1959 to January 30, 1963
Senator Michael E. McGuire, Montgomery	January 30, 1963 to June 30, 1965
Senator George O'Brien, Grand Rapids	May 1, 1943 to July, 1959
Senator Richard F. Palmer, Duluth	January 5, 1971 to January 2, 1973
Senator Benjamin Patterson, Deer River	January 30, 1963 to June 30, 1967
Senator Elmer Peterson, Hibbing	April 19, 1951 to January 30, 1963
Senator Herbert Rogers, Duluth	April 19, 1951 to July 1, 1959
Senator Chas W. Root, Minneapolis	July 1, 1959 to June 8, 1961
Senator Thos. D. Vukelich, Gilbert	April 19, 1945 to April 19, 1951
Senator Arne Wanvick, Duluth	July 1, 1965 to January 4, 1971
Senator Donald O. Wright, Minneapolis	June 8, 1961 to January 4, 1971
Representative Elmer E. Berglund, Bemidji	April 21, 1959 to April 17, 1961
Representative Luke F. Burns, Virginia	May 1, 1943 to April 19, 1945
Representative Joseph J. Daun, St. Peter	May 1, 1943 to January, 1949
Representative Emil C. Ernst, Lester Prairie	April 21, 1949 to April 21, 1955
Representative Alfred France, Duluth	January 29, 1963 to June 30, 1965
Representative Art Frick, Sr., Grand Rapids	January 29, 1963 to June 30, 1965
Representative Peter X. Fugine, Virginia	April 21, 1955 to April 17, 1961
Representative Charles L. Halsted, Brainerd	April 21, 1955 to April 21, 1951
Representative Charles L. Halsted, Brainerd	April 17, 1961 to June 30, 1967
Representative Sidney R. Mason, Duluth	January 5, 1971 to January 2, 1973
Representative Warren S. Moore, Duluth	April 19, 1951 to April 21, 1955
Representative Willard M. Munger, Duluth	April 21, 1959 to April 17, 1961
Representative Duane Rappana, Duluth	July 1, 1965 to January 4, 1971
Representative Chas. W. Root, Minneapolis	April 24, 1947 to April 19, 1951
Representative Loren S. Rutter, Kinney	April 17, 1961 to January 29, 1963
Representative Roger H. Scherer, Brooklyn Center	January 5, 1971 to January 2, 1973
Representative Fred Schwanke, Deerwood	May 1, 1943 to April, 1955
Representative Arne C. Wanvick, Duluth	April 17, 1961 to January 29, 1963
Representative Raymond O. Wolcott, Minneapolis	July 1, 1969 to January 4, 1971
Commissioner Robert L. Herbst, Conservation*	July 20, 1966 to January 20, 1967
Commissioner Jarle Leirfallom, Conservation*	January 20, 1967 to January 4, 1971
Commissioner Wayne Olson, Conservation*	July 1, 1963 to July 19, 1966
Commissioner Clarence Prout, Conservation*	January 4, 1961 to June 30, 1963
Commissioner George A. Selke, Conservation*	May 1, 1955 to January 4, 1961
Commissioner Chester S. Wilson, Conservation*	May 1, 1943 to May 1, 1955

\*Now known as Department of Natural Resources.

# The I R R & R

## ..... 34 YEARS

At its inception, the Department of Iron Range Resource and Rehabilitation (IRR&R) was charged with the development, promotion and economic diversification of those distressed counties where natural resource exploitation and depletion had or was occurring. At present, twenty-two counties comprise the service area of the IRR&R (See Map 1). Programs are continually being undertaken to conserve and promote the environmental and humanistic potentials of this endowed Northern Region.

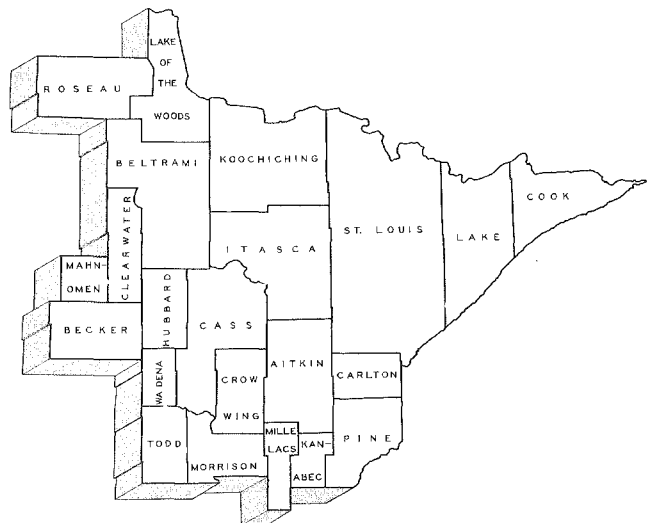
The objectives of the IRR&R are to promote sound resource management, a well trained work force and assist in technological advancement. These objectives are recognized as dominant forces in shaping an area's economy and quality of life. Cooperation and comprehensive research and planning are IRR&R's means to accomplish such objectives.

Since 1941, IRR&R's areas of involvement have included research and contributions for the development of:

- |                |                       |
|----------------|-----------------------|
| .agriculture   | .water surveys        |
| .forestry      | .topographic mapping  |
| .peat          | .geological mapping   |
| .wild rice     | .vocational training  |
| .copper-nickel | .industrial expansion |
| .taconite      | .etc.                 |

This 16th biennial report will focus mainly on those new and ongoing projects carried on by the Division of IRR&R for the 1972-1974 years.

Examples of IRR&R's vigorous participation in forestry and aesthetic beautification projects and the promotion of the tourism and recreation industry will help in telling our story and describing our regional impact.



## ..... TACONITE, TAXES, TOMORROW

Legislation has paralleled the economic and social revitalization needs of Northern Minnesota. In 1941, the 52nd Legislature conceived a law which established the Office of the Commissioner of the IRR&R. The Act allocated 5% of the iron ore occupation tax to be annually earmarked as the Department's funding base. In 1943, a seven man advisory board consisting of three Senators, three Representatives and the Commissioner of Natural Resources was created. The IRR&R Commissioner is appointed for a four year term by the Governor and those comprising the Advisory Committee serve two year terms. The original law permitted a wide latitude of power and duties for the Commissioner in resource development and was expanded further in 1957 to include the conveyance of real estate on a loan basis for business and industrial projects. This has enabled IRR&R to purchase buildings and machinery and then loan them to private firms on a lease-purchase contract.

The Taconite Amendment, a 1964 state referendum, was a turning point for Minnesota's mining industry, which had been declining with the depletion of natural ore sources. The Amendment guaranteed mining companies a 25 year period free from tax increases. Further incentive for the taconite expansion was accomplished in the 1974 Legislature which allowed that any major taconite facility which was in construction by mid-1974 would be exempt from the state's four percent sales tax on construction materials. This exemption was recently extended through January, 1975. Within the last year, two new taconite plants and three taconite expansions have been announced.

