IRON RANGE RESOURCES AND REHABILITATION BOARD

CELEBRATING 75 YEARS ON THE IRON RANGE

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FOREWORD/ACKNOWLEDGMENT

In honor of the 75th anniversary of the Iron Range Resources and Rehabilitation Board (IRRRB), we wanted to do something special to commemorate this important milestone. We ultimately decided to commission Bill Beck to write a book on the history of our agency.

I have had the pleasure of knowing Bill for many years. He is a writer and historian who has covered the iron and steel industry since the 1970s. He has done extensive writing about business history. In 1986, he wrote his first history for Minnesota Power and has published more than 100 books since.

He is a 1971 graduate of Marian College (now University), Indianapolis and did graduate work in American History at the University of North Dakota. Bill started Lakeside Writers' Group nearly 30 years ago following ten years as a business reporter for newspapers in Minnesota and North Carolina and seven years as the senior writer in the public affairs department at Minnesota Power in Duluth, Minnesota.

Through interviews with past and present IRRR board members, commissioners, and employees, as well as community members, Bill not only delves into the colorful history of our agency but also the rich history of the Iron Range.

We hope you enjoy taking a trip back in time when reading this book — as we reflect on the past, present and future of IRRRB and the region.

— Commissioner Mark Phillips

*Publication photographs were provided by the Minnesota Historical Society and IRRRB.

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CHAPTER 1

BEGINNINGS: 1941-1949

Iron Range Resources and Rehabilitation Board (IRRRB) traces its roots to the iron ranges of northeastern Minnesota at the end of the worst Depression in the nation's history. The devastating impact of the Great Depression on the natural resources economy of the Mesabi, Vermilion and Cuyuna Ranges was perhaps unprecedented in the region's history. Policy planners on the iron ranges and in St. Paul searched for ways during the 1930s to diversify the economy of northeastern Minnesota, while dealing with an iron mining industry that was concerned the state's mining taxation system would not lend itself to encouraging the investment needed to mine and process Minnesota's massive deposits of lean ore. Minnesota Governor Harold Stassen worked during the late 1930s to create a state agency to work for the rehabilitation of the region's shattered economy. Iron Range Legislators John Blatnik and Tom Vukelich, although not always in agreement with the Republican governor, shared his vision for giving northeastern Minnesotans a hand up rather than a handout. Blatnik and Vukelich wrote and sponsored transformative taconite tax legislation in 1941 that would have tremendous implications for the iron ranges and the agency in the years to come.

The Great Depression was followed in quick succession by World War II, which had an equally great impact on the natural resources economy of northeastern Minnesota. By the time the war was over in 1945, the more than

Herbert J. Miller brought decades of experience in the private and public sector to his appointment as IRRRB's first commissioner in 1941.

400 million tons of direct shipping natural ore that went down the Great Lakes during the war to the blast furnaces on Lakes Michigan and Erie sparked fears that the region would quickly deplete its natural resources in the postwar years. IRRRB was funded with a 5 percent allotment of the occupation taxes on iron ore paid by the mining companies, and its mission was to help diversify the economy of northeastern Minnesota so that another Depression - or the depletion of the region's natural ore resources - would not devastate the area economy. The agency opened for business on July 1, 1941, and the agency's first two commissioners, Herbert J. Miller and Robert J. Wilson, initiated projects in such fields as county land use, geological and hydrological studies, a tree planting program, forest aerial surveys, and diversified economic development efforts. The agency's funding of studies during World War II of powdered iron, sponge iron and taconite anticipated the technological transformation of iron mining in the Lake Superior district in the postwar years; in the years during and after World War II, IRRRB helped fund E.W. Davis and his taconite work with the Mines Experiment Station at the University of Minnesota.

SURVIVING THE DEPRESSION

For Minnesota's iron ranges, the 1920s were good years. The region's economy had been closely identified with the nation's iron and steel industry since the opening of the Vermilion Range in 1884 by Philadelphia industrialists. Less than a decade later, massive deposits of easily strippable natural iron ore were discovered on the Mesabi Range, south of the Vermilion and about sixty miles northwest of the Lake Superior port cities of Duluth and Superior. In the early 20th century, mining began on the Cuyuna Range, southwest of the Mesabi and largely within Crow Wing County.

Minnesota's three iron ranges were part of an industrial colossus that stretched south and east down the Great Lakes to Chicago, Cleveland, Pittsburgh and beyond. The integrated steel industry was just that, an amalgam of iron mines, railroads, docks, fleets, coke ovens, blast furnaces, and rolling mills that made the United States the world's preeminent producer of steel by the second decade of

This steam-powered shovel was emblematic of the open pit mining on Minnesota's Mesabi Range during the first half of the 20th century.

the 20th century. Steel was big business, and household names like Carnegie, Gary, and Morgan controlled the business of making and marketing steel; in 1901, the trio joined together to form U.S. Steel, the nation's first billion dollar company.[1] A month later, John D. Rockefeller would sell his Bessemer fleet to what was already known on the iron ranges as "the steel trust."[2]

The workers on Minnesota's iron ranges labored in open pit and underground mines for managers like the Oliver Iron Mining Company - the face of U.S. Steel in northeastern Minnesota - Pickands Mather, Hanna Mining Company, Oglebay Norton, Cleveland Cliffs, Butler Brothers, and others. While much of the rest of Minnesota had been populated in the second half of the 20th century by immigrants from Norway, Sweden, Denmark, Germany and Ireland, the state's iron ranges attracted a mixture of peoples unlike those who settled elsewhere in Minnesota. Between the opening of the Vermilion Range in 1884 and the opening of the Cuyuna Range a quarter-century later, immigrants from the Russian, Austro-Hungarian and Ottoman Empires flooded into northeastern Minnesota, attracted by the abundant work in the region's mines and forests. Finns, Poles, Slovenians, Croats, Serbs, Italians, Cornishmen and others gave the Arrowhead region an ethnic diversity that set it apart from the rest of Minnesota.

The iron ranges fared well during the 1920s. Agricultural commodity prices had plummeted following the end of the First World War, creating difficult times for the farmers of Minnesota and the Upper Midwest during the 1920s. But the nation's steel industry was busy for much of the period, as American companies built mass-produced automobiles and erected skyscrapers in most of America's cities. Iron ore shipments from the Lake Superior district topped 65 million tons in 1929, and U.S. Steel posted its best quarterly earnings since the war year of 1918.[3] But the good times for the American economy would not last.

In the fall of 1929, the giant credit bubble that had characterized Wall Street for much of the decade finally popped. In the last week of October, the market took a downward turn that would take more than two decades to correct. In the last two months of 1929, the market dropped 40 percent in value. The rest of the economy wasn't far behind. By early 1931, stripping at the giant Mahoning pit on the Mesabi Range was suspended, and it wouldn't be until

1933 that limited stripping of overburden at the pit was resumed.[4] Mining volume on the Minnesota ranges hit a ten-year low, and unemployment on the Mesabi Range soared to 65 percent in 1932. For much of the early to mid-1930s, pits and mines on the Minnesota ranges were shut down as much as they were in operation.

President Franklin Delano Roosevelt's election in 1932 set in motion changes to the U.S. economy that would help pull the country out of the recession. Unemployed miners found work in the New Deal's alphabet agencies, including the Civilian Conservation Corps (CCC) and the Works Progress Administration (WPA). The stopgap measures helped the Minnesota ranges survive until the recovery of the iron and steel industry, which was well underway by the late 1930s. The economic upheaval of the global Great Depression unleashed a wave of nationalism in Europe and Asia that culminated with aggressive dictatorships in Nazi Germany, Fascist Italy and Imperial Japan.

Adolf Hitler's invasion of Poland in September 1939 set the world on the path to a second global conflict in 20 years. President Roosevelt convinced Congress to pass legislation repealing the arms embargo portions of the Neutrality Act, and the domestic iron and steel industry immediately began making a shift to a wartime economy that would find full fruit just two years later. Miners on the Minnesota ranges were called back to work, and 1940 was the best year for the nation's iron and steel sector since 1929.

But as the fears about the economy began to lift, Minnesota's iron ranges were faced with a new concern. The steel and iron mining companies that were the pillar of the northeastern Minnesota economy were worried that the direct shipping natural ores of the Minnesota ranges were in danger of depletion, and that methods to beneficiate the lean ores of Minnesota might be hampered by the state's system of taxing iron ore.

MINING TAXES AND THE FORMATION OF THE IRRRB

As early as the mid-1930s, the iron and steel companies were reporting that the direct shipping natural ores of the Minnesota ranges were not inexhaustible, and that the future of mining in Minnesota likely rested in the reserves of taconite that underlay much of the Mesabi Range. A hard, flint-like ore with an iron content of about 20-30 percent, taconite would need to be processed before it was shipped to the blast furnaces of the steel mills on the Lower Great Lakes. Since 1929, E.W. Davis at the University of Minnesota Mines Experiment Station in the Twin Cities had been urging the iron and steel companies operating in the state to explore methods of mining and processing taconite. By the mid-1930s, Pickands Mather, Oglebay Norton and other iron mining companies in the area had begun to investigate how taconite might be efficiently mined, processed and shipped.

