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iron range resources and rehabilitation board
BIENNIAL REPORT

1984-1986



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iron range resources and rehabilitation board

To the Governor and Legislature of
the State of Minnesota

It is my pleasure to submit to the Honorable Rudy Perpich, Governor of the State of Minnesota, and the Seventy-Fifth Legislature of the State, this twenty-second Biennial Report of the Iron Range Resources and Rehabilitation Board.

This report has been prepared in compliance with Minnesota Statutes 1983, Section 298.22, Subdivision 2, for a period which includes fiscal years 1985 and 1986.

These have been exciting years for northeastern Minnesota as we continue to move toward less reliance on the iron and steel industry and focus our attention on economic development through diversification of our economic base.

This report is made available to members of the State Legislature, citizens, and public entities.

Respectfully submitted,


Gary Lamma
Commissioner



AN EQUAL OPPORTUNITY EMPLOYER

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PAST IRRRB COMMISSIONERS

Herbert J. Miller ★ July 1, 1941 - June 30, 1942
Robert E. Wilson July 1, 1942 - May 1, 1949
Ben P. Constantine May 1, 1949 - November 20, 1950
Edward G. Bayuk November 20, 1950 - April 30, 1955
Kaarlo Otava May 1, 1955 - January 4, 1961
Hyrom S. Sorenson ★ ★ January 5, 1961 - February 2, 1961
A.M. DeYoannes February 3, 1961 - May 1, 1971
Robert J. Scuffy May 2, 1971 - January 10, 1975
Frank Ongaro January 11, 1975 - December 31, 1978
Patrick J. McGauley January 1, 1979 - December 31, 1982

★ Director from July, 1941 to April 18, 1942.

★ ★ Acting Commissioner

PRESENT BOARD MEMBERS

State Senator Douglas Johnson, Cook, Chairman
State Senator Ronald Dicklich, Hibbing
State Senator Sam Solon, Duluth
State Senator Florian Chmielewski, Sturgeon Lake
State Senator Robert Lessard, International Falls
State Representative Joseph Begich, Eveleth, Vice-Chairman
State Representative Lona Minne, Hibbing
State Representative Loren Solberg, Bovey
State Representative Douglas Carlson, Sandstone
State Representative Paul Thiede, Pequot Lakes
Commissioner Joseph Alexander, Department of Natural Resources

IRON RANGE RESOURCES AND REHABILITATION BOARD

The Iron Range Resources and Rehabilitation Board was established in 1941. Its purpose was to address economic problems of northeastern Minnesota manifested by a boom or bust economy. Northeastern Minnesota had been established as one of the six so-called “permanently depressed areas” of the United States. The chief causes for this condition were the decline of the lumber industry due to the depletion of timber in the area and a drastic reduction of high-grade iron ore.

The Agency was originally charged with developing a rehabilitation program for the Iron Range by encouraging development in the following areas: mineral research, agriculture, forestry, mining, and tourism. During the 45 years since its inception, the IRRRB has continued to focus on the economic diversification of the Iron Range, adapting its services to meet the changing needs of the area.

The development of the taconite industry resulted in a long period of relative prosperity which greatly eased the economic pressures faced by the Iron Range. Recently, however, with the decline of the taconite industry, the Iron Range has found it necessary to look beyond the iron mining industry for continued economic growth. It has become more important than ever to concentrate on diversification.

Armed with a strong mandate from the Legislature, necessary statutory flexibility and sufficient financial resources, the IRRRB will continue to meet the challenges set forth in 1941.

Through a renewed emphasis on tourism and a viable wood products industry as well as an on-going minerals research program aimed at revitalizing the Iron Range mining industry, the IRRRB will remain a driving force in the recovery of the Iron Range economy.

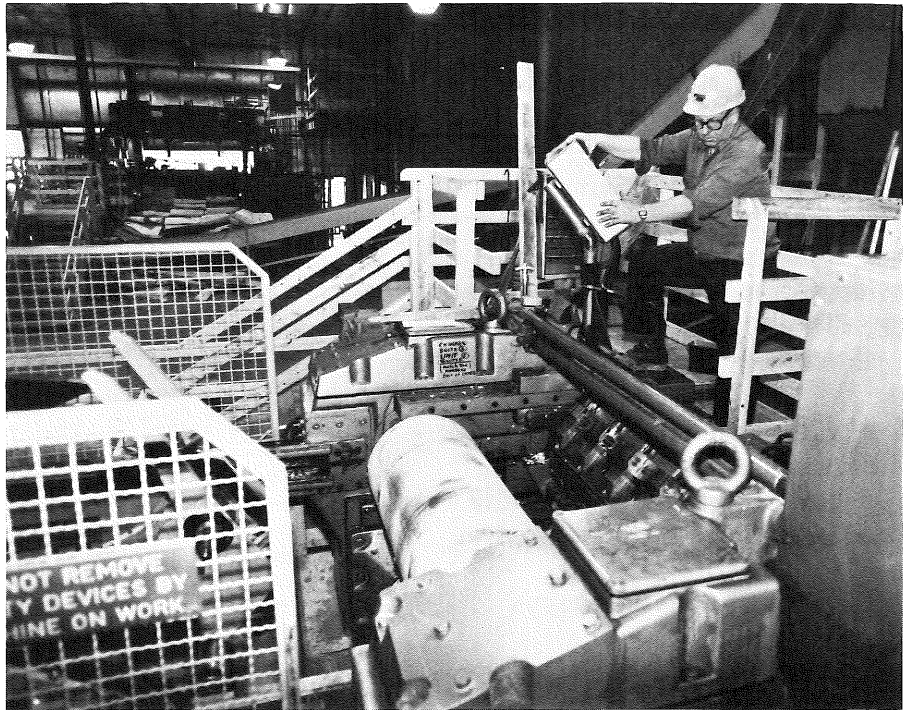


IRON RANGE ECONOMIC DEVELOPMENT

IRRRB's efforts in economic development through the promotion of tourism are well chronicled, but it must be emphasized that tourism is only one economic sector in which IRRRB has made noteworthy contributions.

Private sector business development is a less publicized but equally important area of IRRRB endeavor.

The wood products industry is a good example of a specific economic sector targeted by the agency for development. IRRRB has focused on wood products research using both in-house expertise and professional consultants. Personal contacts are being made with wood manufacturers who are interested in expanding or relocating in northeastern Minnesota. To date, this effort has resulted in the construction of the Louisiana Pacific waferwood siding plant in Two Harbors and the Lakewood Industries chopsticks factory in Hibbing, creating 100 and 90 new jobs respectively. Announcements of other new wood plant ventures are expected in the near future.





An important economic development tool utilized by the IRRRB is its industrial bonding authority. Through bonding, the IRRRB was able to assist the financial packaging necessary for the development of the Louisiana Pacific plant and the chopsticks factory, as well as other commercial ventures in the area. Investments for these ventures exceed \$32 million and impact nearly 400 jobs.

In addition, IRRRB has been a pioneer in using native wood resources for fuel. Through the IRRRB Boiler Conversion Program, over 20 public units have been converted to indigenous instead of imported energy sources. Although the present decline in oil prices has diminished the number of new

conversions, the future pay-back of these conversions is expected to be substantial.

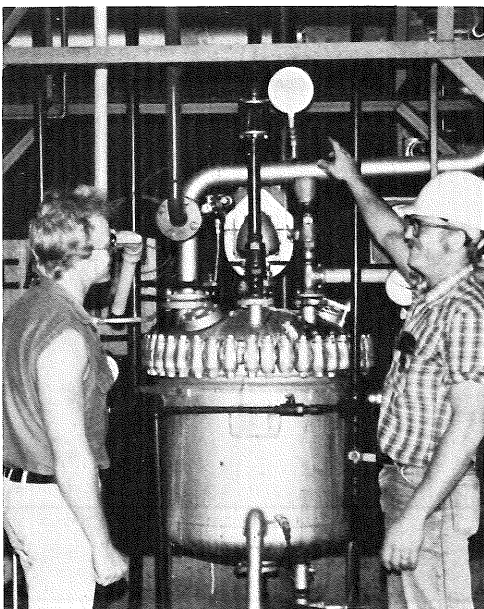
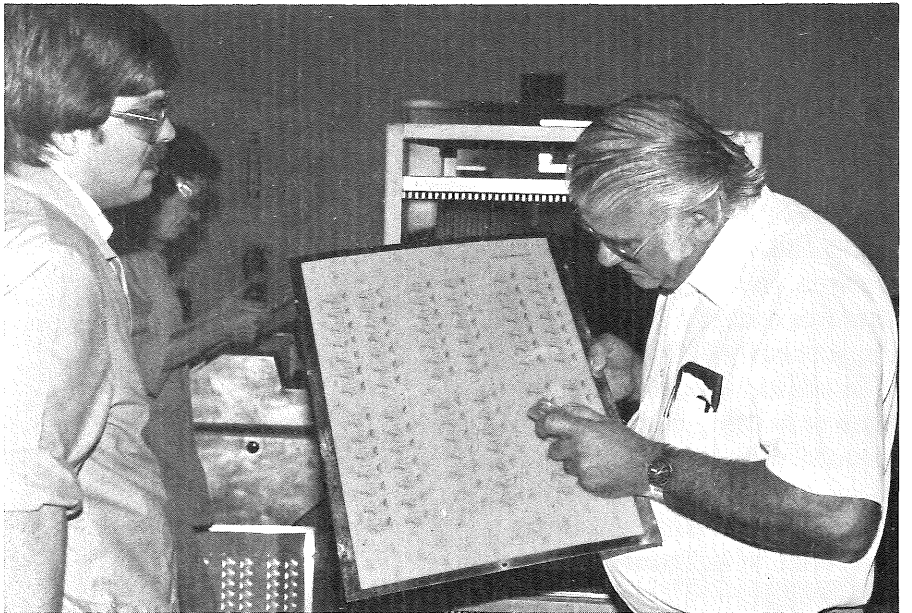
IRRRB also recognizes the importance of the region's existing mineral industry. The Agency has been intimately involved in addressing the tax, product quality, transportation, and power issues which directly affect the cost competitiveness of Minnesota taconite.