Taconite production has more than doubled in the past decade. Contrarily, natural iron ore production has experienced a tremendous downward reversal since its peak of 1955. Co-existent with the decrease in natural ore mining was the diminishing budget of IRR&R. IRR&R's economic viability was dependent on

the natural ore occupation tax. In order to alleviate this decline in revenue, the 1973 Legislature clarified the Department's funding base as originally put forth in Minnesota Statute 298.22 and passed a law that would allow the Department to receive one cent per ton of the production tax on taconite and a percentage of the taconite occupation tax in addition to the original allocation from natural ores. The significance of this legislation in receipts to the department can be seen by the following:

<u>1972-1973</u>	<u>1973-1974</u>
<u>Taconite Production Tax</u>	
\$365,280.29	\$478,713.60
<u>Taconite Occupation Tax</u>	
Law passed in 1973	\$182,870.13*
	\$341,208.43
<u>Occupation Tax (Natural Ore or Iron Ore)</u>	
\$318,983.52	\$441,644.06
<u>Total Receipts</u>	
\$684,263.81	\$1,444,456.22

(\*The 1973 tax but not received by the Department until 10/73).

Total iron ore shipments were higher in 1973 than they had been since 1957. Taconite pellets comprised nearly 71% of the total output which was a 13% increase over 1972's taconite production.

Most authorities agree that taconite production will level off at around 65 million tons per year. If this should be, Minnesota's taconite industry is two-thirds of the way to maturity. Competition, the national and international economy, energy and technological advance all will have a bearing on future development.





Forest Plantation.

#### ..... DIVERSIFICATION

During the years from 1941 through 1974, the economy of the area has been virtually dependent upon the mining industry's market. Twenty years ago, Minnesota's ore shipments totalled 22% of the world's production. Today, they are less than 7%. Orderly growth is projected for the taconite industry but economic vitality of the area will be assured if the vast timber industry continues to thrive and the tourism industry continues to expand.

The IRR&R has continually assisted with this progressive economic outlook through seeking out new and alternate resources for research and emphasis.

## Forestry

#### ..... RESOURCES THROUGH RESOURCEFULNESS

In the years preceeding 1900, the State of Minnesota was a leader in the production of pine lumber. Between 1900 and 1920, only cut-over and burned over lands remained to validate the existence of the resource. However, a second growth, a species other than pine, rapidly took hold on these lands. Forest productivity had been reinstated but as in the past, little emphasis was placed on preservation measures, i.e., fire prevention, forest production, etc. Land management was limited in scope to the wood industry and the forest's economic ability. As times changed, so did the demands for forest utilization. Today, forest management has grown in magnitude from "sales to industries". Multiple use programs embody recreational, wilderness, water and wildlife resources.



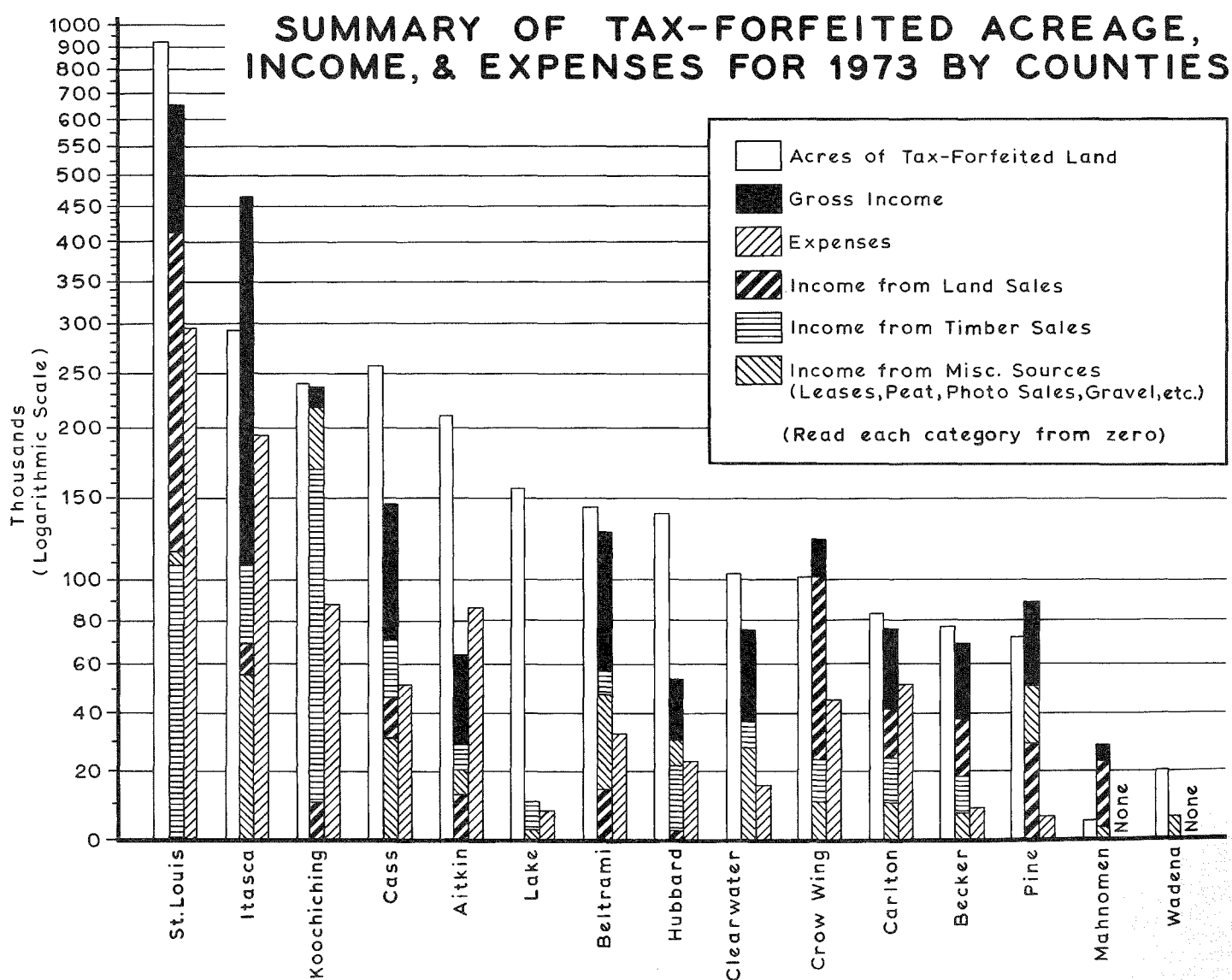
For the past 34 years, the Forestry Division of IRR&R has contributed financial and technical assistance in its effort to promote long range forestry programs and the wood products industries. In doing this, the Division works in cooperation with agencies of the county, state, and federal government as well as with private timber producers and operators.