Minnesota levied an ad valorem tax on iron ore that was based on the value of a transaction or of the underlying

Miners, pictured here in the early part of the 20th century, came to Minnesota's iron ranges from every country in Europe.

property. The state also levied occupation and royalty taxes on iron ore. The mining companies argued that the ad valorem tax was applied to ore still in the ground year after year. They produced a report that said ad valorem taxes averaged $18 million a year during the 1920s when the industry was shipping 33 million tons of ore a year, but were still $16 million a year when the industry was shipping less than three million tons a year in the early 1930s.[5]

As early as 1939, Minnesota Governor Harold Stassen and legislative leaders agreed to the appointment of a nine-member study commission to investigate the issue. Iron Range legislators argued during the contentious 1939 session that the bulk of the tax money from the mining companies had gone directly to the local units of government on the three iron ranges. They pointed out that Range communities didn't have access to local property taxes from mining, and that much of the tax revenues during the 1930s had been allocated to relief for unemployed miners.[6]

The nine-member committee would spend much of the next two years deliberating. But Iron Range residents took matters in their own hands. John Blatnik, a teacher and member of the Chisholm Chamber of Commerce, and Senator Richard Kelly of Chisholm, stumped northeastern Minnesota with a plan to rehabilitate the state's iron ranges, calling for changes in Minnesota tax law that would give the mining companies incentive to develop low-grade ores like taconite. Drawn up by the Junior Chamber of Commerce of Northeastern Minnesota, the rehabilitation plan recommended money appropriated for rehabilitation not be used for direct work relief but rather for assisting local residents to become self-sustaining. The Junior Chamber also recommended personnel to administer the program should include adequate representation from the Iron Range, and the offices of the commission be located on the Mesabi Range.[7] The Junior Chamber of Commerce's rehabilitation plan also called for municipalities and government bodies in the region to form closer links and cooperate on the establishment of a four-year college for the iron ranges and municipal forests in the region. Blatnik would use his rehabilitation plan to launch a successful campaign for the Minnesota Senate in the 1940 elections.

Minnesota's Republican Governor, Harold J. Stassen, worked closely with DFL legislators like John Blatnik, Richard Kelly and Tom Vukelich to reform Minnesota mining taxation and create an agency to rehabilitate the depression-ravaged iron ranges.

When the nine-member study committee published its recommendations in 1940, it essentially dropped the issue back into the hands of the Minnesota Legislature. The committee recommended a reduction in ad valorem taxes while raising occupation taxes, a solution that pleased nobody. Governor Stassen and the Legislature spent much of the 1941 session negotiating the issue, and the Governor assured Senator Blatnik that a rehabilitation agency for the iron ranges would be a part of the final tax bill. Meanwhile, Blatnik and Representative Tom Vukelich of Gilbert introduced a bill that would tax low-grade ores like taconite on the basis of the amount of ore mined each year. The Blatnik legislation, which found its way into the 1941 tax bill, created a production tax for taconite that would levy a five cents-per-ton tax on taconite that was mined, processed and shipped. It was basically a production tax that also provided for a royalty of 13.5 cents per ton on taconite concentrates.

In a statewide radio broadcast on March 27, 1941, Governor Stassen devoted the entire program to the problems the Great Depression had created in northeastern Minnesota. He signaled his willingness to sign legislation creating a comprehensive resources rehabilitation program for the area. "It is clear that there is much more involved in the Iron Range problem than the question of how much taxes the mining companies should pay and what part of it the state should get and what part the local communities should get," Stassen said. "The real problem is what kind of a rehabilitation, what kind of hope to those men and women and children can we develop. I am pleased to hear that some of the people of the Iron Range territory, particularly some of the younger men, are looking at the problem in this broader sense."[8]

Governor Stassen signed the mining tax reform package into law on April 27, 1941.[9] Two provisions of that far-reaching piece of legislation - the formation of the Office of the Commissioner of Iron Range Resources and Rehabilitation and the creation of a workable taconite tax - would guide the future of Minnesota's iron ranges for the next three-quarters-of-a-century.

THE COMMISSION

The Iron Range Resources and Rehabilitation Commission (IRRRC) got its official start on July 1, 1941, at the State Capitol in St. Paul.[10] Under the terms of the legislation, the governor appointed a commissioner to serve at his pleasure and with "the advice and consent" of the legislature. Governor Stassen appointed Herbert J. Miller, the executive secretary of the Minnesota Resources Commission, as the IRRRC's first director.[11] Miller established IRRRC offices in the Minnesota Resources Commission offices in St. Paul, and the commission operated that first year with a budget of $158,000 funded by a 5 percent portion of occupation taxes paid by the mining companies.[12] The new commission also maintained an office in the Chisholm Library. Subsequent legislation in 1943 called for creation of a seven-member commission to advise and guide the commissioner. The commission would be made up of three members of the Minnesota House of Representatives, three members of the Minnesota Senate, and the state conservation commissioner.[13]

Miller, the commission's first director, was one of the state's best-known public policy advocates. Born in Heron Lake in 1894, Miller did his undergraduate work at the University of Minnesota and then studied at the Sorbonne in Paris in 1918. He returned to Minneapolis-St. Paul and helped organize the Minnesota Taxpayers Association (MTA) in 1924. Miller served as director of the MTA from 1927 to 1930; during the Great Depression, he was president of the Minneapolis Civic and Commerce Association from 1935 to 1939 and was director of the Minnesota Resources Commission from 1939 to 1942, during which time Governor Stassen named him the first director of IRRRC.[14]

Miller moved quickly in 1941 to position the IRRRC to "develop jobs and income in those counties affected by the decreasing amounts of taxes from iron ore."[15] He realized the new commission had extensive powers to determine when "distress and unemployment exist or may exist in the future by reason of the removal of natural resources." Early in his tenure, Miller began reaching out to expertise across the state to form study committees on mining, forestry, agriculture and vocational training. Among the commission's first projects in 1941 and 1942 were an updated geological survey of northeastern Minnesota, creating a model for vocational training, and research on the region's low-grade iron ore resources.

The new commission's efforts to establish a rehabilitation program for the mining regions of northeastern Minnesota were almost immediately superseded by U.S. entry into World War II. The Japanese attack on the U.S. Navy base at Pearl Harbor, Hawaii on Dec. 7, 1941, just five months after the IRRRC began operation, changed the dynamics of the iron range economy for the next five years. Herbert Miller would not remain to see the dramatic change. He left his position as executive director of the Minnesota Resources Commission and first director of IRRRC in the summer of 1942 and soon after moved to Washington, D.C., where he was associate director of

the Citizens National Committee, which supplied information on government programs to state taxpayer organizations like the MTA.[16]

THE WILSON YEARS

The U.S. entry into the global war completely shifted the focus of rehabilitation on the iron ranges to an all-out program to extract the prodigious amounts of iron ore required to make the United States the Arsenal of Democracy during World War II. Overnight, mines that had been closed since the early 1930s reopened, and northeastern Minnesota began mining and shipping nearly 400 million tons of ore down the Great Lakes that helped the United States win the war and emerge as a global superpower. Miller's successor, Robert E. Wilson, was a St. Paul attorney who succeeded Miller as executive secretary of the Minnesota Resources Commission. Wilson would spend the first several years of his term as commissioner of the IRRRC primarily on manpower issues. Wartime demand for iron ore doubled production in the mines of St. Louis County from 1939 to 1942, and tonnages would increase again in 1943 and 1944.[17] Iron ore production from the Minnesota and Michigan ranges actually peaked in late 1943, but between the time Wilson began his tenure as IRRRC commissioner in 1942 and the end of the war, the Lake Superior iron ore mines shipped well over 300 million tons of ore down the Lakes to the blast furnaces of America's steel industry. About two-thirds of that total came from the Minnesota ranges.[18]

With the battle for production on Minnesota's iron ranges essentially won by the end of 1943, Wilson steered the IRRRC into rehabilitation and resources. He initiated a program called "postwar planning in action" that laid the groundwork for much of the postwar development of industry on the Minnesota iron ranges. Wilson and the IRRRC provided northern Minnesota counties with the services of professional foresters and funded comprehensive studies on the practice of reforestation of the region's cutover lands. The commission's work in surveying forests and water resources, mapping topography and land ownership, studying wood species, and providing the first aerial surveys of northeastern Minnesota were a real boost for the rehabilitation of northern Minnesota's wood products industry in the post-war era.[19]

Wilson didn't neglect the human resources of Minnesota's three iron ranges. He brought in instructors to teach vocational education in the local schools, partly to assist the war effort, but also to give residents exposure to such employable skills as home economics, typing, shorthand and business accounting.