IRRRB has also encouraged research in new steel technologies and has participated financially in the most promising endeavors. These efforts provide compelling incentives for a more stabilized iron ore economy on the Iron Range and will be continued during the next biennium.



Although IRRRB continually explores opportunities which have a large employment potential, the smaller native entrepreneur, who is of equal importance, has not been forgotten. Through the Financial Assistance Loan Program, IRRRB has made over 70 bank participation loans to new and expanding businesses located within the Taconite Relief Area. To date, agency investments of over \$7.5 million have levered approximately \$15 million private dollars, assisting in the retention of over 800 existing jobs and the creation of 700 new jobs.

Moving towards the next decade, IRRRB will continue to spearhead regional development in all sectors of economic opportunity. Agency contributions in tourism, wood products, energy resources, minerals, and small business development will accelerate. While no single economic sector is expected to revitalize northeastern Minnesota, IRRRB is confident that its efforts in diversification will assist in the resurgence of the Iron Range economy.



IRONWORLD USA

IRONWORLD USA, formerly known as the Iron Range Interpretative Center re-opened in the spring of 1986 after an 18-month shutdown to allow for a \$10 million expansion of the facility.

Perched on the edge of one of Minnesota's most scenic open mine pits, IRONWORLD USA incorporates the color and charm of an ethnic celebration with the rock-hard history of the area. Its 15-acre Festival Park, with its rippling brooks and splashing waterfalls, features a vibrant Avenue of Flags, reflecting the many nationalities represented in northeastern Minnesota. During the summer months, the entire IRONWORLD USA complex comes alive with entertainment.

Minnesota Ethnic Days celebrate the music, dance, foods, culture and heritage of the different nationalities who have settled the Iron Range, making IRONWORLD USA uniquely entertaining in the way it presents the ethnicity of the area.

The Minnesota Ethnic Days Celebration was traditionally celebrated on twelve consecutive days in August. The festivities now span several weekends during the summer and, with the new format, the Minnesota Ethnic Days festival continues to be one of the most popular in Minnesota.

The Ninth International Polkafest, this year's opening event at IRONWORLD USA, drew record crowds with outstanding international polka musicians such as Frankie Yankovic and Myron Floren and Canada's polka king, Walter Ostanek.



IRON RANGE INTERPRETATIVE CENTER

The original exhibit center, the Iron Range Interpretative Center, opened in the summer of 1977 and remains a primary attraction at IRONWORLD USA. The Iron Range Interpretative Center portrays the story of iron mining in Minnesota and the role played by the immigrant miners in developing that industry. The hands-on exhibits within the Center focus on the rich cultural heritage of the immigrants from 43 different countries who, at the turn of the century, made their way from old-world countries to seek a new beginning in America, on Minnesota's Iron Range. The ethnic crafts demonstrated at IRONWORLD USA by descendents of those immigrants create a true legacy to be handed down from generation to generation.

The rich aroma of sarmas or pasties permeates the air in the Center's Ethnic Kitchen where foods prepared from old world recipes are served to appreciative diners.

Through imaginative displays and demonstrations, the Iron Range Interpretative Center makes the history of northeastern Minnesota come alive for its thousands of yearly visitors.



1980'S TURNTABLE FEATURE OF IRONWORLD USA RAILROAD SYSTEM

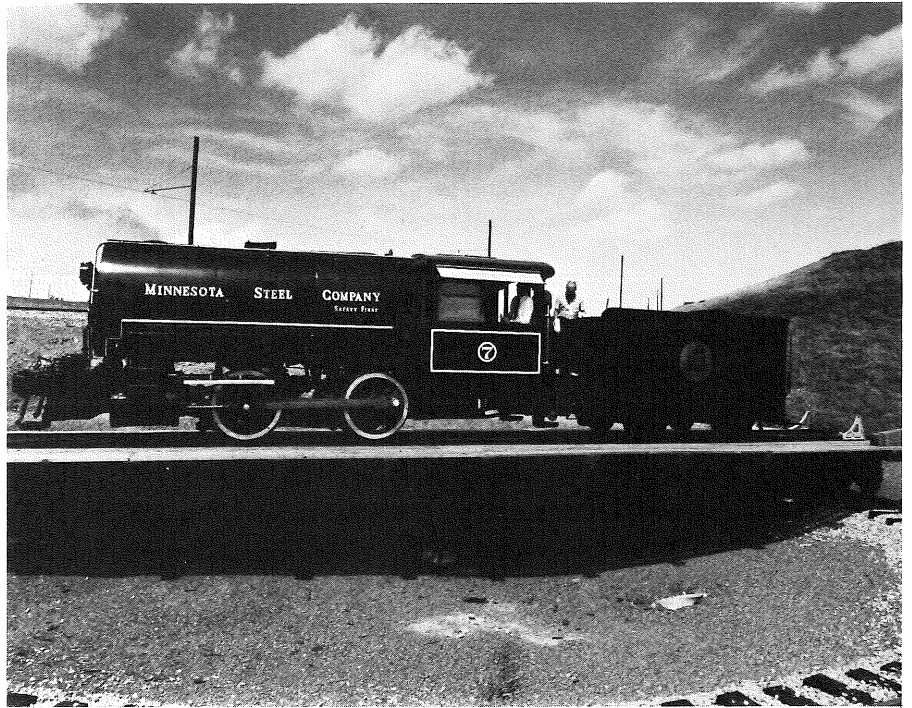
A unique feature of the IRONWORLD USA railroad system is its manually-operated turntable. Built in 1890 and originally located in the Chicago Northwestern Railroad roundhouse in Canby, MN., this turntable is thought to be one of the last of its kind in existence. In 1981, the Lake Superior Museum of Transportation in Duluth acquired the turntable and sold it to the IRRRB in 1986 for use with the IRON-WORLD USA railroad.

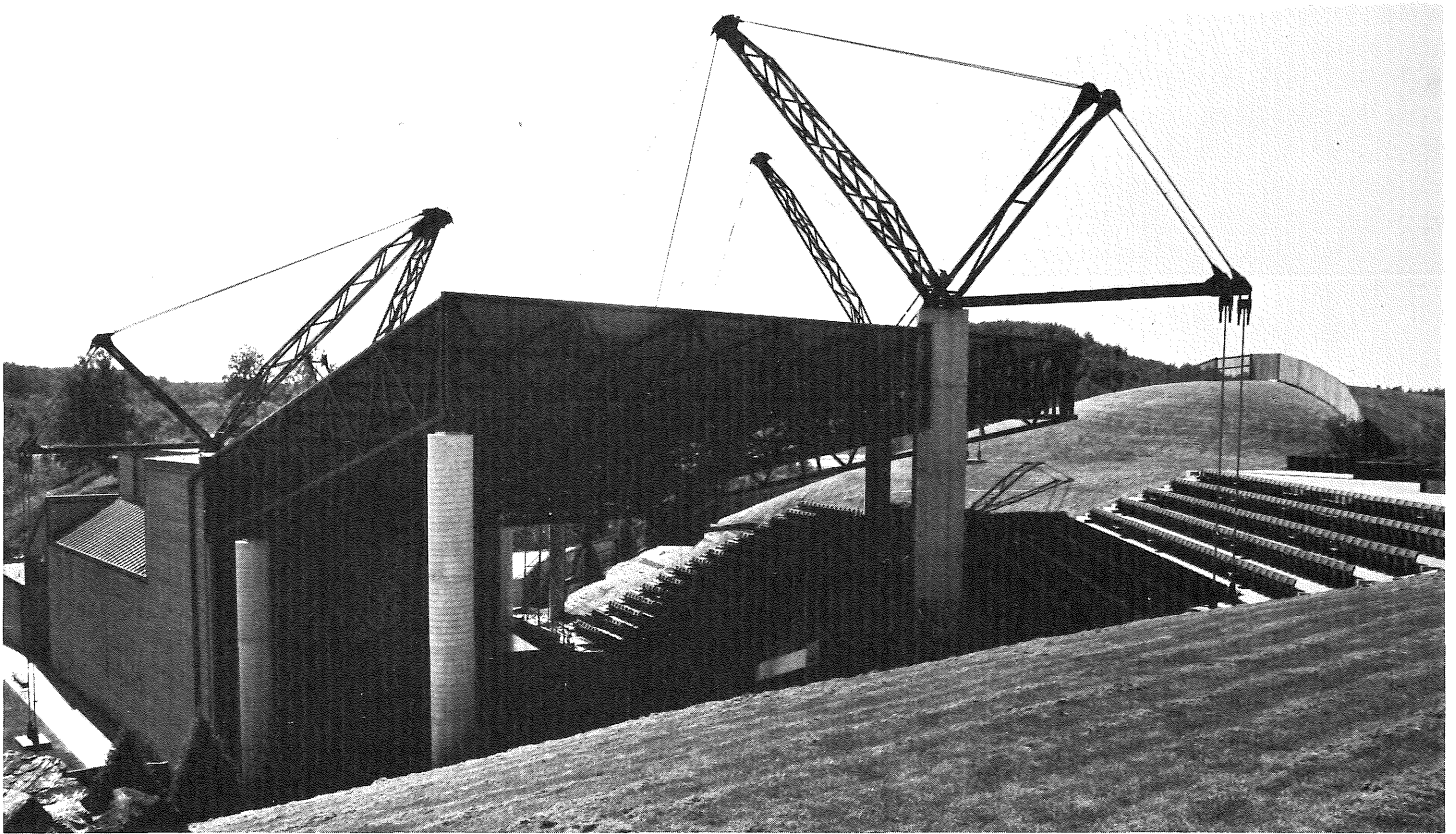


IRONWORLD USA Railroad

The era of the steam railroad returned to the Iron Range with the opening of IRONWORLD USA. Engine #7 was called from retirement, completely restored and pressed into service once again. Instead of transporting tons of iron ore, the train now carries carloads of tourists 2.5 miles along the edge of the Glen and Pillsbury mines, past the former site of the Glen Location, for a breathtaking view of the beauty exposed when thousands of tons of earth were removed in search of Minnesota's 'red gold'.

The thrill of this journey is doubled with the ride on the IRONWORLD USA electric trolley. Reminiscent of the streetcars which ran from Hibbing to Gilbert in the 1920's, the trolley ferries visitors from the boarding platform to Pillsbury Junction where they catch "Old #7" or a diesel locomotive for the remainder of their journey.