#### ..... COUNTY COOPERATIVE FORESTRY PROGRAM

Since the beginning of the forfeiture laws in Minnesota (1935), over 9,000,000 acres of land have reverted to the taxing districts for the nonpayment of taxes, to be held in trust by the

State of Minnesota. This land is then administered by the county in which it lies. Most of these forfeitures occurred on either marginal farm lands, or cut-over forest lands in Northern Minnesota. IRR&R foresters participate in the management services for some 3,000,000 acres of this land.

In 1973, production of forest products from this land totalled 13,883,500 board feet and 245,990 cords. The counties realized a return on stumpage in excess of \$674,000.00 for the year (1971 stumpage return being \$306,700.00). The 1973 gross income derived from all sources involving tax-forfeited lands was in the neighborhood of \$2,300,000.00.



# FORESTRY DATA BY COUNTIES – 1973

	<u>Aitken</u> <sup>1</sup>	<u>Becker</u>	<u>Beltrami</u>	<u>Carlton</u>	<u>Cass</u>	<u>Clearwater</u>	<u>Crow Wing</u>	<u>Hubbard</u>	<u>Itasca</u>	<u>Koochiching</u>	<u>Lake</u>	<u>Mahnomen</u>	<u>Pine</u>	<u>St. Louis</u>	<u>Wadena</u>	<u>Totals</u>
Timber Income	\$27,587	\$17,963	\$57,561	\$ 8,839	\$70,677	\$30,343	\$23,420	\$23,397	\$109,542	\$173,948	\$10,975	None	\$ 640	\$109,596	\$ 1,510	\$673,998
Total Income	\$64,082	\$67,684	\$133,139	\$74,967	\$148,010	\$75,411	\$131,072	\$56,023	\$477,419	\$245,882	\$14,328	\$30,243	\$84,851	\$656,988	\$ 2,587	2,262,686
Tax-Forfeited Acreage	224,655	75,700	144,887	82,047	260,995	102,160	100,698	140,316	290,471	287,211	157,371	5,165	70,253	943,917	20,080	2,906,196
Park Commission	Yes	No	No	Yes	No	No	No	Yes	No	No	No	No	No	No	Yes	
Acres in County Parks Total	10,000	—	2,975	200	6,080 <sup>2</sup>	53	50	3	—	355	None	NA	None	None	100	19,496
Acres in Memorial Forests	115,952	56,460	22,239	1,620	189,783	78,165	5,000	25,017	208,764	None	29,067	640	None	525,992	None	1,258,699
Timber Drain - Cords <sup>3</sup>	11,251	4,497	32,593	1,695	23,047	10,388	3,257	8,614	55,500	62,785	10,894	NA	NA	44,685	NA	269,886
Active Timber Permits	144	60	230	24	60	147	53	115	251	342	36	2	NA	NA	NA	1,464
No Trees Planted to Date <sup>4</sup>	3,120,000	1,416,000	3,060,500	1,098,500	2,429,000	2,169,000	1,500,000	2,302,000	10,708,200	5,111,000	322,000	557,000	35,000	8,737,000	1,733,200	44,358,700
Public Access Roads - Total	11	—	None	5	None	15	None	11	4	12	—		NA	None	11	69
Snowmobile Trails - Miles	86	—	None	60	None	None	None	12	25	81	—	NA	41	None	15	320
Leases - Total	31	47	33	123	61	22	27	30	335	57	223	NA	9	1,000	5	2,003
Developed Campsites - Total	30	—	None	2	None	50	None	1	1	9	—	NA	NA	None	11	104
Apportionments <sup>5</sup>	\$ 5,715	\$40,809	\$40,655	\$ 9,115	\$70,633	\$49,902	\$36,252	\$16,064	\$128,141	\$126,273	NA	\$19,425	\$61,617	\$291,090	\$ 2,410	\$899,101
No County Employees in Land Depart.	4	1	4	2	5	3	3	2	4	7	0	0	0	16	0	50
No IRRRC Personnel Assigned to County	1	¼ <sup>6</sup>	0	0	1	0	1	0	2	0	1	0	0	2	0	8¼

NA - Not Available

1 - Operate Long Lake Conservation Camp

2 - Proposed

3 - All Volumes Converted to Cords

4 - With IRRRC Assistance

5 - 20% Towns, Villages and Cities

40% Counties

40% Schools

Misc. Appor =

6 - Forester Assigned ¼ - time only



Site Preparation for Reforestation

Each governmental agency has permanent personnel to help manage the forest resources under its jurisdiction. The Federal Government carries the most people utilizing 6.0 fieldman per 100,000 acres (1969 figures); Minnesota's Division of Lands and Forests is next with 1.8 fieldman for the same amount of acreage. Through the County Cooperative Forestry Programs, IRR&R provides 8.25 fieldman to counties on a 50-50 salary basis to assist their fieldman in carrying out the numerous phases of forest management. At present, there is a complement of nine men who are assigned to the counties of; Aitken, Cass, Becker (part time), Crow Wing, Itasca, Lake and St. Louis. These men are assisted and coordinated by the headquarter staff which comprises the County Forestry Assistance component of IRR&R's forestry program.

Services provided to the counties through the Cooperative Forestry Division include; timber management, reforestation, marketing of timber, scaling, timber stand improvement, timber inventory, timber sales, inventory maintenance and watershed management. In the area of recreation, they have assisted in the development and management of campgrounds, parks, lakeshores, hunting leases, snowmobile trail layouts and public access areas.

#### ..... COUNTY FORESTRY ASSISTANCE PROGRAM

In addition to the land management duties on tax forfeited land, ongoing projects of this Division include:

- Forest Inventories

A timber inventory, township by township, was begun in Itasca County during this biennium and is still in progress. This inventory is like others done in the past and is accomplished through aerial photos along with twenty percent ground checks. Through information received from these inventories, recommendations for; timber harvesting, planting, stand improvement, cuttings, volumes available and growth rates by species can be given. Each year an update of the inventories is conducted by cruising, adding forfeitures and deleting land sales.

The Division has placed special emphasis on this feature of the forestry program in an effort to aid the counties and timber industry. Through proper inventory and forest management it is possible to realize profitable results. On the preceding page is a table which breaks down forestry data by counties for the 1973 year.

- Land Ownership Maps: These maps are printed for 21 counties and show public and private ownership. This is a cooperative project with the Special Research Division of IRR&R and will be discussed in detail in that section.

- Corner Post Relocation: This program commenced in 1951 and continued through the middle of 1973. The objective of the program was to relocate corner markers (originally placed between 1856 and 1903) and replace them with durable markers. Nine counties took advantage of this program. These were; Aitkin, Becker, Cook, Crow Wing, Itasca, Koochiching, Lake, St. Louis and Wadena.

In the foregoing section, the importance of forest management and land classification has been emphasized. Supportive to this primary program are several minor programs. Not the least of these programs is the public information program which is continually being conducted by the Division. Articles by staff foresters appear regularly in State publications and numerous programs of conservation education have been instituted. These supportive programs and projects include:

- Price and Marketing Report: A biannual bulletin giving the range and average prices paid for stumpage, wood products and lumber has been provided since 1958 by the Division. Producers, dealers and government agencies are contributors to this report. The report, entitled "Minnesota Forest Products Marketing and Pricing Review" is available for distribution to interested individuals.