Wilson was a strong advocate of developing the cold weather cash crops of northern Minnesota. He promoted the increase of dairy herds and milk production in the region, bringing in specialists from the University of Minnesota's school of agriculture to assist local dairy farmers. He approved loans for local food production, like the $5,000 loan to Grand Rapids entrepreneurs in 1945 to start a plant to can locally-grown rutabagas.[20] Wilson

The agency's mandate to provide vocational education resonated in northeastern Minnesota, where several generations of immigrants had flocked to classrooms to learn language and job skills.

was among the first to see the potential for the development of the region's vast peat resources. He provided the impetus and funding for a series of studies, surveys, and inventories of northeastern Minnesota's natural and human resources.

Wilson and IRRRC were also strong advocates for diversifying the region's mining industry. The wartime demand for direct shipping natural ores accelerated the depletion of high-grade ores like hematite. Wilson was well aware of and in tune with the public and private research efforts that were going on during the war and after to develop the abundant low-grade iron ore resources of northeastern Minnesota. The agency's first transfer of funds, in 1942, was a $40,000 grant to the University of Minnesota Mines Experiment Station.[21] Professor E.W. Davis, the station's charismatic director, had been studying the beneficiation of taconite since the late 1920s, and he kept Wilson in the loop about the activities of Reserve Mining Company and Erie Mining Company, the two taconite firms established by the region's iron and steel companies. In 1943, IRRRC funded a pilot plant near Aurora to test powdered

iron technology for low-grade ores.[22] The plant was eventually unsuccessful, but in the early 1950s, Erie Mining Company would build a successful taconite pelletizing pilot plant just several miles north of the IRRRC venture.

The first decade of the commission's history was spent preparing Minnesota's iron ranges for a postwar future. That future would be dependent upon an intelligent use of the region's abundant natural resources.

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CHAPTER 2

A NEW DAY DAWNING: 1950-1964

The work done by the agency in the 1950s and early 1960s complemented the foundational work done under Herbert Miller and Robert E. Wilson in the 1940s. The 1950s and early 1960s were for the most part good years for the region's mining economy, although concerns about the increasing pace of natural ore depletion became more widespread following the Korean War. As a result, the agency under Commissioners Ben F. Constantine, Edward G. Bayuk, and Karrlo J. Otava undertook major steps to encourage the forest products industry in northeastern Minnesota, with studies on the feasibility of using aspen for veneer and plywood and an aspen site study. The agency played a major role in helping encourage the establishment of the NuPly plant in Bemidji, a pioneer in the commercial use of aspen for plywood. IRRRB took its first steps in studying how the region's peat resources could be made economically viable and commissioned a comprehensive forest resources study, which would be frequently updated during the next several decades. The agency kept its vision firmly focused on new mining technologies, and the role IRRRB played in the establishment of the Mesabi Range's first taconite facilities, Reserve Mining Co. and Erie Mining Co. was critical to the creation of a new industry on the Mesabi Range. The agency played a key role in encouraging the 1964 passage of a constitutional amendment to change the way the state taxed taconite production.

CHANGES AT THE TOP

On May 2, 1949, Ben P. Constantine took office as IRRRC's third commissioner - and first commissioner from the Minnesota iron ranges. Constantine, a 40-year-old attorney from Eveleth, was Mayor of Eveleth from 1946 to 1949 and intimately familiar with the need for rehabilitation and resource planning in the region.[1] During the 18 months he served as commissioner, Constantine continued the programs put in place by Robert E. Wilson, his immediate predecessor. Through a written legal opinion solicited from Minnesota Attorney General J.A.A. Burnquist in 1949, Constantine established the principal that the commissioner could move forward with projects or funding, even if the commission's board members disapproved of the actions in question.[2] Constantine's initiative would govern how the agency was run until the Minnesota Legislature made changes in IRRRB's governance structure in 1995.

Constantine's tenure as commissioner was short. He was replaced as commissioner on Nov. 21, 1950, by Edward Bayuk; four days later, Red Chinese troops ambushed the U.S. Second Division and the South Korean Second Corps in the hills south of the Yalu River. Within a week, U.S. Marines were fighting a desperate battle at the Chosin Reservoir. The fighting in far-off Korea would place an indelible stamp upon Bayuk's tenure as IRRRC commissioner. It would also present the agency with an essential irony that had first been revealed during World War II.

By the end of World War II, mining company executives were taking a new look at developing northeastern Minnesota's abundant resources of low-grade taconite ore.

The heavy fighting in Korea once again served to accelerate the depletion of direct shipping natural ore from Minnesota's three iron ranges. Domestic steel production averaged about 100 million tons a year during the Korean War, from 1950 to 1953.[3] As during World War II, much of the iron ore to make that steel came from the Lake Superior district. But mines in Minnesota and Michigan were increasingly struggling to furnish the demand for iron ore from the nation's blast furnaces. More than a decade-and-a-half of accelerated wartime and peacetime recovery demand had taken its toll on the natural ore reserves of the Minnesota iron ranges. By the time Bayuk left office in 1955, Minnesota natural ore production would be entering its last stretch. In the latter half of the 1950s, underground production on the Cuyuna Range would virtually cease.[4] Mining companies would liquidate stockpiles on the Vermilion Range during the period, and the iconic Soudan Iron Mine would close for good in the early 1960s.[5] The Mesabi Range would remain a relatively strong producer, however. After shipping more than 75 million tons in 1953, the Mesabi would throttle back to an average of less than 50 million tons each year between 1954 and 1957. Even in the late 1950s and early 1960s, Mesabi Range production of natural ore rarely slipped much below 35 million tons.[6]

The essential irony of the accelerated depletion of Minnesota's natural ore was that the Great Depression conditions of unemployment that led to the creation of the agency in 1941 had not been duplicated since. Mines had been operating around the clock since the Japanese attack on Pearl Harbor, and anyone who wanted a job could have one. Bayuk recognized the irony. In 1952, he cautioned that even though the region enjoyed full employment, the agency should keep "an eye to the future" in its attempts to create a "better balanced economy as cushion for the future as well as to meet the immediate needs of new vocational fields."[7]

The agency early on struggled with another reality that was illustrated by the good times of the wartime economy. Since it was funded by a portion of the occupation taxes levied on mining, it received more money the more ore that was mined and processed. That created a dichotomy that meant that in lean years, the agency would have less money to do the things for which it was originally chartered. The funding problem, which first became evident in the early 1950s, would continue to plague the agency for its entire history.

In the early years of the 20th century, sawmills like the Rainy Lake Lumber Co. Mill in Virginia had cut and planed millions of board feet of sawtimber; by the 1950s, the industry was transitioning to a reliance upon spruce, aspen and popple for paper production.

DIVERSIFYING INTO FORESTRY INITIATIVES

One obvious area for diversification in the postwar era was the wood products industry. Much of the northern half of the state had been heavily logged in the half century between the 1890s and World War II. The white pine of northeastern Minnesota had been logged for sawtimber, and millions of board feet of pine went down the Great Lakes from Duluth-Superior, destined for home and business construction in the growing cities of the Lower Lakes and Midwest. Lesser quality spruce and red and jack pine had been cut to make pulp at newsprint mills in northern Minnesota and nearby Canada. But much of what was

Following World War II, family-owned logging firms operating specialized equipment and heavy trucks supplanted the lumberjack camps prevalent in the early part of the century.

referred to as "cutover" land was in public hands at the end of World War II. During the 1930s alone, 70 percent of all the forest land in St. Louis and neighboring counties had reverted to state ownership because of non-payment of property taxes.[8]

The industry was undergoing several other transformations during the 1950s. The old "man camp" system of lumberjacks living in the woods and cutting trees for a particular mill was rapidly being replaced by family-owned logging firms. Those family loggers were driving to the logging site on all-weather roads and cutting trees with mechanized equipment first developed on the battlefields of Europe and Asia, like gasoline-powered chainsaws and crawler-tractor equipment.[9]

The mills themselves were also changing. The Minnesota and Ontario Paper Company (Mando) mill complex in International Falls was a prime example of that change. Built early in the century as a newsprint mill, the International Falls mill and its Canadian sister across the Rainy River in Fort Frances, Ontario, served newspapers in the United States and Canada. Following World War II, the International Falls mill underwent a major expansion to serve growing coated-paper markets in the United States, mainly to publishers printing popular weekly and monthly magazines. Between 1945 and 1947, the International Falls mill converted to 100 percent production of higher-quality coated papers. On March 15, 1948, the entire U.S. edition of Newsweek magazine was printed on coated paper from the Mando International Falls mill.[10]

The changing markets for coated paper accompanied a switch to the abundant aspen or poplar resource of northern Minnesota. The pulpwood cut in Minnesota had doubled in the 1940s to more than 900,000 cords a year, and that increase had dramatically reduced the cut for spruce.[11] Aspen lent itself well to making pulp for coated paper, and by 1950, most of the mills in the state were relying on aspen for pulp for their paper production.