IRONWORLD USA Outdoor Amphitheatre

A major part of the IRONWORLD USA expansion has been the construction of a 1600-seat outdoor amphitheatre. The amphitheatre, with its 70 foot wide stage, is considered to be a state-of-the-art facility. A space-frame roof structure covers the audience and stage area. Performers who have appeared on the amphitheatre stage marvel at the dressing rooms and accommodations afforded them at IRONWORLD USA.

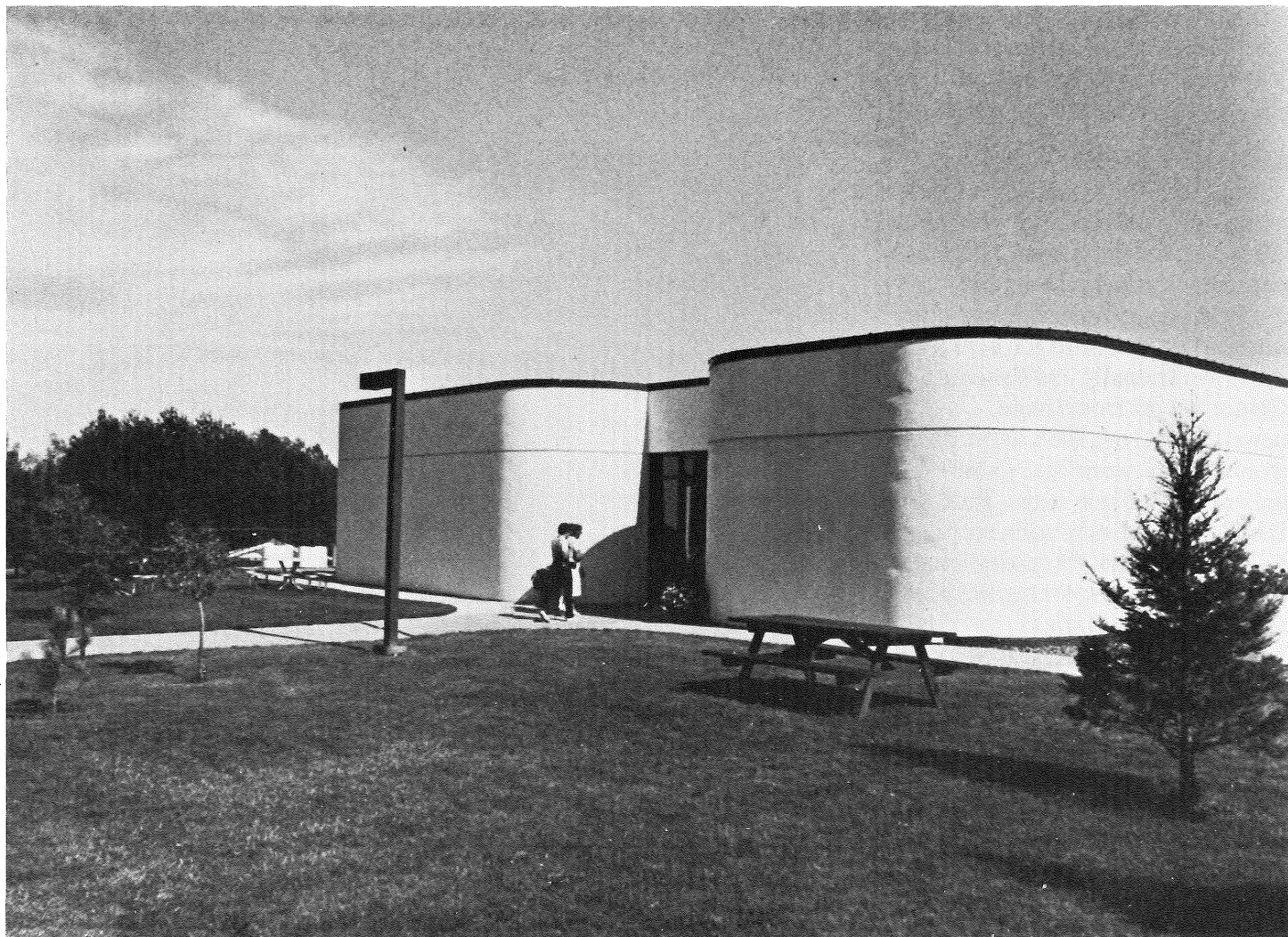
Internationally known performers offered a diverse program at IRONWORLD USA throughout the summer of 1986. The Star Series program included the Young Americans, the Minnesota Orchestra, Mickey Gilley, the Golden Boys, Roger Williams, the Rhos Male Choir from Wales, Doc Severinsen, The Lettermen, and Bobby Vee. All of the Star Series performances were well-received, attracting near-capacity crowds. The number of people attending the Star Series performances totaled 11,143.

By August 31, 1986, over 110,000 people had passed through the gates of IRONWORLD USA. Preliminary reports indicate that the total direct and indirect economic impact of IRONWORLD USA during that first nine weeks has been substantial. Using a formula devised by Economic Research Associates, a Chicago firm secured by IRRRB to calculate the economic impact of IRONWORLD USA and Giants Ridge, the total regional impact of IRONWORLD USA is estimated to be \$8,300,000.

Judging from the number of people visiting IRONWORLD USA during its first nine weeks of operation, it is evident that this facility will fulfill its potential as a destination point for Minnesota's tourists.

IRON RANGE RESEARCH CENTER

The Iron Range Research Center, which opened in 1980, is “dedicated to the immigrant peoples of the Iron Range” area. The influence of immigration is readily apparent in the 1920 census, which showed that nine of ten people residing on the Iron Range were either foreign-born or had at least one foreign-born parent. These immigrants came from all parts of the world, especially Europe, to begin a new and better life in America. At least forty different ethnic groups settled on the Iron Range, building homes, raising families, educating their children and creating a rich and varied culture not found elsewhere. The mission of the Iron Range Research Center is to collect, preserve and make available to all the history of this unique region.



ADMINISTRATION

The Iron Range Research Center is administered by the Iron Range Resources and Rehabilitation Board. It is professionally staffed by a director, an archivist, a librarian and clerical personnel. Additionally, the Research Center maintains close ties to the Minnesota Historical Society, which has designated the facility as a branch of the State Archives, the only repository so designated in Minnesota. Besides contractual and technical service agreements with the Minnesota Historical Society, the Iron Range Research Center works closely with county and local historical societies, genealogical societies, local governmental units, school districts, area civic, fraternal and cultural organizations, and individuals.

LIBRARY FUNCTIONS

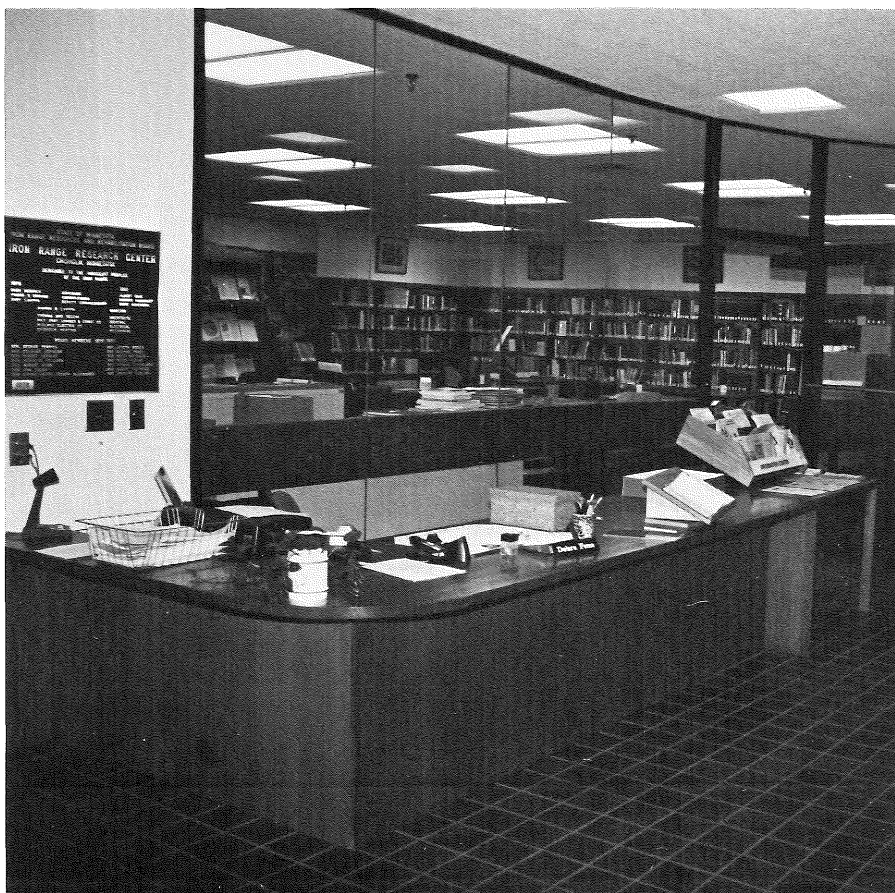
The Iron Range Research Center maintains a collection of printed and filmed materials, including books, articles, censuses, theses and dissertations, periodicals and other materials germane to the Iron Range area. Additionally, the Research Center has all Iron Range newspapers from 1887 to the present available on microfilm. Other collections include maps, Polk Directories, immigration records, videotapes, films, organizational records, and passport applications from foreign countries.

The Iron Range Research Center is an active member of the North Country Cooperative Inter-Library Loan Program, other library organizations, and several genealogical societies. Collections now number more than 2,500 volumes and 3,000 rolls of microfilm, most of which pertain to the Iron Range area.

FACILITIES AND VOLUNTEER SUPPORT

The Iron Range Research Center facilities include a reading room with microfilm and microfiche readers and printers, an oral history room, a complete photo laboratory, an archives capable of storing 10,000 square feet of documents, a graphics area and a conference/class room with audio-visual equipment. The entire facility is humidity and temperature controlled and contains the latest in fire prevention and security devices.

Volunteer support is impressive. Individuals and groups such as the Range Genealogical Society provide more than 3,000 donated hours each year. Volunteers perform a wide range of tasks including patron assistance, archival cataloging, indexing and oral-history outlines. Their efforts contribute greatly to the success of Research Center programs.