- Reproduction Value Reports: These reports provide the counties with per acre values of various species. They are prepared by the

Department and used in the appraisals of land and timber that is to be put up for sale.

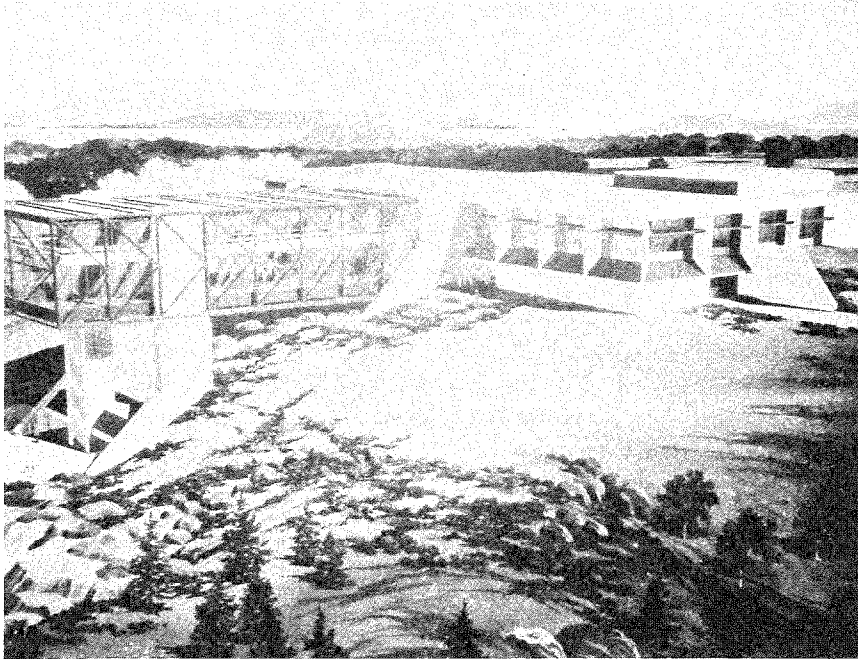
- Tree Growth Tax Reports: The Division has been preparing tree growth tax tables for the counties. These reports and tables are updated every two years because of the fluctuating value of timber stumpage. To make these reports uniform, the Department of Natural Resources provides the stumpage prices to be used in computing this tax.

- In-Depth Study of Tax-Forfeited Lands: A study in cooperation with the North Central Forest Experiment Station was begun on county tax forfeited land. This study is looking into the processes that have taken place and resources available in order to determine what affirmative programs should be taken to develop the lands and resources to their full potential.

- Voyageur National Park Appraisal: The IRR&R was designated by the Department of Administration to make a timber appraisal and land classification on the tax forfeited lands which were transferred to the Federal Government in connection with the establishment of the Park. Since the time of the initial appraisal (1972), the Department was asked to update the information based on new stumpage and reproduction values. The complete appraisal covered 7,075 acres in both Koochiching and St. Louis Counties with a timber appraisal of \$271,090.00.

- Block Land Sales: The Department provides assistance to the counties when large land block sales are to be held. The personnel are assigned to assist with the field work on a temporary basis.

# Tourism



Interpretative Iron Range Center.

- Reforestation Program: Reseeding experiments have been conducted in St. Louis, Cass, Lake and Hubbard Counties. The experiments have involved broadcast seeding along with germination and survival observations.

Reforestation assistance by in-county personnel has also been provided to the counties through the Tree Planting Program. To date, this program has 44,000,000 trees credited to it: 1,125,000 of these trees were planted during the 1973 year.

- Long Lake Conservation Center, Aitkin County
- Cass County Deep Lake Park

The IRR&R has contributed both financial and technical assistance to these environmental education centers.

## ..... A FACT

Due to the diversity and quality of recreational and historical resources in Minnesota, especially Northeastern Minnesota, a comprehensive program has been developed to expand the tourism industry and approach a position of substantial economic return. The appeal of the Iron Ranges can be somewhat illustrated through visitor tabulations on existing facilities. These tabulations can also be considered as baseline figures when making projections on future user impact.

Minnesota Museum of Mining

- 35,000 visitors

Minntac Taconite Plant Tours

- 17,000 visitors

Sherman Mine Overlook

- 49,591 visitors

Viewpoint in the Sky

- 73,597 visitors

Tower-Soudan Underground Mine

- 66,424 visitors

(Figures represent an operating season of three months, June through August, 1973).

Another facility which demonstrates visitor impact is the Thomson Hill Visitor Information Center (also in operation for a three month season) which tabulated visitors stopping and requesting regional information at 67,690.

The Voyageurs National Park, now in the planning and developmental stage, has projections of more than a million visitors during the four month summer season and is expected to generate \$22 million in retail and service trade. This Park will again effect the visitor impact for the area as the major access routes to the Park will pass through the Mesabi Range.

#### ..... A START

The Iron Range Trail was established in 1969 by the Legislature to point out those existing attractions of the mining industry. The Trail is a tour across the State's three Iron Ranges and related points on the North Shore of Lake Superior. The Trail, now under the management of the Minnesota Department of Natural Resources, was given much publicity and as a result, attracted many tourists to the mining region. In an effort to generate a greater tourist economy, the Minnesota Department of Economic Development expanded on the Iron Range Trail concept and a comprehensive program for visitor accommodations was developed, namely, the Iron Range Interpretative Program. For the past two bienniums, the IRR&R has expended funds and staff to assist in the development of this program.

#### ..... A REALITY

Nineteen-seventy-four saw the Iron Range Interpretative Program take its first major step. Through funding received from the Economic Development Administration, Minnesota Resource Commission, Upper Great Lakes Regional Commission, Bi-Centennial Commission, the City of Chisholm and the IRR&R, construction was begun on the Major Interpretative Center. At completion, the Center is projected to attract 250,000 visitors annually, employ 21 persons, generate \$3.2 million primary impact and \$9.7 secondary impact.