Since the agency had originally worked with civic officials in an unsuccessful attempt to create municipal forests on the Minnesota iron ranges, IRRRC had been interested in helping diversify the region's economy by encouraging development of the forest products industry. New and updated paper mills, like that being demonstrated in the 1950s at Mando's International Falls mill, were particularly attractive because they could offer high-wage industrial-type jobs like those in the mining industry.[12]

In 1950, the agency provided foresters to conduct a study designed to test the feasibility of using aspen for plywood or veneer. That study hit pay dirt several years later when Nu-Ply built a hardboard plant on the site of the abandoned Crookston Lumber Company mill in Bemidji; by 1956, the Nu-Ply plant had a workforce of 100 people.[13] In 1953, the agency funded a major aspen site study, followed by a forestry utilization marketing program in 1957 and a timber pricing report a year later. From 1959 to 1962, the agency funded its third Minnesota Forest Survey, a comprehensive survey of forest resources in the northern half of the state.[14]

Much of the forestry work was accomplished out of the agency's office in Hibbing. In the 1950s, as many as 15 foresters worked out of the Hibbing office, and they were kept in line by the office manager, Matilda "Tillie" (Davich) Morrissey. The daughter of Yugoslav immigrants and a native of Hibbing, Morrissey had joined the agency a little over a year after its founding in October 1942 under Robert E. Wilson, the second commissioner. Tillie would become a legend in the 52 years she worked for the agency.[15]

Homegrown entrepreneurs like Jeno Paulucci, who built his Chun King food line into a retail giant, frequently got their start with loans from IRRRB.

Less successful were the agency's postwar agricultural initiatives. The short growing season, distance to market and poor soil made it generally impossible for farmers to make enough money to survive. There were exceptions, however. In the late 1940s, Hibbing native Luigino Paulucci approached the agency for funding to raise celery on peatlands near Eveleth that would be processed in a Duluth canning plant that was producing Chinese food. The loan request was greeted with a certain amount of derision, but Jeno - as he would become known - had the last laugh. He built his Chun King company into a major purveyor of Chinese food, repaid the IRRRB loan, and later sold Chun King to R.J. Reynolds for $60 million.[16]

The peat land that Jeno used to grow his celery in the 1950s was a resource the agency began studying early in its history. Northern Minnesota has the largest acreage of peatlands in the contiguous 48 states, and although peat bogs in Europe have been harvested extensively for use

as fuel and as fertilizers, the peat bogs of Minnesota have never gained commercial traction. That hasn't stopped the agency from studying how the peat resource in the state could be used in an environmentally sound and economically efficient manner.

NEW PROJECTS

The agency's commitment to economic development for northeastern Minnesota picked up steam as the 1960s began. In the 1960-1962 biennium, a total of $433,750 was made available to new industries through lease-purchase contracts for equipment, machinery and buildings. The new private projects were often small, employing a handful of people. But the cumulative impact of the early 1960s infusion of economic development funding resulted in jobs for 160 people in the region.

The agency helped fund a dozen new businesses in the region, from Chisholm to Duluth, and from Northome to Crosby. A cedar fence post manufacturing plant in Northome was typical of the projects assisted by IRRRB. The agency appropriated $55,000 for the construction of the plant, at the request of the Northome Community Club. The plant employed as many as 30 residents, and also provided employment for loggers in the area. The fence posts were shipped out of the market to retailers in the Dallas, Texas area.[17]

Following up on Jeno Paulucci's success in the 1950s in growing celery on the region's peatlands, the agency assisted Mesabi Grow Company of Cotton in the early 1960s with a $50,000 appropriation for purchasing packing equipment. Mesabi Grow processed and packaged peat for horticultural purposes and hoped to expand into a new building in the Central Lakes area. In 1962, the company shipped 50 carloads of horticultural peat to distributors throughout the South and Midwest.[18]

The agency also became active during the early 1960s with encouraging economic development through its technical assistance grants. In the 1960-1962 biennium, IRRRB provided more than $775,000 for technical assistance grants, $300,000 of which went to the University of Minnesota School of Mines Experiment Station. Some $465,000 in technical assistance grants went to projects including the Carey Lake Recreation Area, the County Corner Post Relocation, the Minnesota Arrowhead Association, the Range Regional Planning Commission, the Range Municipalities and Civic Association, and the U.S. Geological Survey.[19]

Intriguingly, more than $90,000 of the technical assistance grants in the 1960-1962 biennium was earmarked for the study of turning lean ores on the Mesabi and Cuyuna ranges into direct reduced iron (DRI). The agency appropriated $77,500 to Zontelli Brothers of Crosby, which was working with Krupp Steel in West Germany to reduce ore from Minnesota at its pilot DRI plant in Essen, West Germany. The agency also made $15,000 available to the engineering consulting firm of Ford, Bacon & Davis of New York, which was completing a report on the feasibility of locating a DRI plant on the Mesabi Range.[20]

The agency's interest in DRI was prescient, although a half-century ahead of itself. By the early 1960s, IRRRB, the Iron Range and Minnesota were on the cusp of the taconite revolution.

TACONITE AND LEGISLATIVE TRANSFER

Mountain Iron native Kaarlo Otava, the second resident of the Mesabi Range named commissioner of IRRRB, took office in 1955. His six-year term would coincide with a major transition in the region's mining industry. Otava, who would lead a Minnesota delegation to Europe in 1958 to study peat, presided over the beginnings of the taconite industry.

As it was, the commercial opening of Reserve and Erie, Minnesota's first two taconite operations came in the nick of time. By the mid-1950s, Minnesota's iron ranges were facing the real prospect of foreign competition. In 1953, the Lake Superior Iron Ore Association reported that "ore from Canada, Venezuela, Chile, Sweden, Africa, and other places is now coming into the United States and there is every reason to believe that this movement will continue in the future."[21] The association reported that several projects being developed in South America would soon start shipping iron ore to mills on the East Coast, including Bethlehem Steel's Sparrows Point mill on Baltimore Harbor and U.S. Steel's Fairless Works near Philadelphia. In Peru, the association pointed out, Marcona Mining Company was developing properties expected to produce more than two million tons of direct shipping ore annually. In Venezuela, investors were developing the Cerro Bolivar project, a veritable mountain of iron ore that U.S. Steel would start mining in 1957.[22]

But Reserve and Erie were the vanguard of an economic and technological revolution that would transform iron mining in the Upper Great Lakes region. It was the Cold War, and executives of the major domestic steel companies made a calculated decision to keep close control of the natural resources that went into making steel. Cliff Niemi, the longtime U.S. Steel Minnesota Ore Operations general manager, said in 2011 that taconite "saved the Iron Range. If we didn't have the taconite industry, you wouldn't have a mining operation in Minnesota today."[23]

A 20-YEAR RECORD

In late 1962, the agency issued its first truly public biennial report. Prior to 1962, IRRRB's biennial report had never more than a brief summary of agency activities during the biennial period. Since the agency considered the 1961-1962 biennium the 20th anniversary of IRRRB, the commissioner and his staff prepared a more complete report of 44 pages, including a review "of all projects in which the Department has a financial interest at the present."[24]

The 20-year summary of receipts, transfers and liquidations was eye-opening. Between 1941 and the end of 1962, IRRRB had collected total receipts of nearly $16.5 million. Legislative transfers for the 20-year period totaled nearly $6 million. Of that, almost $3 million had been earmarked for the Division of Forestry in the Department of Conservation. Another $800,000 had gone to Conservation's Division of Lands and Minerals. Just over $1.7 million had been disbursed to the University of Minnesota's Mines Experiment Station, mostly for research in processing lean ores and taconite.[25]

That left $10.5 million available for expenditure by the agency. Administrative costs, including salary, benefits, etc. amounted to less than $800,000, about $40,000 a year. The remaining funds went to assist businesses in northern Minnesota, to fund jobs, to plant trees, to survey land, and to pay for municipal needs in the region.[26]

In two decade's time, the agency had been associated with its share of successes and failures. But nobody could argue that IRRRB didn't have the interests of the region at heart and worked diligently to better the lives of the people who lived in northern Minnesota.

ENDNOTES

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INTERLUDE I

THE TACONITE REVOLUTION

The taconite revolution in Minnesota began during an 18-month period of 1956 and 1957. In April 1956, the first load of taconite pellets was loaded into an ore boat at Silver Bay on Minnesota's North Shore bound for a steel mill on Lake Erie. The pellets came from Reserve Mining Company's E.W. Davis Plant at Silver Bay.[1] In the fall of 1957, a load of pellets arrived at the newly constructed ore dock at Taconite Harbor, Minnesota from Erie Mining Company's new plant at Hoyt Lakes. The beginning of commercial operations at Reserve and Erie Mining Company signaled that the taconite era had truly begun on the Upper Great Lakes.