ARCHIVAL FUNCTIONS

The archival collections of the Iron Range Research Center are divided into two main areas, private and public collections. Private collections consist of manuscripts (letters, diaries, etc.), photographs, scrapbooks, oral histories and other original, unpublished materials. Public records consist of city and township, school board, commission records, and the records of the Iron Range Resources and Rehabilitation Board.

In 1985-86, Research Center staff, through a grant from the National Historical Preservation and Records Commission, conducted an eighteen-month project aimed at assisting area municipalities in records management. The staff worked with twenty-six municipalities to inventory, catalog, and identify records for retention and disposal according to state guidelines. As a result of this project, additional records storage space has been made available to municipalities and historically significant records have now been transferred to the Research Center for cataloging and preservation.

Collections now available at the Iron Range Research Center include more than 200 public record sets, 400 manuscript collections, 15,000 photographs and 1,200 hours of oral history tapes dealing with all facets of Iron Range life and culture.

TOURISM SUPPORT AND COMMUNITY INTERACTION

The Iron Range Research Center fulfills two distinct roles. The most visible of these lies in tourism support for the newly-reopened IRONWORLD USA, including patron assistance, exhibits research and documentation, and other activities which complement the visitor's experience at IRONWORLD USA. In the area of community interaction the Research Center has been very active. During the past biennium the Iron Range Research Center has sponsored three genealogy conferences, several lectures and seminars, provided archives assistance to cities and townships, made PLATO computer-assisted instruction available to Iron Range schools, prepared exhibits and slide shows for area viewing, and provided technical and advisory support for area governments, groups, and individuals on a wide range of subject matter. This facility is dedicated to the people of the Iron Range and will continue to live up to that promise.

GIANTS RIDGE

Giants Ridge, located near Biwabik, opened in November, 1984 and has become a world-class facility.

Nestled in the midst of Superior National Forest, Giants Ridge encompasses approximately 1300 acres, approximately 1000 acres of which have been developed as cross-country trails. Sixty acres are dedicated to downhill runs. The ski chalet and training center have been constructed on the remaining 240 acres with acreage reserved for future expansion.

Although Giants Ridge accommodates the professional athlete, it is also designed as a recreation area for the amateur weekend ski enthusiast.

The 14 downhill runs at Giants Ridge are maintained in excellent condition and represent a challenge to all levels of skiing proficiency. Over 40 kilometers of professionally-designed cross-country trails attract some of the greatest skiers in the world to Giants Ridge to compete in international ski races.

There is a continual effort to attract new events and programs to Giants Ridge which will be compatible with the concept of a world-class facility. During this biennium, IRRRB submitted a bid to the U.S. Olympic Committee for designation of Giants Ridge as an Olympic Training Center for Women. A successful application would mean that Giants Ridge would become a year-round training facility, greatly expanding its programming capabilities.

Recently, the IRRRB was successful in its bid to the United States Ski Association in Colorado Springs, Colorado making Giants Ridge the site of the 1988 Olympic cross-country skiing tryouts. The Olympic tie-in is expected to result in national attention for Giants Ridge.

The 1985-86 Nordic program at Giants Ridge demonstrated the importance of events such as these. The first Minnesota World Cup Cross Country Ski Race was held at Giants Ridge December 13, 14, 15, 1985. It proved to be an extremely successful event in terms of dynamic international competition and regional economic impact.

Two-hundred-thirty racers, representing 12 nations, including the Soviet Union, participated in three events. In addition to on-site spectators, many people had an opportunity to view the event nationwide via ESPN-TV. The 30-minute program presented highlights of the men's 30 Km event and was shown eight times throughout the winter. The program resulted in many telephone calls to Giants Ridge from people coast to coast who expressed an interest in future events at Giants Ridge.



The economic effects of the World Cup were impressive. According to Economics Research Associates of Chicago, the direct dollar impact of the three-day event was \$858,544.00. The total impact on the area was nearly \$1.5 million.

Other Nordic events were held at Giants Ridge during the 1985-86 season such as the Divisional USSA tryouts for the World Cup; the USSA Divisional Race; high school and college races and several training camps. These events attracted attendance from as far away as New York State and California.

The Pepsi Challenge Cup Race is another annual nordic event held at Giants Ridge. This race attracts citizen skiers as well as those in the world-class category. In just two years, the race has become a popular international ski event. Six-hundred-ten racers competed in the March, 1986 event, a 30% increase over the prior year. The Pepsi Challenge Cup race has truly become an Iron Range event involving surrounding communities in planning and hosting festivities held in conjunction with the race. During the 1986 event, the City of Eveleth hosted the opening ceremonies and an elite sprint race; Virginia held a Miss Giants Ridge contest; Gilbert sponsored a casino night; the Cities of Biwabik and Aurora hosted the race; and the City of Hoyt Lakes was the site of the awards banquet and dance.

An impact study completed by Economic Research Associates placed the combined direct and indirect Iron Range impact of this event at \$398,916.00. Following the race, questionnaires were mailed to each of the participants. Their responses indicate that Giants Ridge has been overwhelmingly successful in developing outstanding opportunities for nordic skiers.

The nordic events held at Giants Ridge have succeeded in providing positive international, national, regional and local media exposure for the facility. Such events have

attracted thousands of people into the area to participate as skiers or as spectators in Giants Ridge events.

Giants Ridge has also been able to capitalize on its alpine program. Three high-capacity ski lifts service the Giants Ridge slopes, including a triple and a double chair lift. Skiers can choose from 14 runs accommodating the novice as well as the most skilled skier. A vertical drop of 450 feet makes Giants Ridge competitive with other midwestern ski areas, attracting visitors from out of the area in addition to the local clientele. The Minnesota Ski Council and the United States Ski Association Alpine Division have found the facility so much to their liking that they have doubled their number of visits for the coming season. During the 1985-86 ski season the number of alpine skiers at Giants Ridge increased by over 40%.

An aggressive marketing campaign, coupled with word-of-mouth publicity about the superb alpine and nordic skiing conditions at Giants Ridge has made the Giants Ridge Recreation Area a major tourist destination point in Minnesota resulting in a \$5.5 million regional economic impact in fiscal year 1986.



HILL ANNEX MINE TOURS-Calumet

The Hill Annex Mine tour is the only tour of an open pit iron mine available in the entire country. It offers the rare opportunity to descend almost 400 feet into the heart of an iron mine aboard the picturesque Hill Annex rubber-tire trolley. Mine buildings and equipment are preserved intact and are displayed giving visitors a chance to become acquainted with the Iron Range mining operations.

In the clubhouse museum an attractive display area interprets the exciting history of the mine and introduces the men and women who earned their livelihood in the depths of the mine. A laser disk video system allows visitors to view over 3,000 historic photos of the Iron Range. During the summer of 1986, the Hill Annex Mine welcomed its 100,000th visitor.

Tours are conducted hourly - 10:00 am to 4:00 pm - seven days a week during the regular tour season which is from Memorial Day through September 30th. Group tours are available by reservation. In order to make the tour more enjoyable and educational for school groups, a teacher's guide has been developed. As soon as a reservation is received from a school group, the teacher is sent a copy of the teacher's guide, enabling the students to learn about the mine prior to their visit.

The Hill Annex Mine is considered to be the rock information center of the Iron Range. Because the area was covered some 75 million years ago by an inland sea, many interesting marine fossils can be found in the cretaceous ore of the mine. Lake Superior agates are also plentiful. Rock hounding field trips are available at the mine on a daily basis by reservation.

An annual Miner's Day celebration is held at the Hill Annex Mine co-hosted by the City of Calumet. This celebration commemorating Iron Range miners continues to grow, attracting thousands of people every year.

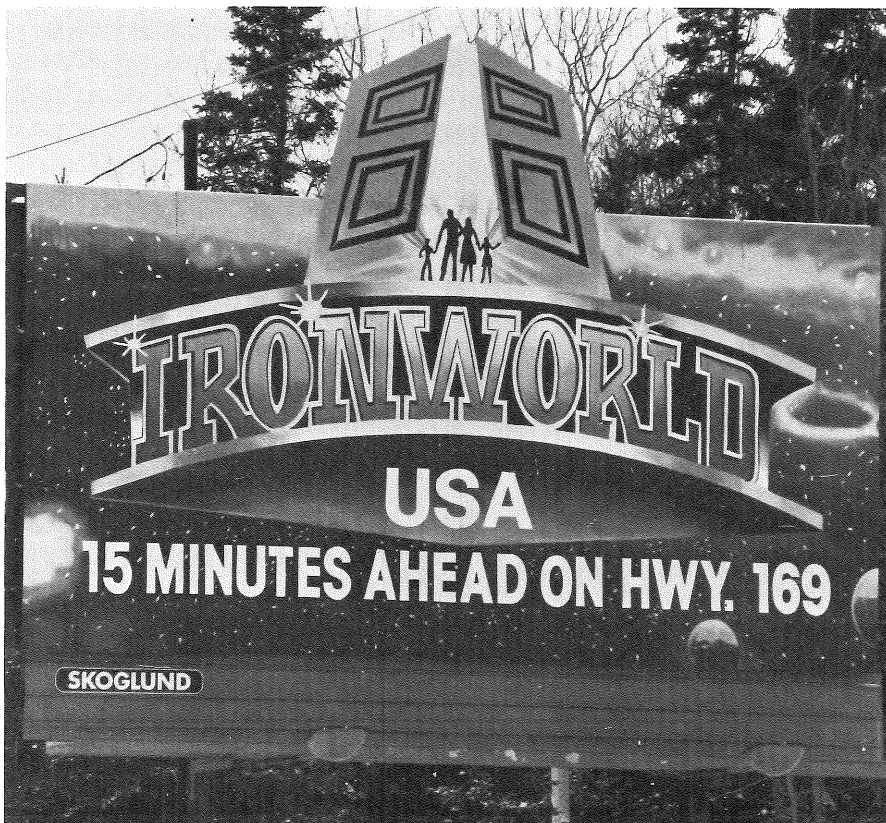


ADVERTISING AND PROMOTION

The Public Information Division is responsible for the advertising and promotion of the Iron Range Resources and Rehabilitation Board and its programs and facilities.