To adequately tell the story of Minnesota's Iron Mining Regions, the Iron Range Interpretative Center (IRIC) will provide five major categories of functions:

- Geological and Natural History Interpretations
- Historical and Cultural Interpretations
- The Era of Natural Ores
- The Taconite Age
- Today-Tomorrow

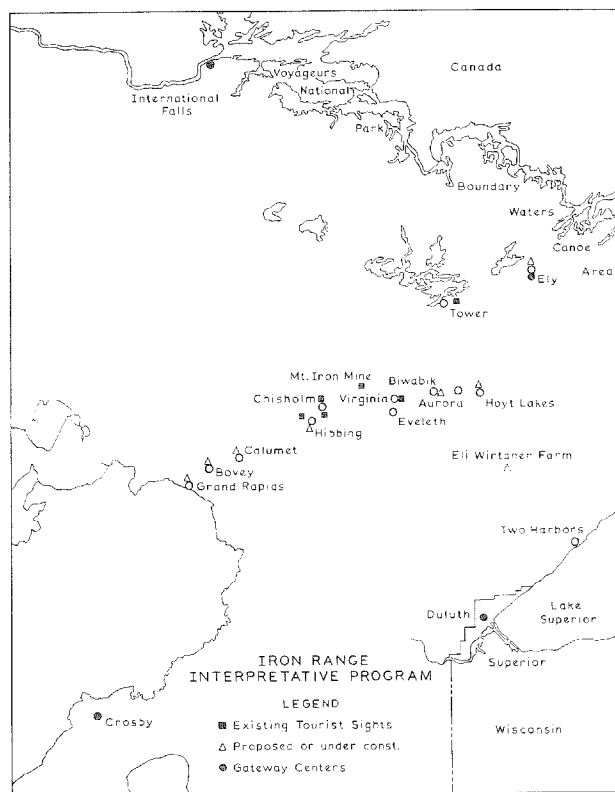
The methods that will be employed for information transmittal will be; models, literature, audio-visual presentations, photographic techniques and participatory activities as well as imaginative displays and exhibits.

The major structure will consist of two separate levels with each designed to serve a separate function and take full advantage of the unique topographic features of the site that is immediately adjacent to it, namely, the Glenn Mine (which is located in the Southwest corner of Chisholm).

The Center is to be complimented by the following seven components:

- Gateway Interpretative Centers
- Mining Observation Areas
- Old Calumet Restoration
- Iron Range Tours
- Geological and Natural History
- Pioneer Life Museum
- Iron Range Trail Development

All of these elements together result in a drama of industrialization, settlement and community development unique to America. Description of and programs towards the development of the preceding seven complimentary components to the IRIC are as follows:



● Grand Rapids Forest Interpretative Center: This facility will describe the history and development of the early lumber industry and trace its development and impact up to the present. Several outdoor exhibits will be provided as well as attendant recreation facilities.

● "Grace," Living Art Center: IRR&R has funded the planning phase for an art center which will commemorate Eric Engstrom's world famous photograph titled "Picture Grace". This Center will be a focal point and studio or artists and photographers.

● Old Calumet Restoration: IRR&R has provided the planning monies which will assure the success of the restoration of a typical roaring 1920's mining town. Here, tourists will be able to see and tour an open pit mine and experience the living past.

● Heritage Trails Center: Located on the outskirts of Biwabik, this center will explain the significance of the three historic trails which cross here: Voyageurs Highway, the Vermillion Trail and the Mesaba Trail. The latter two trails were cut by iron ore employers and were instrumental in the discovery and development of iron ore.



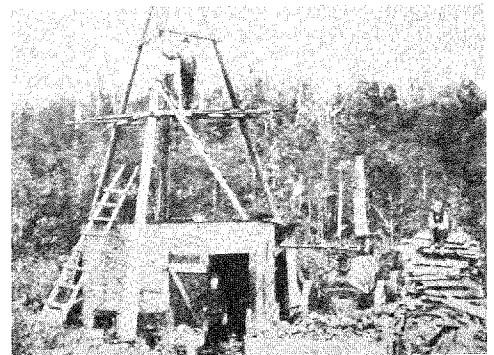
- E. J. Longyear Diamond Drill Test Pit: Just north of Hoyt Lakes, E. J. Longyear drilled the first diamond drill test pit on the Mesaba Range. This test pit was instrumental in the development of iron ore mining on the entire range. The East Range Historical Society, with help from the Longyear Company and family, the Erie Mining Company, the Duluth Mesaba and Iron Range Railroad and the IRR&R will reproduce the diamond drill on the exact site and develop the surrounding area to accomodate the visitors.

Voyageurs Cultural Center: A description of Minnesota's earliest employers and their exploits will be presented in this Center located in Ely. This facility is sponsored by the Vermillion Community College and has received endorsement from the Minnesota State College Board. IRR&R has been assisting the College in their efforts to obtain state and federal financial assistance.

- Pioneer Life Museum: Efforts in this area are of a long range nature and will entail the description of ethnic cultures and groups with the reconstruction and restoration of their homes and businesses. For example, the St. Louis County Historical Society is now restoring the Eli Wirtanen farm near Markham. This early 1900's Finnish homestead has ten buildings typlifying several different building techniques.

- Gateway Interpretative Centers: In addition to the main Major Interpretative Center, a number of "gateway interpretative centers" are suggested at strategic entrances to the Iron Range Trail Country. Nine such sites have been considered. The role of these centers is to give the visitor, the important initial contact with the Iron Range Country and to provide them with information about the Major Interpretative Center, related attractions and accomodations. Visitor accomodations would be made available.

The proposed centers and programs will continue to be complimented by the before mentioned existing attractions such as the mine observation stands and sites at; Hull-Rust, Mt. Iron and Rouchleau Mines. Also included in the program are the taconite tours, the Chisholm Museum of Mining and the Tower-Soudan State Park. A major function of this comprehensive program is to develop a means to focus attention to this unique heritage, promote Minnesota's three Iron Ranges for tourism and establish a broad scope of economic impact to foster, stabilize and diversify the economy of the entire Iron Range.



E. J. Longyear Drill Site.

# Special Research

The Division of Special Research Projects is responsible for the development and examination of all potential IRR&R programs. It is also responsible for the management of those programs which are not confined to specialized areas. Through the Division's recommendations, IRR&R has allocated high investments to research in both the taconite and copper-nickel industries. Other recommendations have resulted in IRR&R's participation with the:

- U.S. Geological Survey in an Iron Range water study and the publication of copper-nickel geological maps;
- Duluth Board of Education in farm management programs
- University of Minnesota Soil Science Department in peat research
- State Department of Conservation in the Upper Rice Lake wild rice project and the Shannon River Dam
- Upper Great Lakes Regional Commission in financing the Coho Salmon project
- Nett Lake Reservation with the wild rice production demonstration project.

Although these examples are not exhaustive, the following section will deal with those projects that are on-going during this biennium.

## ..... PEAT

For 11 years, the only research that has been done with peat in Northeastern Minnesota has been carried out and funded by the IRR&R in cooperation with the Soil Science Department, University of Minnesota. Peat research was discontinued during the present biennium

although technical assistance was provided to three active producers, these being; The Northern Peat Company (Aitkin County), The Mesabi Grow or Power-O-Peat (St. Louis County), and the Midwest Peat Company (St. Louis County). Peat is being produced by these companies for agricultural and horticultural purposes.

To date, a complete inventory of peat resources has not been completed but 53 peat areas of varying sizes have been partially or completely surveyed; this being approximately 155,000 acres of the 7.5 million acres in the State. Aitkin, Beltrami, Koochiching and St. Louis each have more than one million acres of this total.