The opening of the first two taconite plants in Minnesota ushered in an era of construction and development on the Mesabi Range unequaled since the original opening of the natural ore deposits on the Range in the 1890s. In the two decades following the opening of the Reserve and Erie facilities, another half-dozen taconite plants would be built on the Mesabi Range. By 1979, the Range would send more than 50 million tons of pellets down the Great Lakes to the blast furnaces of the nation's integrated steel industry. The transition from direct shipping natural ores from the diverse mining ranges of the Lake Superior District to a concentration of taconite plants in Minnesota and low-grade pellet plants on the Upper Peninsula's Marquette Range transformed the natural resources economy of the

Upper Great Lakes in a manner that exceeded even E.W. Davis' wildest dreams.

THE TRANSITION FROM NATURAL ORE

Although the beginnings of the taconite era in Minnesota seemed to many observers to be a sudden event, the emergence of a pelletizing industry traced its roots back more than 40 years. In the years before World War I, Daniel Jackling, a mining engineer who had developed Utah's massive Bingham Canyon copper deposit, attempted to pelletize low-grade iron ore near Babbitt. Jackling's Mesabi Iron Company eventually failed in the early 1920s because the company's baseball-sized pellets could not compete with the more plentiful natural ore of the Mesabi Range.

In 1929, E.W. Davis, a young instructor at the University of Minnesota's Mine Experiment Station in the Twin Cities, began working with the taconite ores of the Mesabi Range. Davis was convinced that the direct shipping natural ore that had been the mainstay of the Minnesota iron ore industry since Charlemagne Tower opened the Vermilion Range in the late 1880s would inevitably run out. He was equally convinced that the almost limitless reserves of low-grade taconite ore in northeastern Minnesota could be efficiently mined, crushed, concentrated and pelletized to produce an enhanced form of iron ore that would make steel mill blast furnaces as much as 40 percent more efficient than those charged with natural ore.

The key to steel company interest in making the major investment in taconite processing facilities was the potential depletion of the natural ore in the Lake Superior District. Geologists had been predicting for much of the 20th century that there was only a finite supply of the rich, red ore of northeastern Minnesota. More than 300 million tons of that natural ore went down the Lakes to help the United States and its allies win World War II, and nearly another 200 million tons were mined and shipped during the Korean War in the early 1950s. By the end of the decade, two of Minnesota's three iron ranges were exhausted. Shipments from the Cuyuna Range dropped to below two million tons in 1958.[2] By the early 1960s, the Vermilion Range had gone through most of its stockpiles, and the iconic Tower-Soudan underground mine re-opened as a state park later in the decade.[3]

The Mesabi Range mines were the last to exhaust their natural ore reserves. The Mesabi was still producing as much as 34 million tons of natural ore into the mid-1960s, and taconite production on the Range would not exceed natural ore production until the 1970s.[4] The Mesabi also was a pioneer in the 1950s in the beneficiation of leaner ores, essentially washing impurities from the ore before shipping it down the Great Lakes.

The steel companies and their iron mining partners did have options to deal with the expected depletion of Lake Superior District natural ores. Postwar discoveries of vast new deposits of iron ore in South America and Africa meant the iron ranges of Minnesota and Michigan faced the prospect of foreign competition in the 1950s. Although ore from foreign sources would compete with ore from the mines of Minnesota and Michigan, the competition was in an indirect sense. Lake Superior district ore was destined for U.S. and Canadian mills on the Lower Great Lakes. For all intents and purposes, ore from the Upper Great Lakes was captive to the steel mills clustered on the Lower Great Lakes, from Chicago to Buffalo.

But the opening of vast new deposits of direct shipping ore along the Labrador-Quebec border opened up the possibility of a new source of Canadian iron ore for North American steelmakers. The Korean War demonstrated the need of a waterway that would open up the steel mills on the Lower Great Lakes to the new Canadian ore deposits in Labrador and Quebec. The construction of the St. Lawrence Seaway, which essentially bypassed the rapids and waterfalls on the St. Lawrence between Buffalo, New York and Montreal, Quebec, finally opened the Great Lakes to foreign vessels. When the first saltwater vessel – called "salties" on the Great Lakes – called on Duluth in May 1959, it made Duluth-Superior an international port, and opened up the Mesabi Range to competition from Canadian ore deposits.[5] But by 1959, the domestic steel industry had made the decision to invest hundreds of millions of dollars in the taconite reserves of northeastern Minnesota. Before they would actually spend that money, however, the steel companies wanted assurances from the state of Minnesota that their investments would be fairly taxed.

THE TACONITE AMENDMENT

"When Reserve and Erie first started in the mid-1950s, it was the largest private investment in the country," Al France, longtime head of the Lake Superior Industrial Bureau, the predecessor to the Iron Mining Association of Minnesota, recalled in 2011.[6] The nearly half-billion dollar investment that Reserve Mining Co. and Erie Mining Co. represented had been encouraged by the agency since its very inception. Reserve, a partnership of Oglebay Norton, Cleveland Cliffs, and American Rolling Mill Company, and Erie Mining Company, a partnership of Pickands Mather and Youngstown Sheet & Tube, barely pre-dated the start of the agency.

Both partnerships relied heavily on the research and development effort of E.W. Davis and his team at the University of Minnesota Mines Experiment Station in the Twin Cities, research which was largely funded in the 1940s and 1950s by the agency. For much of the period, IRRRB payments went directly to the Mines Experiment Station through what was called legislative transfer. In effect, the Minnesota State Legislature transferred significant chunks of dedicated IRRRB funds to the Mines Experiment Station.[7] The money went to support the efforts of Davis, who spent 40 years researching the concentration and pelletizing of low-grade Minnesota iron ores.

When Armando M. DeYoannes succeeded Kaarlo Otava as IRRRB commissioner in 1961, the first three years of his tenure were occupied with helping the steel industry forge constitutional language that would encourage a massive investment in taconite plants in northeastern Minnesota in the latter half of the 1960s and the 1970s. The steel companies had already discovered that taconite pellets made their blast furnaces as much as 40 percent more efficient than furnaces charged with direct shipping natural ore. And the legislation that had established the agency in 1941 had made provision to levy a production tax against taconite that was actually mined, processed and shipped. That exempted taconite from the ad valorem tax, which was levied against iron ore. To guarantee the multi-million dollar investments the industry would make in the 1960s and 1970s, the industry wanted the state to codify the production tax in the Minnesota constitution. As a result, voters would have the chance to ratify the Taconite Amendment in 1964. IRRRB worked hard to support passage of the Taconite Amendment, because the creation of a taconite industry on the Mesabi Range would benefit residents and businesses. But in a quirk of the funding mechanism, the agency derived far more of its annual revenue from natural iron ore than it did from taconite, at least in the early years of the new industry. Still, the agency worked hard for the greater good, and the passage of the Taconite Amendment by an overwhelming seven to one margin on November 4, 1964, ushered in a golden age for northeastern Minnesota, a 15-year stretch in which construction and mining jobs were plentiful and the difficult years of the Great Depression were long forgotten.

'A REVIVAL OF THE MINING INDUSTRY'

Following the passage of the Taconite Amendment in 1964, America's integrated steel industry moved swiftly to invest in taconite mining, processing and shipping facilities on the Mesabi Range. Within weeks of the passage of the constitutional amendment, U.S. Steel Corp. began construction on its proposed taconite plant at Mountain Iron. By the spring of 1965, the Minntac plant would employ some 5,000 construction workers. When the new taconite plant went commercial in 1967, it would employ more than 2,500 workers. By the end of 1964, Ford Motor Company and Oglebay Norton were employing more than 800 workers on the taconite facility the joint venture partners were building between Eveleth and Forbes. The Evtac plant would employ a workforce of more than 400 people when it opened in 1965.[8]

IRRRB was sensitive to what it called "another new economic phase in the area." It rightly pointed out late in 1964 that taconite had "assured Range communities of a revival of the mining industry in the area."[9] But the agency also rightly noted that total mining employment in 1975 was estimated to be some 6,000 workers less than the peak year of 1957. That was because the new taconite facilities were far more automated - and thus much less labor-intensive - than the direct shipping natural ore industry it succeeded. But the agency did note that even though the workforce in the taconite mines and mills would be less than in the natural ore segment of the industry, the difference would be more than made up, at least through the 1960s and into the 1970s, by "the thousands who will be employed during the construction period of the plants."[10]

Those plants continued to expand during the middle years of the 1960s. Reserve Mining Co. and Erie Mining Co., both of which ushered in the taconite revolution on the Mesabi Range between 1955 and 1957, undertook major expansion projects during the mid-1960s. By 1967, Reserve had increased its capacity to 10.7 million tons, while Erie Mining Co. was capable of producing 10.3 million tons a year. Between 1953 and 1967, the Erie Mining partners had invested more than $400 million in their facilities at Hoyt Lakes and Taconite Harbor.[11] Evtac had come on line in 1965 with 1.6 million tons capacity, and US Steel's Minntac facility had begun making pellets in 1967. Butler Taconite Co. at Nashwauk, and National Steel Pellet Co. in Keewatin had both begun producing pellets in 1967. Other integrated steel companies, including Jones & Laughlin, Inland Steel, and Bethlehem Steel would complete new taconite facilities in the 1970s, and US Steel Corp. would undertake a major expansion of Minntac during the 1970s.[12]

As had been predicted at the beginning of the decade, taconite production by 1967 exceeded 30 million tons a year. More importantly, Mesabi Range taconite production exceeded 50 percent of all the iron ore shipped from the Range in 1967.[13] From the perspective of the agency, the shift from natural ore to taconite in the period between 1953 and 1970 was both good and bad news. The good news was the rejuvenation of an industry that had appeared to be in terminal decline when the agency began in 1941, a rejuvenation that held the promise of providing a solid economic base for the region for decades, if not centuries to come.