With the opening of the Giants Ridge Recreation Area and IRON-WORLD USA, the promotion efforts of the Public Information Division have been expanded to provide national and international media exposure for these two facilities.

Promotion of Giants Ridge has been accomplished on an international level through the success of the World Cup and Pepsi Challenge Cup nordic races. Both of these events attracted international media attention through the print media and television. Press rooms accommodating the needs of international sports reporters on hand for the races were manned by Public Information Division personnel.



Through the use of colorful brochures and an extensive multi-media campaign, IRON-WORLD USA has also been successfully promoted as a major destination point in Minnesota. Although the target area for promotion dollars was the Twin Cities and surrounding region, the initial impact of IRONWORLD USA indicates that the facility also gained national exposure through publications such as the Minnesota Explorer. IRONWORLD USA captured the attention of the public through the use of billboards and a highly imaginative television commercial. The program relied heavily on word of mouth advertising as well as several major national publications. By exploiting the initial curiosity about the facility, a wealth of media attention was generated.

In addition, the Public Information Division is charged with the promotion of the Hill Annex Mine in Calumet. Through the use of brochures and extensive newspaper advertising, the Hill Annex Mine has become a well-known tourist attraction in northeastern Minnesota. The City of Grand Rapids has been extremely cooperative and effective in assisting in the promotion of the Hill Annex Mine.

TRAVEL INFORMATION CENTERS

Because the tourism industry is an industrial sector targeted by IRRRB in its efforts to diversify the economy of the Iron Range, it is not surprising that emphasis has been placed on making the thousands of yearly visitors who vacation in this area feel warmly welcomed.

Since the Anchor Lake Travel Information Center opened in 1979, the facility has catered to the travel needs of over one million tourists. Over 820,000 brochures and over 135,000 maps have been distributed from this location on Highway 53, ten miles south of Eveleth. Travelers from all fifty states and the District of Columbia as well as those from 57 foreign countries and nearly all the Canadian provinces have been welcomed and assisted by the skilled staff at Anchor Lake. From Memorial Day through Labor Day, the Anchor Lake Information Center is open from 8:00 am until 8:00 pm, seven days a week. During the rest of the year, the facility is open seven days a week from 9:00 am until 5:00 pm.

Travel information services in the area have been expanded with the addition of another IRRRB-operated travel information center at IRON-WORLD USA.

Both information centers provide a variety of maps and brochures. Information on road conditions, historical points of interest, lodging, dining, and camping facilities, resorts, entertainment, and hunting and fishing is also available.

From trained travel guides at the travel information centers, tourists in northeastern Minnesota can obtain a wealth of information for a greater appreciation of the many fantastic vacation opportunities in northeastern Minnesota.

THE IRON TRAIL RADIO NETWORK

The IRRRB has been instrumental in promoting a number of other tourist attractions along the Iron Trail. One tool used in this promotion effort has been the Iron Trail Radio Network. Since September of 1985, people traveling in the area have been able to tune in broadcasts about Iron Range tourist attractions by dialing 1610 AM on their car radios. These messages are transmitted through equipment installed at various locations across the Iron Range. Transmitters with range of 2.5 miles have been installed in Grand Rapids, the Hill Annex Mine in Calumet, the Hull Rust Mine in Hibbing, at IRON-WORLD USA near Chisholm, at the Rouchleau Mine in Virginia, and at the Anchor Lake Tourist Information Center on Highway 53. Taped messages promoting area tourism facilities, special events and activities are aired on the system.

In addition to the long-range transmitters, equipment with a half-mile capability has been installed in facility parking lots enabling tourists to dial in information about the specific site.

This system is the only one of its kind in Minnesota and was developed with a \$20,000 IRRRB grant. Signage for the system was provided by the Minnesota Department of Transportation.

MINELAND RECLAMATION

During the past two years, the Mineland Reclamation Division of the Iron Range Resources and Rehabilitation Board has concentrated on projects designed to increase the tourism and economic growth potential in northeastern Minnesota.

New water accesses have been developed on water-filled mines and fish have been planted in many of them. Campgrounds have been established to accommodate visitors to these newly-created fishing sites. The agency has initiated an inventory of the water resource accumulating in and around the abandoned minesites. The IRRRB tourist information radio network supports public use of such amenities.

PIT STABILIZATION PROJECTS:

Crow Wing Mine Access-Riverton

IRRRB has built water accesses to the Mahlen, Rowe, and Snowshoe Mines and to a portion of Little Rabbit Lake disturbed by mining. The land for these accesses was contributed to Crow Wing County by the Four Seasons Realty Company. Canoe or carry-in accesses were built at the Mahlen and Snowshoe Mines. At the Little Rabbit-Rowe Mine, the development was more extensive. Standard concrete plank accesses were constructed. A 10-car parking lot, a well, and restroom facilities were also provided. The site will be maintained by Crow Wing County.

Sagamore Mine-Riverton

IRRRB is constructing a road, in cooperation with Crow Wing County, to allow safe access to the large, attractive Sagamore Mine Lake. The road will be maintained by Crow Wing County.

Section Six Mine Access-Cuyuna Range

IRRRB has adapted a haul road for a safe access to this body of water

and a parking lot has been provided. Crow Wing County is also responsible for maintenance of the Section Six Mine access.

O'Brien Reservoir-Keewatin

This day-use recreation area has become increasingly popular, especially with the addition of a bike/walking trail to Keewatin. Increased usage of the recreation area warranted IRRRB construction of restroom facilities and a maintenance building which will be maintained by the City of Keewatin.

Mott Pit Access-Mountain Iron

The Mott Pit is located within walking distance to Mountain Iron but lacked a safe water access. A walk-in access has been constructed which will be maintained by the City of Mt. Iron.



Gilbert-Schley-Pettit Pit-Gilbert

IRRRB and LAWCON funds were used to construct a recreation area on the west side of this area, adjacent to the City of Gilbert. A portion of the pit was reshaped, a large water access was constructed, and an access road was provided. A 30-unit campground was developed with restroom/shower facilities. The City of Gilbert is responsible for the operation and maintainance of the site.

Embarrass Pit Access-Town of White

This mine has supported fish for sometime and has been fished by local fishermen even though there was no "official" water access. A standard plank access and parking lot were constructed on State land at this site which will be maintained by the Town of White.

Miners Lake/Pioneer Pit Access-Ely

During the past few years, the rapid rise of the water level of the Pioneer Pit has resulted in the development of a very attractive lake on the north side of Ely. The IRRRB has developed a water access on the lake and has provided a discharge into Shagawa Lake. The City of Ely provides maintainance of the site.

REFORESTATION PROJECT

A major activity of the Mineland Reclamation Division continues to be the reforestation of abandoned minesites. Of 290,650 trees planted during the biennium, 255,000 were containerized seedlings grown in the 1100 square foot IRRRB growth chamber. Jack Pine grows exceedingly well on disturbed minesites so Jack Pine is the primary species grown in the growth chamber. However, other species are also produced to provide diversity and improved wildlife habitat. In addition to the containerized seedlings, 33,500 bareroot seedlings, 1,750 trees three to four feet in height, and 400 trees six to eight feet were planted.

The Mineland Reclamation Division through the Minnesota Tree Improvement Cooperative, in cooperation with Blandin Paper Company, has started a spruce grafting project designed to produce superior quality white spruce trees in Minnesota. If this project succeeds, the growth rate of the white spruce will be accelerated, greatly increasing forest productivity.

SEWAGE SLUDGE COMPOSTING-Grand Rapids

There are thousands of acres of mined lands on the Iron Range which would benefit from the addition of organic matter to improve revegetation. Each year the Blandin Paper Company produces about 12,000 dry tons of waste which are processed by Grand Rapid's wastewater treatment plant. IRRRB's Mineland Reclamation Division, Blandin Paper Company, and the City of Grand Rapids are cooperating in a project to determine the effects of sludge and composted sludge when applied to abandoned minelands to make vegetation more productive.



ECONOMIC DEVELOPMENT PROJECTS

Aurora Industrial Park

The City of Aurora has been able to interest business firms in establishing within the city; however, sites suitable for industrial development in Aurora were unavailable. The city sought assistance from the IRRRB Mineland Reclamation Division in filling an area adjacent to Highway #135, making it an attractive site for an industrial park.

TOURISM DEVELOPMENT PROJECTS

CROFT MINE-Crosby

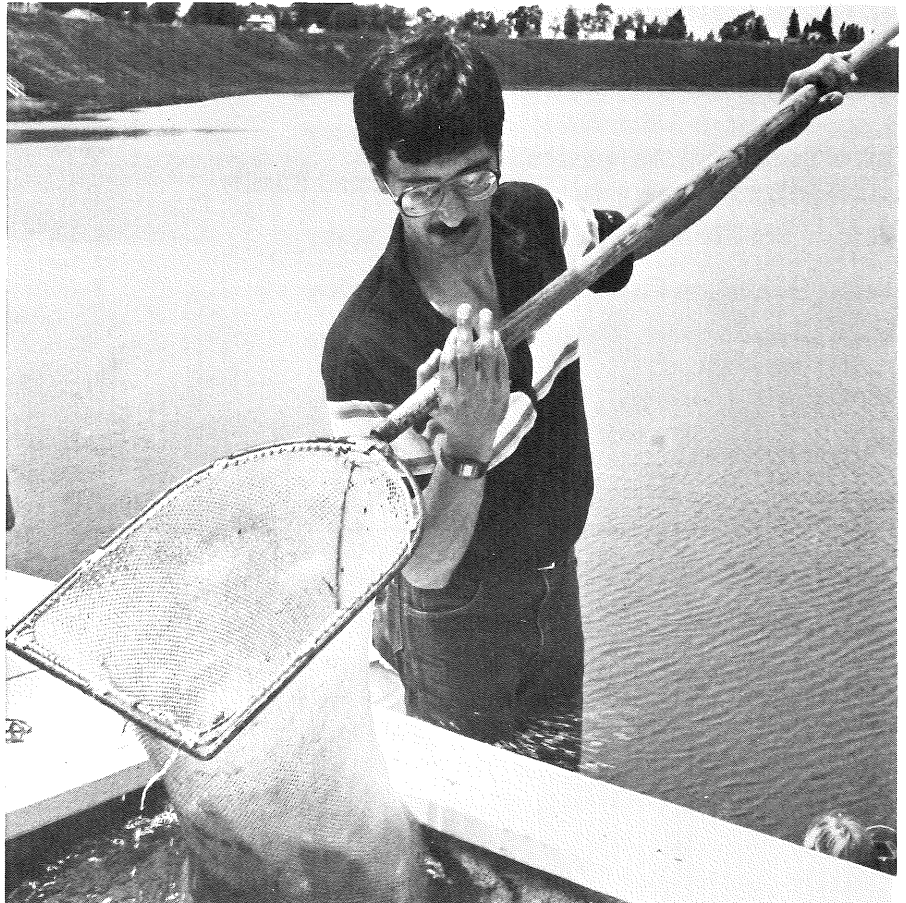
During the past biennium, there has been a renewed interest in the restoration of the Croft Mine. The project appears to qualify for funding under the Federal Great River Road Program. An architectural firm has completed planning and design documents, and construction on the proposed expansion of the historical park should begin by early next year.