Of the several varieties of peat found in the United States, only two types, sphagnum moss and reedsedge peat are commonly harvested. Most of the marketed peat is of the sphagnum type which is imported from Canada, the largest peat producers in North America. Minnesota contains nearly all of the sphagnum moss reserve in the United States however, Michigan is presently the largest produced with the reedsedge type.

## ..... PEAT AN ALTERNATE FUEL

The fuel crisis during the winter of 1973-74 created a new interest in peat for use as a fuel. The Department of Economic Development organized a group to investigate this possibility. A proposal was prepared under which the facility at Wilderness Valley Farms would be used for the peat source and where harvesting methods would be developed.

Experiments in burning were to be done at one of the small communities on the Iron Range that employed coal fired furnaces for steam heat. Also to be used was one of the heating plants at the University of Minnesota.

The proposal was held up due to lack of funding but plans are now underway to reactivate the experiment.

## ..... PEAT SAND FILTERS

Based on extensive research done at Wilderness Valley Farms and the Virginia Sewage Treatment Plant, the United States Forest Service has built peat-over-sand sewage treatment filters at their campgrounds at Norway Beach on Cass Lake, North Star Lake and Cut Foot Sioux Lake. Dr. Farnham of the University of Minnesota and the Special Research Division provided data, diagrams and advice in the planning of the filters. On-site inspection and advice was later provided as the construction progressed and further aid provided in eliminating operational difficulties.

The Division Supervisor participated in a meeting on the first year's operation in January, 1974 at which time results, problems, monitoring and future operation were discussed. In August of 1974 the filters at Norway Beach were displayed to officials of the E.P.A., S.C.S., The U.S. Army Corps of Engineers, F.H.A., the University of Minnesota, Minnesota Highway Department, consulting engineers and city officials. This treatment facility is capable of handling sewage from the equivalent of a city of 3,500 people.

The results available from the constant monitoring required by the E.P.A. meet all the E.P.A. guidelines. Some of the results showed that 99.8% of the phosphates were removed, almost 100% of the B.O.D. and coliform bacteria eliminated, and ample nitrogen removal. More will be known after the system has been operated and monitored over a longer period.

The Forest Service now has nine of these filters in operation throughout the United States. It is a filter that is relatively inexpensive, very effective and adaptable to campgrounds and small cities.

This is just one example of how peat, an abundant natural resource in Northern Minnesota, can be used to solve a major problem in the country.



Norway Beach Sewage and Treatment Facility.

## ..... BUILDING DEMOLITION PROGRAM

In 1971, the Legislature made provisions for each municipality to levy monies for the demolition of dilapidated buildings. Under the direction of IRR&R, the program was developed through three phases. The first phase was to conduct a preliminary survey to locate the abandoned and dilapidated buildings. Local officials were contacted for descriptions of the properties and the status of each was checked through the County Register of Deeds. The second phase was to conduct a field inspection of the buildings. After the on-site inspection was made, reports were turned over to each municipality concerning the condition of the structures. The final phase of the program was to demolish the buildings in the most economical and reasonable manner possible after reports had been processed through legal channels. To date, 400 buildings have been razed. The areas that have participated in this project extend from International Falls to Two Harbors. The program is anticipated to carry well into the next biennium.



## ..... BIWABIK SEWAGE PROJECT

The present sewage treatment facilities for the City of Biwabik are not adequate to meet P.C.A. regulations and the city lacks funds to build the necessary system. Based on a system observed in Finland in 1972, Dr. Farnham and the Division Supervisor designed and proposed a sewage system for the city using peatlands in place.

The system in use consists only of stabilization ponds which are flushed twice a year (spring and fall) with the effluent ending up in Embarrass Lake. The proposed system would take the wastewaters from the stabilization ponds and put them into a series of ditches in the adjacent peat bog. Intercept ditches would carry off the filtered wastewater which would eventually be returned

to the ground waters. This is the system used for 19 cities in Finland.

Drawings, monitoring frequencies, cost estimates, etc. were worked up and meetings held to get preliminary approval from the P.C.A. and City officials. A detailed cost and operational plan were prepared with financial aid to be sought. This was submitted to the A.R.C.D. for clearance of all involved in the area.

After clearance, the proposal was submitted to the E.P.A. in Washington, D.C. for financial assistance. Although they felt it was a worthwhile project, no funds were available. It was then reworked and submitted to the Upper Great Lakes Regional Commission. They are no longer able to find projects such as this and the City is still in need of a new treatment facility.

It is the feeling of those involved in working on this project that the system eventually be tested and proven in this country. Another natural resource will thus be used with application especially adaptable in Minnesota with its many peat bogs.

#### ..... ABANDONED VEHICLE PROGRAM

The 1971 Legislature made provisions for the implementation of this pickup and recycling program through funding derived from the additional transfer tax on motor vehicles. Administration of the program is the responsibility of the Minnesota Pollution Control Agency (MPCA) with assistance from local governmental agencies.

In order to initiate the program in Northern Minnesota, the IRR&R assisted the MPCA by compiling an inventory of abandoned vehicles and obtaining releases for the same. St. Louis County was split geographically with the Duluth Planning and Zoning Office in charge of the southern area and the IRR&R in charge of the northern section. As Itasca County has an agency in charge of vehicles, releases of cars in that area were turned over to be included in their program.

During this biennium, collection has been implemented in the Tower, Soudan and Ely areas. Approximately 350 vehicles were inventoried, mapped, bid on and removed. Cleanup of two large junkyards is expected to be completed in the near future by private dealers.

A second collection was organized and contracted which covered an area from Hoyt Lakes to Hibbing and south to Floodwood. This

collection has now been completed with approximately 700 vehicles removed and transported to scrap processors in the Twin Cities. This last collection covered those vehicles that were available on a voluntary basis. The effect on the environment is noticeable.

Some rural areas remain to be canvassed and will be the next target of the program. It is hoped that collection sites will be set up in the future and an ongoing program will result.

#### ..... LAND OWNERSHIP MAPS

The land ownership map program which has been continuous since its start in 1962 was continued during the biennium. These maps indicate state, county, federal and private ownership and are available for 21 counties in Northern Minnesota. As previously discussed, the Division of Forestry makes use of these maps through the land classification program as well as in determining timber inventories. Some of these maps have been reprinted as many as five times to meet the demand for distribution. As suppliers are exhausted, the Forestry Division provides up-to-date ownership and the Special Research Division takes care of the map revisions, printing and distribution. Map revisions during this biennium include; Aitkin, Itasca, Koochiching, Lake and St. Louis Counties.

#### ..... WILDERNESS FARMS

This 520 acre complex of land which is located in Zim, was donated to the IRR&R in 1964 by the Chun King Corporation. The complex includes; farmland, peat bogs, wild rice fields and cultured sod harvesting areas. Programs of research and experimentation have continually been developed and completed on this acreage.