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CHAPTER 3

BOOM YEARS: 1965-1979

The accomplishments of the agency during the administrations of Commissioners A.M. Deyoannes, Robert J. Scuffy, and Frank V. Ongaro during the latter half of the 1960s and continuing throughout the 1970s were many and varied. IRRRB's financial support for iron ore and forestry research during the late 1960s continued initiatives dating back to the 1940s, and the work the agency did during the period to encourage tourism on the Iron Range ushered in a new initiative.

The agency's interest in promoting renewable resources such as wild rice and coho salmon led to IRRRB's interaction with the environmental community on such issues as the Boundary Waters Canoe Area Wilderness and the establishment of Voyageur's National Park. IRRRB economic development programs to encourage diversified industries such as clothing manufacturers looked ahead to a day when the cyclical nature of mining demanded economic diversification. The 1978 decision to transfer the Forestry Division to the Minnesota Department of Natural Resources (DNR), the 1977 opening of the Iron Range Interpretive Center in Chisholm, and the 1979 establishment of the Mineland Reclamation Division were all indicative of an agency reaching a mature status.

The agency established in 1941 to deal with the effects of the Great Depression in northeastern Minnesota was increasingly an economic, workforce and community

development powerhouse with the experience and know-how to leverage growth of the region it called home.

'THIS PROGRAM WILL BE COMPLETELY ELIMINATED'

But that didn't mean IRRRB didn't have a key role to play in the economic future of northeastern Minnesota. As construction workers transformed the Range in the 1960s following the passage of the Taconite Amendment in 1964, IRRRB pointed out "the area will always be subject to dips into depression if it remains under the monopoly of one big industry. That's why diversification is essential for a continued balanced economy."[1] IRRRB would spend much of the 1960s and 1970s supporting the diversification of local industry in the region, developing other resources, and emphasizing the economic benefits of tourism in northern Minnesota.

The bad news coming from the taconite revolution is that the agency was not always able to rely on the funding stream it had relied upon for a quarter-century. As the percentage of taconite mined, milled and shipped inexorably increased during the 1960s, the occupation tax on natural ore that had funded the agency since its inception in 1941 continued to shrink. The agency's receipts actually decreased during the 1960s.

For a while in the late 1960s, it appeared that the agency might actually be allowed to wind down its affairs and go out of business. There was no provision in the taconite tax law that had been a part of the agency's founding in 1941 to remedy the fact that IRRRB's funding source from the occupation tax on natural ore was quickly disappearing.

"Unless legislation is passed to allow the department to share in taconite tax revenue," the commissioner noted in January 1971, "this program will be completely eliminated in the next biennium and the department limited to a small cadre of foresters, a small mineral research division, and an administrative staff." The commissioner added that the agency's occupation tax receipts had dropped from a high of nearly $1.4 million in 1954 to an expected $500,000 for the 1970 shipping season.[2]

Fortunately, the Iron Range was represented by the first of a generation of visionary politicians in the late 1960s and 1970s who understood the economic ramifications of diversifying the region's economy, even though taconite was becoming a more dominant economic force by the year. Minnesota Senators George and Tony Perpich and Doug Johnson of Cook were all members of the seven-member IRRRB commission in the early 1970s. They helped craft legislation in the 1971 session of the Minnesota Legislature that appropriated one cent per ton of the taconite production tax for use by the agency to offset the loss of revenue from the ad valorem tax on declining tonnages of natural ore.[3] Two years later, in the 1973 session of the Legislature, Iron Range legislators were instrumental in passing legislation that appropriated a portion of the taconite occupation tax to the agency for rehabilitation work. By 1973, taconite production exceeded 50 million tons

Passage of the Taconite Amendment in 1964 paved the way for accelerated development of Minnesota's taconite industry in the 1960s and 1970s.

in Minnesota. Together, the 1971 and 1973 appropriations provided the agency with an additional $1 million by 1973.

IRRRB used part of that annual allocation to increase its presence on the Iron Range. In 1975, the agency opened a new headquarters building on U.S. Highway 53 about three miles south of Eveleth. Since the mid-1960s, the agency had been headquartered at the St. Louis County Courthouse in Hibbing, with offices at the State Office Building in St. Paul. The brand new Eveleth facility, which housed administrative staff and consolidated the agency's offices in St. Paul and elsewhere on the Range, was a definitive statement to the community that IRRRB intended to be part of the Iron Range's future for decades to come.[4]

NEW INITIATIVES

Commissioner A.M. Deyoannes, whose ten years as commissioner, from 1961 to 1971, would be the longest tenure at the helm of IRRRB in the agency's history, presided over a holding action for much of his term. During the latter half of the 1960s, Deyoannes involved the agency in traditional areas undertaken by IRRRB in the past, including forestry, land surveying and mapping, and economic development. He was a strong proponent of peat research and wild rice research during the period, including an extensive study of peat deposits in the Nett Lake area, and was an early supporter of copper-nickel exploration in northeastern Minnesota in the late 1960s. In 1967, the agency paid to publish and sent out Geological Survey maps and texts to prospective copper-nickel land lease bidders.[5]

During the latter half of the 1960s, IRRRB attempted to maintain its commitment to funding forestry research in the region, and it supported a major loan to the Rajala Timber Co. in Bigfork in 1966 for a woodchipping complex. IRRRB was also instrumental in supporting the start-up of Mesabi Drill & Tool in Chisholm in 1967 with a $120,000 loan for shop floor machinery.[6] Today, the successor Minnesota Twist Drill is one of the region's most successful manufacturing companies.[7]

The agency's record of helping Iron Range communities cope with a changing economy was well-recognized by the early 1970s. When Deyoannes stepped down as

A $120,000 agency loan to Mesabi Drill & Tool Co. in 1967 helped the Chisholm start-up get off the ground.

commissioner in 1971, his successor, Robert Scuffy, kept the agency on much the same course that Deyoannes had steered during the 1960s, although by 1973, Scuffy had a much more robust annual budget because of the legislative changes. Scuffy, who had started his political career as a dental patient of Dr. Tony Perpich, and later served as a campaign manager for the Virginia dentist, was at first hesitant about taking the position of commissioner. But Tony, George and Rudy Perpich all assured him that he was more than capable of handling the job.[8]

During Scuffy's tenure, which comprised most of the first half of the 1970s, the agency initiated an innovative building demolition program and pioneered a new program that removed junk cars from property across the Iron Range. Ironically, both programs had been made possible by the existence of new markets for scrap steel from competitors of the integrated mills that sourced

Companies like Mesabi Drill & Tool Co. – later Minnesota Twist Drill – capitalized on the work ethic and job skills of Iron Range residents.

their feedstock from Mesabi Range taconite. In the 1960s, small electric arc furnace mini-mills began making steel in rural areas of the United States from scrap steel. Much of that steel came from the reinforcing bar retrieved from building demolitions. Concurrently, the administration of President Lyndon B. Johnson in the mid-1960s began a concerted effort to remove junked vehicles from the landscape; the program was of particular interest to the First Lady, Lady Bird Johnson. At the same time, the ferrous scrap industry had developed a piece of equipment that shredded junked automobile bodies and recovered the scrap steel.

THE IRON RANGE INTERPRETATIVE CENTER

Commissioner Scuffy saw IRRRB's involvement in cleaning up the environment as a public service. "There were people that had four or five junked cars in their yards back then," he said. "We wanted to remove them to help keep the area clean and help car owners who couldn't afford to get rid of them."[9] Scuffy's interest in cleaning up the built environment of the Iron Range was in tune with another societal trend that was becoming more and more obvious at the beginning of the 1970s. The administration of President Richard M. Nixon signed landmark environmental legislation during Scuffy's tenure establishing clean air and clean water regulations, as well as creating the U.S. Environmental Protection Agency (EPA) to enforce those regulations.