WILDLIFE ENHANCEMENT PROJECT-Western Mesabi Range

Over the past several years, the IRRRB has cooperated with the DNR Wildlife Division to determine where residual pockets of sharp-tailed grouse are located and what can be done to increase their numbers. The Mesabi Range was inventoried and an area was selected where feed plots are being established to improve the grouse habitat.

ABANDONED MINESITE FISH STOCKING PROJECT

In 1984, IRRRB, in cooperation with the MN/DNR, began stocking abandoned mines with 3/4 pound rainbow and 1/2 pound lake trout. At most sites, boat accesses have also been constructed. This project has proven to be very successful. Listed below are the sites which have been stocked by IRRRB during the past two years.



Pit Name	Location	Species	Amount
Embarrass Pit	Biwabik/Aurora	Rainbow Trout	3,978 lbs.
		Lake Trout	900 lbs.
St. James Pit	Aurora	Rainbow Trout	5,525 lbs.
		Lake Trout	1,250 lbs.
Miller/Mohawk Pit	Aurora	Rainbow Trout	375 lbs.
Gilbert Pit	Gilbert	Rainbow Trout	7,183 lbs.
		Lake Trout	1,625 lbs.
Miners Lake Pit	Ely	Rainbow Trout	4,420 lbs.
Mott Pit	Mountain Iron	Rainbow Trout	1,156 lbs.
Judson Pit	Buhl	Rainbow Trout	1,338 lbs.
Stubler Pit	Buhl	Rainbow Trout	500 lbs.
Forsyth Pit	Kinney	Rainbow Trout	500 lbs.
Kinney Pit	Kinney	Rainbow Trout	2,448 lbs.
Tioga Pit	Grand Rapids	Rainbow Trout	1,500 lbs.
Pennington Chain of Pits	Crosby	Rainbow Trout	2,563 lbs.
Feigh-Hunington Pit	Crosby	Rainbow Trout	2,893 lbs.
Yawkey Pit	Crosby	Rainbow Trout	225 lbs.
Manuel Pit	Crosby	Rainbow Trout	694 lbs.
Portsmouth Pit	Crosby	Rainbow Trout	1,124 lbs.
Martin Pit	Crosby	Rainbow Trout	1,188 lbs.
Total Rainbow Trout			37,610 lbs.
Total Lake Trout			<u>3,775 lbs.</u>
TOTAL ALL SPECIES			41,385 lbs.

TAILING BASIN WATER QUALITY STUDY

A cooperative study has been undertaken by the DNR Minerals Division, Minnesota Pollution Control Agency, and the Iron Range Resources and Rehabilitation Board to determine the effects on the water quality in the tailings basins when heavy amounts of fertilizer are used in establishing vegetation surrounding these sites.

CLAY RESEARCH-Cook and North Minnesota

Presently, western bentonite is being used by the mining industry as a binding agent for producing taconite pellets. During a time when it is essential for mining companies to cut costs, increased transportation costs have encouraged testing of local clays for use in the pelletizing process. The IRRRB Mineland Reclamation Division, in cooperation with the U.S. Bureau of Mines, has undertaken a study to determine the suitability of Minnesota clay for use as a binding agent in the production of taconite pellets.

WATER RESOURCES INVENTORY-Mesabi Range

Abandoned mines on the Iron Range which have filled with cold, high-quality water represent a virtually untapped regional resource. The IRRRB, in cooperation with the State Geological Survey, plans to survey and evaluate the potential of this resource.

MAPPING PROJECT-Mesabi Range

Available maps showing mining activities on the Mesabi Range are over twenty years old and do not show recent taconite operations. The IRRRB, in cooperation with the DNR Minerals Division, the Department of Revenue, the St. Louis County Assessor's Office, the Itasca County Assessor's Office, and the Range Association of Municipalities and Schools will develop an atlas of updated maps.

RECREATION PROJECTS

Hibbing Marksmanship Center-Hibbing

IRRRB has developed a marksmanship center in Hibbing in cooperation with the Mid-Range Sportsman's Club Alliance on land provided for that purpose by the City of Hibbing. The center provides target ranges for archery, pistol, and small and large bore weapons. In addition to the local sportsmen who enjoy the center, many outside the area are attracted to events held there.

Sliding Hill-Keewatin

The City of Keewatin requested IRRRB assistance in dealing with a dangerous situation where children were using an abandoned stockpile adjacent to Highway 169 as a sliding hill-occasionally sliding into the traffic lanes of the road. A sliding hill was constructed on an abandoned stockpile immediately adjacent to the city, eliminating use of the dangerous site.

RESEARCH AND BEAUTIFICATION

Peat: A Fuel for the Future

Beginning in 1983, the Iron Range Resources and Rehabilitation Board undertook a 2-year project designed to assess the potential of fuel peat production in Minnesota and to promote the use of peat as a fuel. The study was completed in October, 1984.

The research and demonstration program at the Wilderness Valley Farms Peat Research Station endeavored to answer questions concerning quality, production rates and costs for milled and sod peat.

All of the data compiled during the study was carefully analyzed, calculating harvesting costs and production rates. A comparison was made with European peat product standards.

Milled peat, which is produced more inexpensively in Europe and in greater quantities than other types of peat, showed those same characteristics when produced at Wilderness Valley Farms. The high production rate was accomplished at a cost competitive with coal, making milled peat a desirable fuel for small users.

As expected, the cost of sod peat was higher than milled peat. Sod peat presently is not competitive with coal in price, but can compete with oil, gas, and densified wood. Higher production rates for both types of peat were realized at Wilderness Valley Farms than in many areas in Europe. This was probably due to the more favorable climatic conditions of northeastern Minnesota.

A number of environmental concerns were also addressed in the Wilderness Valley Farm experiments and were demonstrated to be either non-existent or minimal.

In order to assess the capability of existing boilers to burn peat, test burns were incorporated into the project. Test burns were conducted during the 1983-85 period by the

DNR and the IRRRB at Minnesota Power's Syl Laskin plant in Hoyt Lakes, the Virginia and Hibbing Public Utilities, Blandin Paper Company in Grand Rapids, the Mt. Iron and Nashwauk-Keewatin schools, Hill Bros., Inc. in Cook, and the Aitkin district heating plant. Sod peat was used in most of these tests, but some were conducted in various mixtures with coal. The tests verified that existing boilers would have to be modified in order to burn peat efficiently. Boiler capacities were reduced when burning peat; additional combustion air was necessary, and the manner in which the fuel was handled needed to be changed.

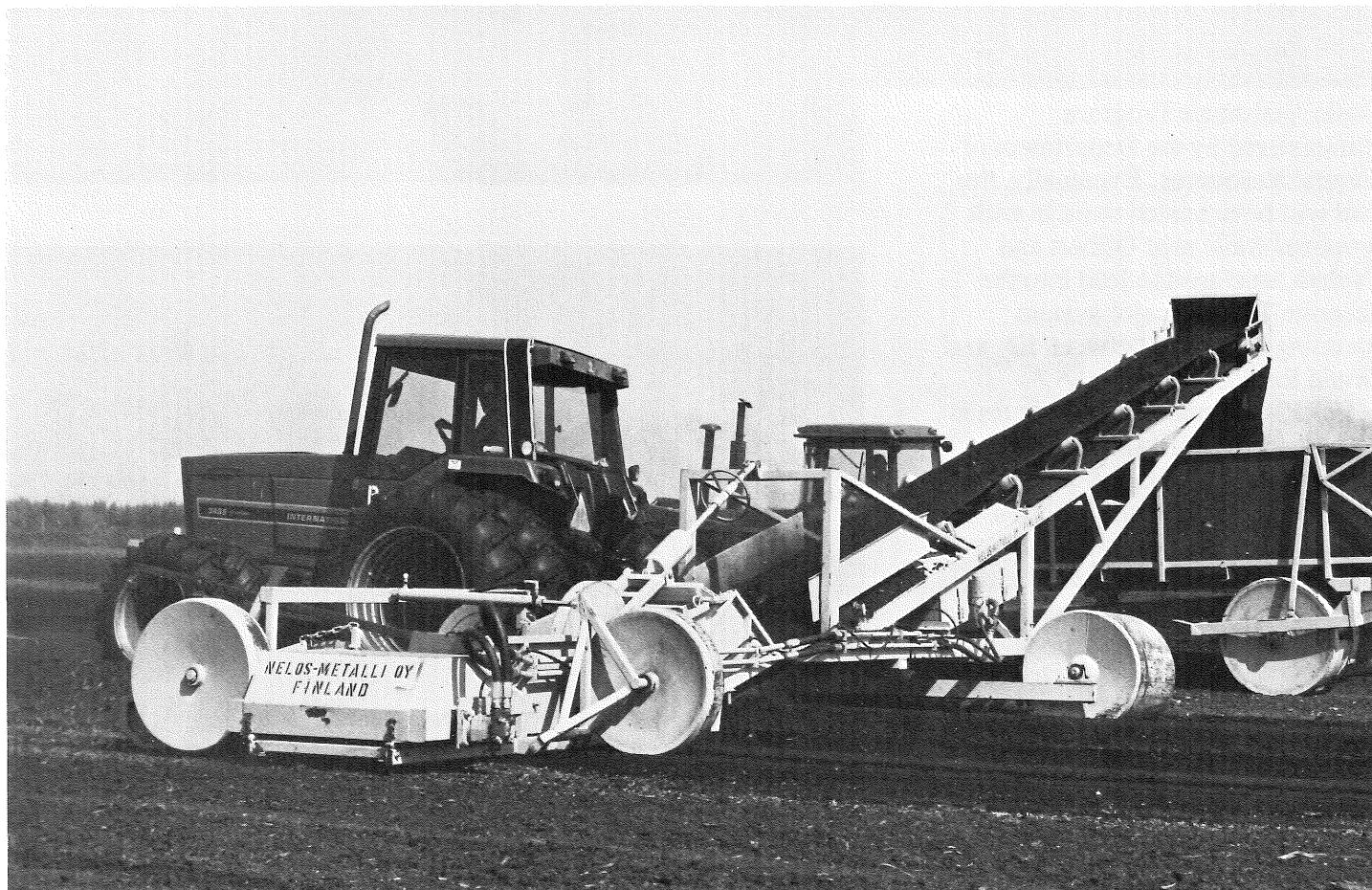
Perhaps the most important test burn was made in November, 1985 at the Boise Cascade Plant in International Falls using milled peat. Since the only milled peat available was stockpiled at Wilderness Valley Farms, the IRRRB supplied 4,000 tons to be used in the testing program. The tests indicated satisfactory results and Boise Cascade has requested the DNR to identify a peat bog near International Falls suitable for the production of milled peat. The company is currently investigating replacing some of its natural gas consumption with 150,000 tons per year of milled peat. This could be the start of a major milled peat industry in Minnesota.