The cultured sod program, which was initiated during the last biennium, continued through 1973. Through this program, sod and hay fields were leased at rates which were calculated on the number of yards of sod or hay removed. Northrup King did some additional research with Poa Trivalis and Holifer Bent grass seed. No work was done at the facility during 1974 and most of the antiquated equipment was disposed at a public auction. Future plans are to turn the facility over to either the University of Minnesota or the Department of Agriculture for continued research work.

## ..... OTHER PROJECTS

- Topographic Maps: The topographic map inventory is still maintained. Complete books of the state-wide coverage as well as the current mapping status and indexes are housed in the Hibbing and St. Paul offices and are available to the public for reference.

- Carey Lake: The Carey Lake area has been proposed and studied as a possible recreation area. At the request of the Town of Stuntz, assistance was furnished in the preparation of an environmental impact statement.

# Projects

## 1973-1974

Because of the latitude which IRR&R has been extended in the initiation of new and innovative projects, there are some that do not specifically

fall into any designated division and are handled by the Administrative Division. Most of these projects are of a cooperative nature between local or other state agencies. Projects which were terminated during the 71-72 biennium included; gravity mapping, U.S. Geological Water Survey, tourist information center, etc. Those projects that were continued or initiated during this biennium are:

- Snowmobile trail development: To date, there had been no coordinated snowmobile trail system in Northeastern Minnesota by which to accomodate those who partake in the sport. Safety factors as well as recreational demands pointed out the need for such trail development. During this biennium, a consultant was hired by IRR&R to assist with the development of a multiple-use trail which would extend from Ely to Grand Rapids, Minnesota. Upon completion of such groundwork, the Department of Conservation expressed their interest in incorporating this 120 mile long trail into the State Trunk Trail System. An agreement was worked out whereby the Department of Conservation was charged with the purchase of easements and control of the Trail. IRR&R was to act as an advisory to trail development. In conjunction with the trail development, IRR&R purchased two trail groomers which will be used to groom the State Trunk Trail as well as local snowmobile routes. This portion of the State Trail is now complete and ready for use.

- Summer work program: To fill in the void that was left by the conclusion of the Neighborhood Youth Corps, the IRR&R instituted a work program which is directed to college-age youths who are financially depressed. The IRR&R employed approximately 35 youths during the summer months with most of the assignments being directed toward municipal projects.

# Assistance To Private Business

The following is a descriptive listing of industries which have been assisted by IRR&R. It includes those businesses which were given additional or continued assistance during the biennium and those which were newly initiated during the 1973-74 period.

Under the industrial loan program, IRR&R purchases the buildings and/or machinery and makes them available to private operators on a lease-purchase contract. In those situations where the Department is unable to provide the total amount of monies needed by the industry, participatory loans with other agencies, private persons or institutions are enacted.

## **DULUTH FILTER COMPANY - Duluth**

This firm manufactures three types of filters. The first, a large industrial filter, is used in U.S. Steel ore boats. The second, a smaller filter, is produced for trucks. The firm supplies these to such companies as Tanker Fleet Trucks and U.S. Steel. The third, and newest, is the ordinary automobile filter.

Duluth Filter has twelve full-time employees. Gross sales for 1974 reached \$325,000 with anticipated sales for 1975 at the \$500,000 mark. The company is under a lease-purchase agreement with IRR&R for \$26,000 worth of machinery.

## **MILLS CASH SALES - Grand Rapids**

IRR&R provided Mills Cash Sales with a building on a lease-purchase agreement. The company handles retail hardware sales in addition to the construction of prefab houses and garages. Fifteen people are employed with an annual payroll of \$150,000. The gross annual business is over \$800,000. In addition to the sales, the company adds expenditures in excess of \$175,000 to the local economy through contract building.

## **RAMSGATE, INC. - Eveleth**

Ramsgate, Inc. is probably the fastest growing industry under contract with IRR&R. The company presently has 170 full time employees and an annual payroll of over \$850,000. Its gross sales reached \$3.5 million in 1974 and local expenditures were in the area of \$200,000.

The company produces portable electronic calculators, printed circuits, electronic assemblies and provides engineering expertise for various firms. These finished products are sold to such companies as 3M, Control Data and the Health Corporation.

**POWER-O-PEAT COMPANY - Gilbert and  
Central Lakes**

This firm was established in 1962 with an equipment loan of \$50,000. The company produces blended peat moss, golf course mix and potting soil. The main products, which are known as Power-O-Peat and Mesabi Grow, are distributed in approximately 40 of 50 states. At the peak of the season, Power-O-Peat provides employment for approximately 40 people.

**MALTON ELECTRIC - Virginia**

The newest industrial project under contract with IRR&R is the fabrication plant of Malton Electric. This was an expansion of an already established operation.

Malton Electric manufactures transformer enclosures, sauna stoves, junction boxes, control panels and metal buildings. These products are delivered to approximately 20 states with the two largest accounts being; Graybar Electric of Minneapolis and T&R Electric Company of Coleman, South Dakota.

The new fabrication plant employs 18 full-time people with an estimated payroll of \$200,000. The new operation will exceed \$500,000 in 1975 sales.

**SAMCO SPORTSWEAR - Crosby - Ironton**

The Crosby plant of this St. Paul based firm employs 50 people on a full-time basis. Samco manufactures snowmobile suits and other winter outerwear and has surpassed the one million dollar mark in gross sales during the last biennium.

**MESABI DRILL AND TOOL, INC. - Chisholm**

Mesabi Drill and Tool produces high speed twist drills and has nationwide sales to such companies as; Ford Motor, General Motors, Chrysler and North American Rockwell. Their products are also sold to several smaller corporations as well as the local mining industry. IRR&R has a large investment in the machinery at this plant.

Mesabi Drill and Tool employs 75 people and has an annual payroll of approximately \$350,000.

**C.W.D.C. Industries**

The Community Work and Development Center is a non-profit organization specializing in the provision of training, placement and employment for handicapped individuals. There are branches at Virginia, Hibbing and Grand Rapids. Projects range from the construction of rough boxes, sauna projects, taconite bags and blister packs to car washing and cleaning. A new product innovated in the last years was the production of filter bags which are used by mining companies. Contracts for the production of the filter bags have been secured with U.S. Steel at Minntac and Eveleth Taconite.

There are 135 handicapped people and 30 staff members comprising the work force. The 1974 gross sales approximated \$320,000.

**RAJALA TIMBER COMPANY - Deer River  
RAJALA LUMBER COMPANY - Deer River**

Although two separate companies, both operations are owned by the same individuals. The total operation, a sawmill-chip plant designed to utilize second growth timber, begins at the



Rajala Timber Company and proceed to the Lumber Company for its final processing. The companies are primarily concerned with dry kilning and the custom service work for the framing lumber used in mobile homes. They also produce pallets, crating lumber and lumber for furniture manufacturers.

The timber operation employs 30 persons and has an annual payroll of \$240,000. Sales reached the \$1 million mark in 1974 and estimates for 1975 are at \$1.5 million.