The environmental movement was accompanied by increasing interest in outdoors recreation by a baby-boom generation that was just beginning to reach young adulthood. As a result, the federal and state governments became far more interested in establishing new parks and wilderness areas. Minnesota, with its millions of acres of national and state forests, had always attracted hunters, hikers and anglers to the northern part of the state. Congressional passage of the Wilderness Act in 1964 created new interest in the Boundary Waters Canoe Area Wilderness (BWCAW) along Minnesota's border with Canada, and from 1965 to 1975, both the federal and state governments established new restrictions on timber

The Iron Range Interpretative Center was the capstone of the agency's 1970s initiative to promote the tourism industry in northeastern Minnesota.

cutting, mining, and motorized travel in the BWCAW, including the National Environmental Policy Act of 1969.[10] Between 1962 and 1975, the federal government also established Minnesota's first national Park. Voyageurs National Park stretched from the western end of the BWCAW to Rainy Lake, almost to International Falls. Like the BWCAW, it celebrated the wilderness nature of the state's far northern reaches.

For many residents of northeastern Minnesota, the increasing restrictions surrounding use of the BWCAW and Voyageurs National Park culminated in controversy in the late 1970s. But in the early years of the decade, IRRRB was working to strengthen the tourism component of the agency's mission. The reality of the creation of the BWCAW and Voyageurs National Park was that all those tourists would drive up U.S. Highway 53 through the heart of the Iron Range to arrive at their wilderness destinations in Ely and Lake Kabetogema. IRRRB had recognized as early as the 1960s that tourism was a valid part of the agency's economic development mission.

Scuffy felt so strongly about the future of tourism that he requested an opinion from Minnesota Attorney General Warren Spannaus in 1972 about the validity of tourism as an industry the agency should support. Spannaus' ruling agreed that tourism was indeed an industry and within the purview of IRRRB's economic development mission.[11]

As a result of the Attorney General's ruling, the commissioner created a new division, the Iron Range Interpretative Program (IRIP), to promote tourism in northern Minnesota. The first order of business was the construction of an interpretative center near Chisholm that would preserve and explain the rich history and culture of the Iron Range. The agency cited visitation to other tourism sites in the region, including the Minnesota Museum of Mining, the Sherman Mine Overlook, and the Viewpoint in the Sky to justify construction of the new center. The Tower-Soudan Underground Mine, established as a state park the decade before, recorded 66,424 visitors during the three-month summer season in 1974.[12] IRRRB also noted that Voyageurs National Park, which would open its doors the next year, projected more than one million visitors a year, with an economic impact of $22 million in retail and service trade.[13]

The agency leveraged funding from the Economic Development Administration, the Minnesota Resources Commission, the Upper Great Lakes Regional Commission, and the City of Chisholm to build the two-level center, which was estimated to attract more than a quarter-million visitors a year. The new center would employ 21 people and generate a primary and secondary economic impact of nearly $13 million.[14]

Scuffy presided over the groundbreaking at the Interpretative Center in 1974, and his successor as commissioner, Frank V. Ongaro, continued the agency's focus on tourism during his tenure in the latter half of the 1970s. Ongaro, a lifelong Hibbing resident with a degree from the College of St. Thomas and his masters degree from Marquette University, was a well-known instructor from Hibbing Community College when he was appointed commissioner by Governor Wendell Anderson in early 1975.[15]

Ongaro would be present in 1977 when Minnesota Governor Rudy Perpich dedicated the Iron Range Interpretative Center. Ongaro would preside over an expansion of the center to include the addition of the Iron Range Research Center. IRIP would also expand its focus during the late 1970s and early 1980s to support other tourism-related activities in the area, including the Forest History Center in Grand Rapids, Voyageurs National Park, the Croft Mine State Park in Crosby, and the Old Calumet Restoration. In 1979, shortly before Ongaro left office, IRRRB acquired its second interpretative site, the Hill-Annex Mine near Calumet.[16]

MORE FUNDING

The shift to tourism in the 1970s was understandable, given societal trends. But the agency's continuing struggle to fund all of the programs it had become involved with over the years became more and more evident as the 1970s wore on. Increasingly, IRRRB had to say "no" to promising private business projects. It was no longer able to provide matching funds for federal and state grants for otherwise deserving projects. Meanwhile, legislative transfers continued to divert money to the Mines Experiment Station and for forestry projects in northern Minnesota.

Area legislators were well aware of the problem and attempted to introduce legislation during the 1976 session of the Minnesota Legislature to correct the situation. The legislation was reintroduced in 1977 to provide two important new sources of funding: The Taconite Area Environmental Protection Fund (TAEP) and the Northeastern Minnesota Economic Protection Fund, also known as the 2002 Fund. The two funds gave IRRRB the authority to grant and administer money to municipalities, townships and other units of government for local economic development, business assistance and other public works projects. The 2002 fund was established on the premise that even though things were booming on the Mesabi Range in 1977, the cyclical nature of the iron ore industry dictated that the agency have the tools to combat another era of recession. Both funds utilized a portion of taconite production tax revenues for their basis.[17]

The 1977 legislation also included new provisions. For the first time, the legislation narrowly defined the taconite area to include boundaries drawn along school district lines in northeastern Minnesota. The original 1941 legislation was more vague, giving the commissioner authority "in any county" of the state affected by problems arising from the removal of natural resources. The legislation also expanded the agency board from seven to 11 members including five senators and five representatives, as well as the commissioner of the Minnesota Department of Natural Resources (DNR). For the first time, the legislation stipulated that the board be primarily composed of legislators whose districts included at least a portion of the taconite area. Finally, the 1977 legislation established a group known as the Legislative Advisory Commission (LAC) to advise the board and the governor on each project recommended for funding. The LAC would be composed of key house and senate committee chairmen, as well as the governor.[18]

Governor Rudy Perpich signed the legislation in the spring of 1977. The combination of the new revenue sources and the continuing increase in taconite production turned agency fortunes around literally overnight. Total receipts, appropriations and transfers increased from $3.3 million in the 1974-1976 biennium to just over $4 million in the 1976-1978 biennium.[19] The TAEP receipts, however, totaled more than $6 million through June 30, 1978, creating a massive new source of revenue for the agency.[20] IRRRB lost little time in putting that revenue to good use. In the 1976-1978 biennium alone, the agency made more than $3 million in grants for sewer and water projects in the taconite area.[21]

Northeastern Minnesota approached the 1980s with a renewed spirit of optimism. Taconite production exceeded 50 million tons in 1979, jobs were plentiful, and the local economy was booming. The future appeared to be as bright as it had been in years.

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CHAPTER 4

THE DIFFICULT YEARS: 1980-1989

In early 1980, a local newspaper reporter doing a story on the shutdowns at U.S. Steel's Minntac plant was interviewing a spokesperson for Duluth-based Minnesota Power, which supplied electric power to the Iron Range taconite facility. The utility spokesperson was trying to explain Minnesota Power's take-or-pay contracts with the big industrial customer.

"So what you're trying to tell me is that Minntac is paying $10 million a month to light its guard shed," the reporter asked.[1]

The rhetorical question was made in jest, but the reality was deadly serious. In a relatively short period of time between 1978 and 1982, the nation's domestic steel industry was essentially reconstructed. The industry shed millions of tons of obsolete capacity during the sharp, steep recession of the early 1980s, which resulted in the elimination of thousands of jobs in the industry. The North American steel industry was hit by high labor, energy, legacy and transportation costs, as well as with lower productivity, poor product mix, increased governmental regulation, high interest rates, increasing imports and overcapacity all at the same time, resulting in the 'Perfect Storm' that lashed the industry in the early 1980s. The impact of the economic upheavals on Iron Range taconite producers was severe; economic conditions reduced taconite shipments from Range producers to a postwar low

of less than 24 million tons in 1982. Even though many residents of the iron ranges moved elsewhere for employment, many stuck it out, working at lesser jobs and eventually returning to their jobs with the mining companies when the economy improved. The economic development efforts the agency explored and initiated during the years when Patrick McGauley and Gary Lamppa served as commissioners were critical in the Range's resurgence in the late 1980s and the early 1990s. The agency's acquisition of the Giants Ridge Recreation Area was an extension of the tourism initiatives IRRRB had begun implementing in the 1970s. Through the economic carnage of the early 1980s, IRRRB used the TAEP and 2002 fund to support the peatland development work and to continue its programs to support the region's wood products industry. IRRRB also supported numerous projects undertaken by Mineland Reclamation during the period, as well as numerous community development efforts in the taconite area.

BOMBING PITTSBURGH

In 1979, iron ore producers in the Lake Superior region shipped nearly 60 million tons of pellets down the Great Lakes to integrated steel mills located from South Chicago to the Monongahela Valley in Pennsylvania. Most of that tonnage consisted of taconite pellets shipped from Minnesota's Mesabi Range; the remaining tonnage came from mines on the Marquette Range in Michigan's Upper Peninsula. But the reality of integrated steelmaking in late 20th century North America was that the industry was hampered with mills that dated back more than a century, labor contracts with the United Steelworkers of America that the industry couldn't afford, and productivity problems that were exacerbated by the rapidly aging equipment in many of North America's mills. That was compounded by an energy crisis in 1979, a nuclear accident at the Three Mile Island on Pennsylvania's Susquehanna River, interest rates that had gone through the ceiling, and double digit inflation. The Iranian seizure of U.S. embassy hostages in Teheran in late 1979 and the failure of the administration of President Jimmy Carter to rescue the hostages made it appear at the end of the decade that the United States had lost its way.