The IRONWORLD USA complex has been heated with peat produced at the Wilderness Valley Farms since January, 1986, substantiating the feasibility of peat as a fuel product.

Several companies in the area are interested in marketing fuel peat as soon as a greater market develops. The Great Lakes Peat Products Company is presently producing fuel sods while hoping for an expanded market and the Rapid River Company in Baudette produces fuel

peat for use in its dryer.

Present plans call for all State peat research to be coordinated under one of the divisions of the Natural Resources Research Institute in Duluth. Therefore, IRRRB has transferred the Wilderness Valley Farms Peat Research Station to the NRRI. However, IRRRB will continue to aid industry and individuals with technical knowledge and will assist NRRI in continued peat research.



TRAILS PROGRAM

During the winter of 1985-86, IRRRB assisted in the planning and construction of 10 grant-in-aid multi-use trails on the Iron Range. IRRRB participation has included approximately \$100,000 in grant monies as well as assistance in negotiating easements and licenses, researching property ownership, supplying materials and in actual construction.

The IRRRB Trails Program is designed to assist the expansion of the "typical" resort season through the development of winter recreational trails.

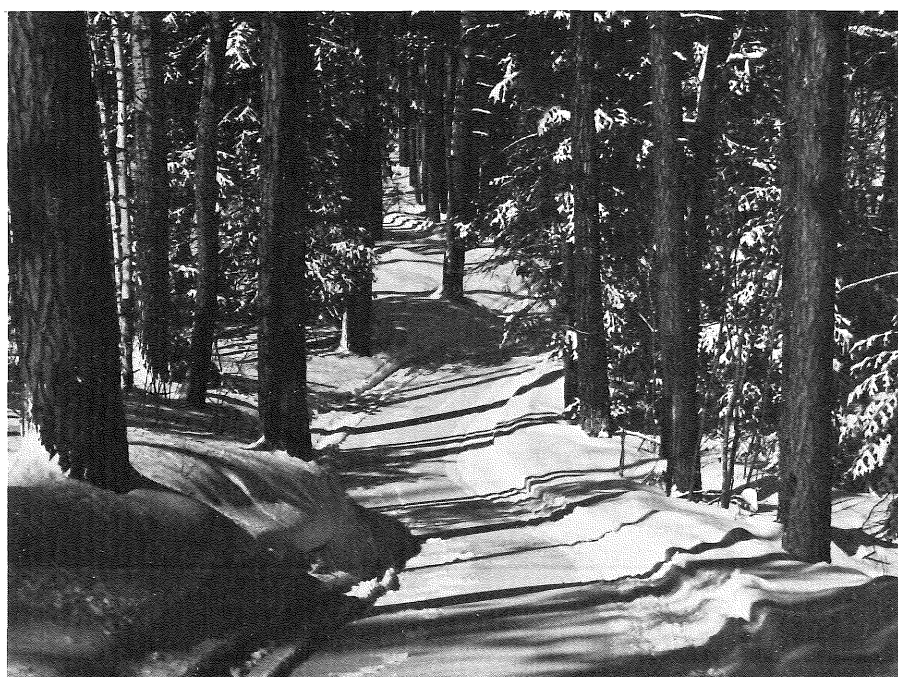
Over 400 miles of multi-use trails have been developed by the IRRRB in cooperation with volunteer and private organizations and other governmental units in northern Minnesota. One such trail, constructed as a cooperative venture among Aurora, Biwabik, and the IRRRB, connects the two cities to the Giants Ridge Recreation Area.

Partial funding for this trail was provided through the Minnesota Trails Assistance Program administered by the Department of Natural Resources. Eventually, the trail will be extended to tie in with proposed trails near Gilbert and Eveleth, designed to feed into the Taconite Trail, a major system spanning 170 miles between Ely and Grand Rapids.

IRRRB maintains a 44-mile trail system north of Virginia along the Laurentian Trail and the Taconite Corridor Trail from the Wooden Table Lodge to Pfiefer Lake.

The agency also grooms a thirty-five mile trail system connecting several resorts and recreation facilities to the Minnesota North Shore Corridor Trail. The Voyageur Trail connecting the resort area of Crane Lake, Ash River and Lake Kabetogama with the Minnesota Tower-International Falls Corridor Trail is also maintained by IRRRB.

Area snowmobile clubs and businesses have indicated that the increased attention to the trail system in northeastern Minnesota has been extremely beneficial in attracting a greater number of winter tourists to the area, prompting resorts in the region to remain open or to reopen during the winter months.

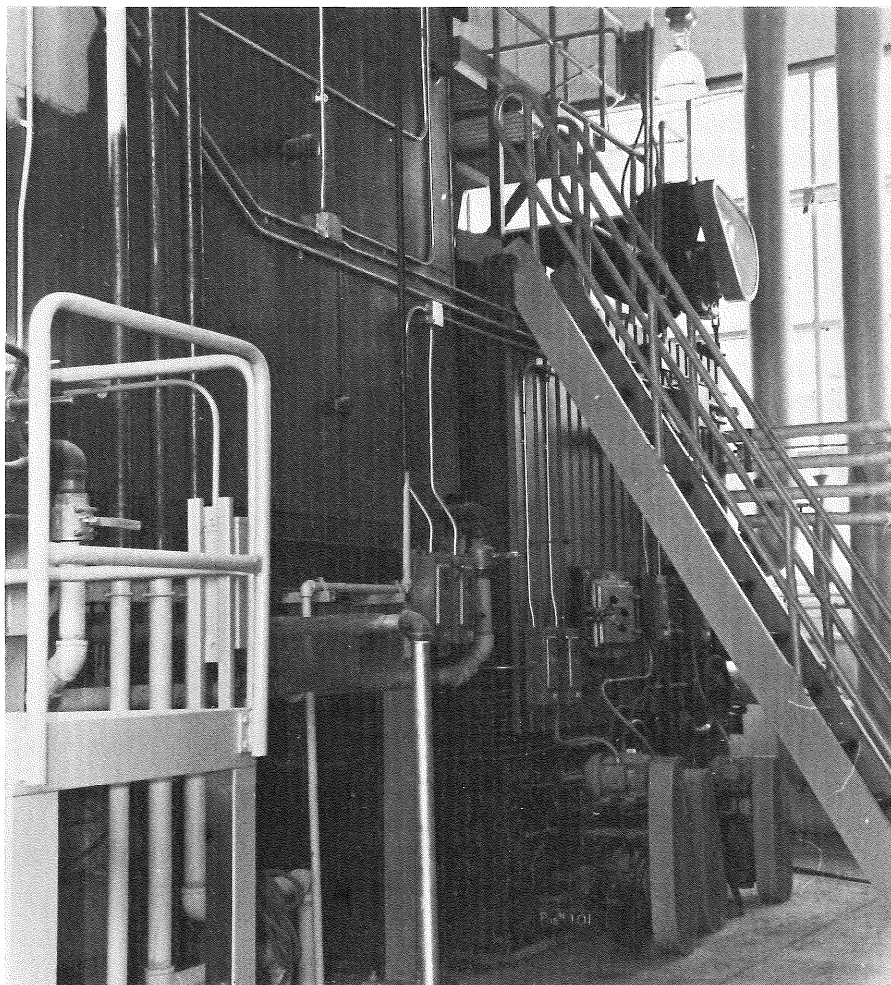


BOILER CONVERSION PROGRAM

During this biennium the IRRRB has continued to promote the conversion of area municipalities and school districts to alternate forms of energy available locally. Conversions were predominately from oil/natural gas to some form of biomass material. Wood pellets and chips as well as peat pellets or a combination of these two fuels were most commonly utilized.

A total of twenty-four conversions have been funded since the program was initiated in 1983. This was accomplished through an IRRRB grant and loan program. All of the loans are currently being repaid.

The pay-back to the Iron Range communities and school districts participating in the program has been considerable. An estimated value of the local fuels utilized in the converted boilers during the 1985-86 heating season amounts to \$711,250. If oil had been used as a fuel, the cost would have been \$2,353,208; with natural gas the cost would have been \$1,884,776, resulting in a savings of over \$1.5 million for oil and \$1 million for natural gas.