Rajala Lumber has 10 full-time employees with an annual payroll of \$93,000. The 1975 sales are expected to reach the \$800,000 figure.

Financial assistance was afforded by IRR&R in cooperation with other agencies.

#### **HILL CITY BUILDING - Hill City**

During this biennium, the IRR&R has been working in cooperation with Aitkin County in an effort to transfer the ownership of the Hill City Building. The direct sale of a building is approved if such a sale is made to another governmental subdivision.

Aitkin County would utilize the building as a regional maintenance garage for the housing and repair of county vehicles. The acquisition of the building would create approximately five or six new jobs.

#### **LION SPRINGS PROJECT - Eveleth**

In conjunction with the growing tourism industry, IRR&R worked cooperatively with the Virginia Chamber of Commerce to upgrade and

improve this tourist information center located on Highway 53, South of Eveleth. The Department provided a grant of \$5,500, for the construction of a new building at the site. Summer employment was also provided for high school students at the project.

The Lion Springs Information Center registered one person every 8.5 minutes during its seasonal open hours. All fifty states, nine Canadian provinces and seventeen foreign countries were represented.

#### **RAINDUCKER MANUFACTURING CO. - Chisholm**

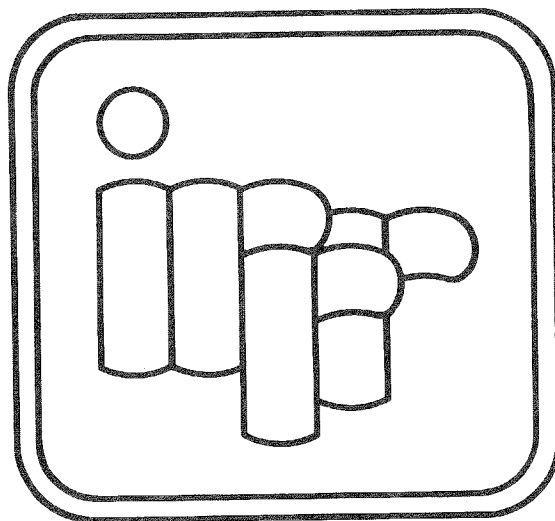
Rainducker Manufacturing Company of Chisholm, a branch plant of Rainducker, Inc., Duluth, has grown considerably during the last biennium. The number of employees is presently at 60 with an annual payroll of over \$100,000. Approximately 95% of the employees are females with an average hourly salary of \$2.50 per hour.

This company manufactures women's and childrens outer wear and began its operations last biennium.

#### **CLADWOOD CORPORATION - Virginia**

Cladwood Corporation is a branch of a successful Oregon firm and is in the production of decorating siding board, lap siding, press board and shutters. The company employs 60 persons. It has estimated gross annual sales of over \$2.5 million and provides in excess of \$250,000 in local expenditures. Cladwood is under contract with the Georgia Pacific Corporation and it distributes its products in all 50 states.

# Financial Report



## Receipts, Transfers, and Expenditures

RECEIPTS:	<u>1972-1973</u>	<u>1973-1974</u>
Balance brought forward July 1 . . .	\$539,169.20	759,886.28
Receipts from IRR&R Revolving Fund . . . . .	81,117.82	65,768.69
Misc. refunds from prior years' expenditures . . . . .	2,323.14	16.75
Reimbursement from 9 counties for services for IRR&R foresters . . .	58,808.36	58,039.78
Reim. from Pollution Control Agency for junk car removal . . .	17,656.22	— — — —
Refund from Commission on Taxation and Production of Iron Ore . . . . .	32,652.59	— — — —
Refund from Emergency Employ- ment Agency for 3 employees . . . . .	14,684.00	10,219.00
Refund from Game & Fish Div. of DNR for St. Louis County dam site . . . . .	<u>9,583.00</u>	<u>— — — —</u>
Total Receipts . . . . .	<u>\$755,994.33</u>	<u>\$893,930.50</u>

# EXPENDITURES:

## Transfers Out:

Univ. of Minnesota, Mineral Resources Research Center (Beneficiation of manganiferous and low grade ores) . . . . .	75,000.00	— — — —
Dept. of Administration (Utilities) . . . . .	— — — —	1,134.70

Total Transfers Out . . . . . \$ 75,000.00

## Projects:

Administration (Overhead) . . . . .	120,979.72	115,560.96
Forestry (Coop. County forestry assistance programs) . . . . .	203,341.14	209,290.28
Special Research Projects (Junk car removal; peat research) . . . . .	55,347.86	40,314.71
Conservation-type Work Projects . . . . .	21,439.72	31,082.72
County Cooperative Land Management Work Program . . . . .	22,196.40	32,500.00
Section Corner Post Relocation . . . . .	24,349.24	— — — —
Wilderness Valley Farms . . . . .	24,931.75	3,780.78
Dilapidated and Abandoned Building Demoiition Program . . . . .	12,163.73	91,080.74
Iron Range Interpretative Program . . . . .	24,767.16	80,670.69
Land Management Tourism Work Program . . . . .	— — — —	6,847.15
Multi-use Trail Program . . . . .	— — — —	25,533.24
Minnesota Geological Survey (Gravity surveying and mapping) . . . . .	10,000.00	— — — —
Mesaba Drill & Tool, Inc., Chisholm, Minn. . . . .	36,104.56	— — — —
N. E. Minnesota Tourist Information Center . . . . .	1,217.65	2,050.25
Pennee Frock Mfg. Co., International Falls, Minn. . . . .	16,093.83	— — — —
Rainducker, Inc., Chisholm, Minn. . . . .	3,347.95	4,085.91
Ramsgate, Inc., Eveleth, Minn. . . . .	29,091.15	— — — —
Malton Electric Co., Virginia, Minn. . . . .	— — — —	74,869.44
Old Calumet Restoration . . . . .	— — — —	20,000.00
North Star Research & Development Inst. (Study on St. Louis Co. split) . . . . .	— — — —	30,000.00
CWDC Industries, Inc., Grand Rapids, Minn. . . . .	— — — —	25,000.00
Robert R. Wallace (Ore taxation study) . . . . .	— — — —	2,500.00
Cook Clinic Facility . . . . .	— — — —	25,000.00
Range Center, Inc., Chisholm, Minn. . . . .	— — — —	15,000.00

Total Project Expenditures . . . . . \$605,371.86 \$ 835,166.87

Total Transfers Out and Project Expenditures . . . . . \$680,371.86 \$ 836,301.57

Balance June 30 . . . . . 75,622.47 57,628.93

Receipts from 5% of Occupation Tax on Iron Ore, June 30 . . . . . 318,983.52 441,644.06

Receipts from Taconite Production Tax . . . . . 365,280.29 478,713.60

Receipts from Taconite Occupation Tax . . . . . — — — — 524,078.56

Brought forward July 1 . . . . . \$759,886.28 \$1,502,065.15