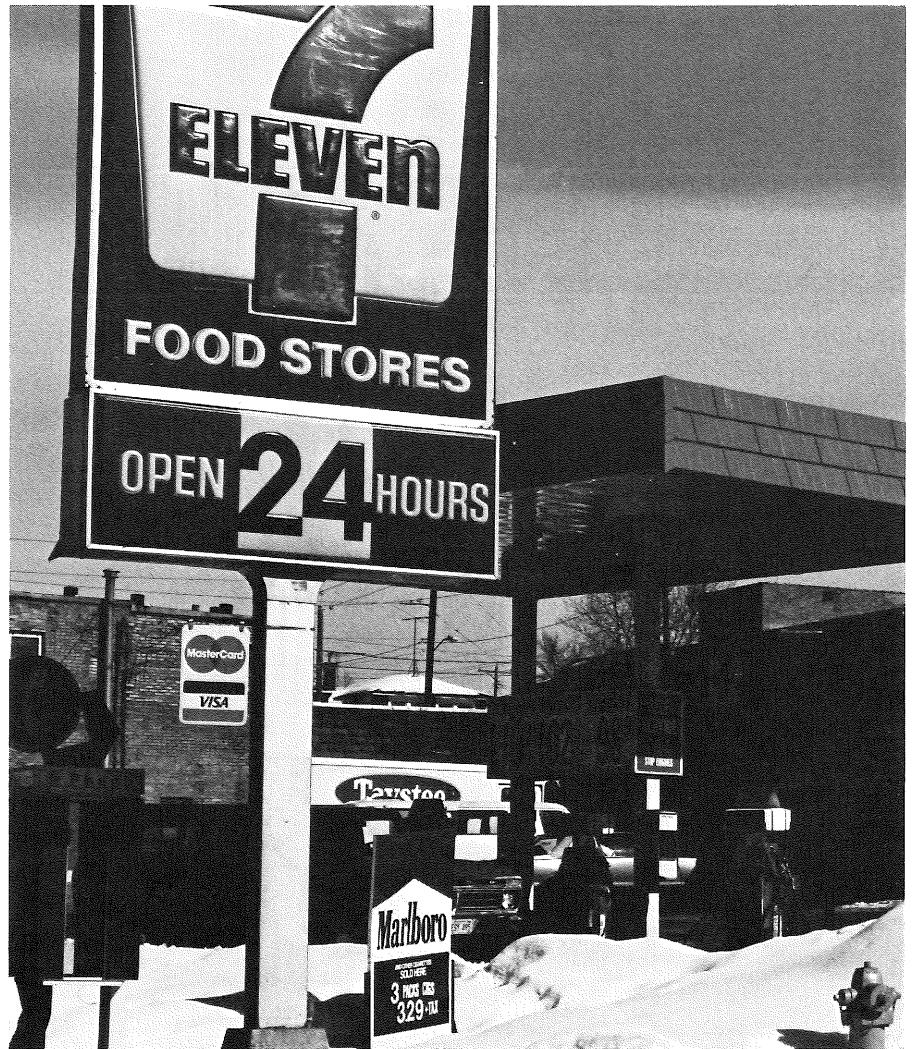
BUILDING AND DEMOLITION PROGRAM

Since 1972, many Iron Range communities have taken the opportunity to rid themselves of unsightly dilapidated buildings through the IRRRB's Building Demolition Program.

The program, initiated by Governor Perpich as part of the area's bicentennial celebration, has resulted in the razing of over 3,000 structures in the past 14 years.

During the past biennium, with a renewed emphasis on economic development, this program has continued to increase in importance. Almost every community on the Iron Range has requested assistance from the IRRRB in ridding themselves of old dilapidated buildings to make room for the construction of new buildings. Frequently, commercial development has occurred on the properties made available, thereby increasing the tax rolls of the communities.

Property owners usually funnel their demolition requests through their local governing bodies. The IRRRB then assesses the building to determine if removal is possible. The demolition program is entirely funded by the IRRRB with no charge to the property owner for the service.



TACONITE AREA ENVIRONMENTAL PROTECTION FUND

During the past biennium, IRRRB has continued to successfully utilize the Taconite Area Environmental Protection Fund to assist public projects for political subdivisions within the Taconite Tax Relief Area.

In November 1985, the IRRRB revised the Economic Development Grant Program guidelines to give priority to projects most directly supporting economic development and diversification. Funding criteria now focuses on job creation, funding leverage, relative need, regional impact and the comprehensive viability of the project.

The transition from indirect economic development through public works to more direct forms of economic development has not been easily accomplished, but local governmental units have begun to understand the need for such a change. Since the change in guidelines, grant applications for TEPF funds submitted by public entities have become more consistent with IRRRB long-term program goals.

Because taconite dollars are fewer and the demand has accelerated, only projects of the most direct regional economic benefit will be given priority for funding consideration. The IRRRB is confident that local governmental units will continue to support and work within the parameters of the program.

SOURCES OF FUNDS

Revenue Source	F.Y. 1985	F.Y. 1986
Revenue From Prior Year	\$29,099,590	\$20,309,367
Tax Receipts	12,287,158	12,703,037
Investment Income	5,233,395	4,907,931
Other Revenue	1,836,713	2,148,829
TOTAL	\$48,456,856	\$40,069,164

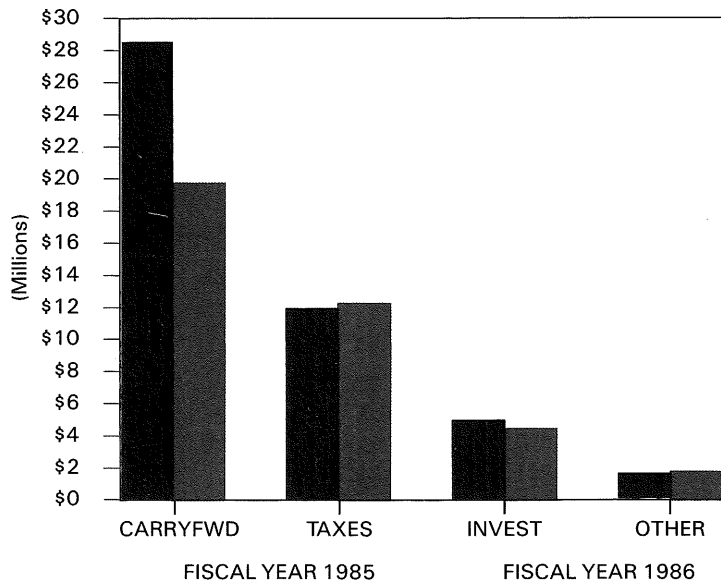
ALLOCATION OF FUNDS

Budget Activities	F.Y. 1985	F.Y. 1986
Administrative	\$ 1,123,636	\$ 1,442,935
Mineland Reclamation	1,452,730	987,145
Tourism & Econ Develop		
Tourism:		
Operation of Facilities	2,323,849	2,987,042
Iron Range Promotion	540,592	601,917
Construction of Facilities	8,230,731	3,860,127
Economic Development	10,530,463	6,016,665
Research & Beautification	394,944	319,919
Human Services	647,625	150,702
Misc Public Works	2,902,920	1,806,716
Reserve for next year	20,309,367	21,895,996
TOTAL	\$48,456,857	\$40,069,164

ALLOCATION OF FUNDS

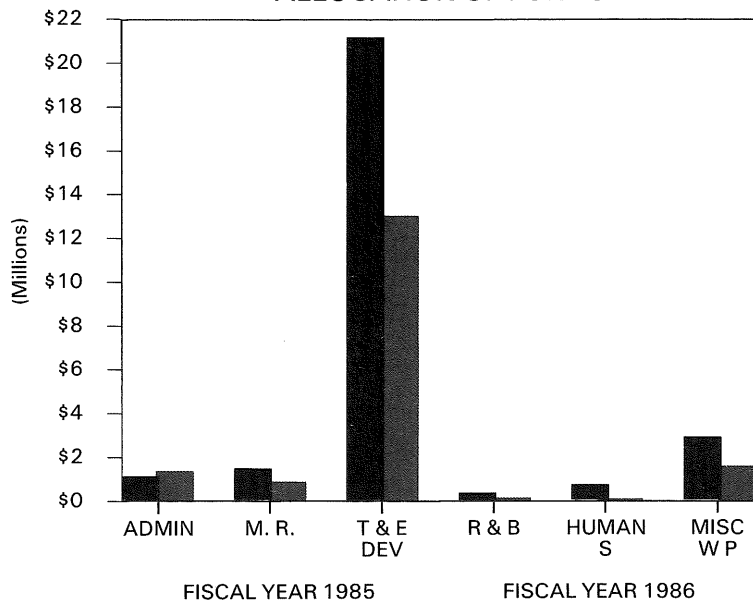
Budget Activities	F.Y. 1985	F.Y. 1986
Cities	3,335,400	980,800
Towns	263,300	2,500
Counties	731,500	789,100
Local Special Districts	76,000	0
Misc Gov't Subdivisions	27,000	26,300
Non Gov't Organizations	1,004,300	1,708,500
Loans	7,957,600	5,576,600
TOTAL	\$13,395,100	\$9,083,800

SOURCES OF FUNDS

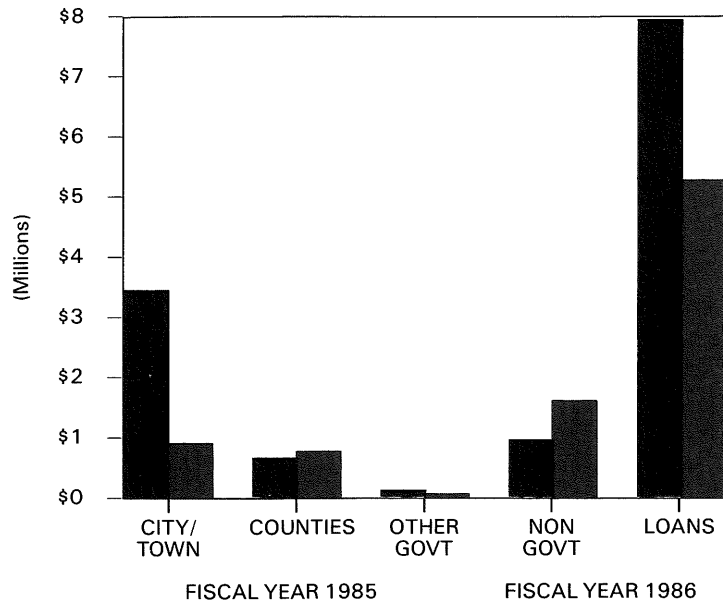


Funds are received late each year and carried forward to the following year.

ALLOCATION OF FUNDS



GRANTS & LOANS



Note: Detailed financial information available from IRRRB.