The short, sharp recession that followed was concentrated in the country's heavy industrial sector. As 1979 drew to a close, U.S. Steel Corp. announced it was closing aging mills, mostly in Pennsylvania's Mon Valley. Bethlehem Steel, Youngstown Sheet & Tube, Armco and LTV Steel quickly began closing aging mills and furnaces. A joke circulating in the industry at the time said that the U.S. would have been better off if the Japanese had bombed Pittsburgh in 1941 instead of Pearl Harbor.[2]

There is an old axiom that when the steel industry catches cold, the Iron Range winds up with pneumonia. And that was very much the case after 1980. In 1979, the Minntac plant near Virginia had produced more than 16 million tons of pellets. The plant employed 4,200 hourly and salaried workers, the largest employer on the Mesabi Range; overall, the taconite industry employed more than 15,000 hourly and salaried workers, making it by far the largest employer in St. Louis County.[3]

Three years later, the Range had been devastated by the upheaval affecting the American economy in general and the steel industry in particular. Taconite shipments down the Great Lakes in 1982 were the lowest since the depths of the Great Depression in 1932. Plants across the Range shut down, and employment in the industry dropped to 6,000 hourly and salaried workers, about one-third of what it had been in 1979. The unemployment rate in northeastern Minnesota soared to more than 20 percent. The U-Haul business on the Range boomed as local residents packed up and moved elsewhere in search of jobs.[4]

The restructuring of the American steel industry continued into the mid-1980s. Wheeling-Pittsburgh and LTV Steel Corp., two of the ten biggest U.S. steelmakers, filed for bankruptcy reorganization during 1985 and 1986; US Steel bought Marathon Oil in an attempt to diversify out of steel and changed its named to USX Corp. Domestic steel's share of the world market was cut in half between 1970 and 1985.[5]

'LIKE A SMALL CITY'

Brian Hiti and Lee Bloomquist, two agency employees and longtime Iron Rangers, had front row seats for the implosion of the Range economy in the early 1980s. Hiti, a native of the Sparta Location, had gone to work at Minntac in 1978 as a millwright apprentice. Bloomquist, a Virginia native who had grown up in Duluth, was hired at Minntac in 1977 as a laborer.

"In 1978, Minntac was like a small city," Hiti said. "There were 4,000 US Steel guys and 1,000 Ambridge guys finishing up on the Step Three expansion. It was boom times. You could work all the overtime you wanted."[6] Bloomquist, who was working in the coarse and fines crusher in 1979, recalled the friendly competition between workers for better productivity. "We were dumping 900 rail cars a shift," he said. "Three years later, the bottom fell out."[7]

Hiti got laid off in September 1981. His son was born in December. He was called back for several months in 1982 and then let go permanently. "It was a good place to work," he said. "Everybody recognized they were the best jobs up here."[8]

Bloomquist was laid off in 1982 and was on layoff for more than a year. Like most Rangers, he had a fierce pride. "My wife was a schoolteacher," he said. "We paid every one of our bills. But we ate tomato soup for 13 months."[9] Hiti and Bloomquist were among the thousands of Rangers, most of them young, whose economic futures had been upended by the restructuring of the American steel industry.

'WE COULD PUT A LOT OF PEOPLE TO WORK'

When the Range economy began to implode in 1980, Commissioner Patrick McGauley resorted to his historical background to come up with a plan to deal with the unemployment crisis in the region. "We had enough funds to do something akin to the old WPA," McGauley said, referring to the Works Progress Administration of the 1930s.[10] "We were brushing roads. We did work at the Mountain Iron Reservoir. They were short-term projects that could put a lot of people to work."[11]

McGauley had been appointed commissioner by Governor Al Quie, who was elected in 1978. Quie's election was a result of voters' rejection of Minnesota DFL candidates following the 1977 appointment of Governor Wendell Anderson to the U.S. Senate seat vacated by the death of Hubert Humphrey. McGauley understood the pain felt by Range workers, having done a stint at the National Steel Pellet Company plant before being hired as the historian at the Interpretative Center.

McGauley knew many of the board members, including legislators Dave Battaglia of Two Harbors, Joe Begich of Eveleth, and Doug Johnson of Cook. "I got along pretty good with the board," he said. "We really didn't have any battles over the funding of projects. We could all agree on what we needed to do."[12]

Fortunately for the region, IRRRB had ample financial reserves to deal with the crisis. Because the Range taconite producers had enjoyed boom years in 1978 and 1979, the high volumes of taconite produced were reflected in increased payments to the agency for 1980, 1981 and 1982. The collapse in tonnage in 1982 and 1983 wouldn't be reflected in agency receipts until mid-decade.

With the TAEP funds added to the mix, IRRRB had combined receipts of more than $10 million in 1980 and combined total revenues of more than $22 million in 1981. The agency was able to invest excess funds at a time when interest rates were going through the roof; in October 1981, the yield on 30-year U.S. treasury bonds was just over 15 percent. In 1981, the agency reported investment income of nearly $2.3 million.[13]

IRRRB also attempted to stem the job losses on the Range with new programs. In 1978, shortly before McGauley came aboard as commissioner, the agency started the Mineland Reclamation Division. The state had transferred the agency's Forestry Division to the Minnesota DNR, and Mineland Reclamation, which had been established as the result of creation of the TAEP fund, focused on reclamation of state-owned or abandoned minelands. The agency reported in 1980 that the numerous mine pits across the Range had sheer walls that resisted revegetation. Many of the mine pits had filled with water, and the potential for developing the man-made lakes for recreation dovetailed with the agency's mission to promote tourism in northeastern Minnesota.[14]

In 1979, the agency acquired the Hill Annex Mine property near Calumet from Jones & Laughlin Steel Company. The 500-foot-deep pit was the sixth largest open pit mine in the country, and IRRRB acquired it as a demonstration area for its Mineland Reclamation Division. At the time, the agency estimated the cost of reclaiming the Hill Annex Mine at $4 million.[15] The plan called for relocating the Mineland Reclamation Division to the Hill Annex site and developing Hill Annex Mine tours as part of the agency's focus on tourism in the region.

Another focus of the tourism initiative involved the October 1980 opening of the Iron Range Research Center at the Interpretative Center. The 140,000-square-foot center adjacent to the Interpretative Center was designed to preserve, restore and archive historical documentation about northeastern Minnesota. IRRRB reported that the facility would "become the data base for research materials for developing programs of economic development, urban renewal, and industrial diversification."[16]

GOING IN A DIFFERENT DIRECTION

In 1982, the DFL recaptured the Governor's mansion. Governor Quie had elected not to run for reelection, and former Governor Rudy Perpich handily defeated the Independent-Republican candidate. Perpich, an Iron Ranger whose brothers George and Tony had long served in the Minnesota legislature, told supporters on election night that IRRRB would be going in a different direction.

Governor Rudy Perpich took the agency in a different direction following the devastating recession of the early 1980s, emphasizing economic development and the diversification of the Iron Range economy.

McGauley, who had discovered it was hard to be a commissioner appointed by a Republican governor, had not expected to be reappointed in case of a Perpich victory. "I was a lame duck from election to early January," he said.[17]

He did approve of the Governor's nomination of Gary Lamppa to succeed him. "Gary literally knew everybody in the building," he said.[18]

A former agency employee and deputy IRRRB commissioner for much of the 1970s under Robert Scuffy and Frank Ongaro, Lamppa knew the agency had its work cut out for it. But he also understood that IRRRB was fortunate to have a governor from the Iron Range. Lamppa said that Rudy Perpich "knew the towns, and he knew the

1981-1982 Board. Seated (L-R): Senator Ronald Dicklich, Senator Douglas Johnson (Chair), Commissioner Patrick J. McGauley, Representative Joseph Begich (Vice Chair), Representative Mary Murphy; Standing (L-R): Commissioner Walter Seeba, Senator Robert Lessard, Senator David Rued, Assistant Commissioner Steven Thorn, Representative David Battaglia, Representative Dominic Elioff; Not pictured: Senator Sam Solon, Representative Douglas Carlson

people. Whenever we wanted to make a call on a CEO, we'd ask him, and he would say 'sure.' If we had a lead or thought we could attract somebody, he'd come with us."[19]

Governor Perpich and his commissioner also thought big. Brian Hiti, who was one of the many hires at the agency in 1983, recalled "that's when IRRRB started the economic development program."[20] The agency had spent much of the 1970s investing in public works projects in Iron Range communities, and had made a major commitment to tourism with the Interpretative Center and the Iron Range Research Center. Lamppa now decided to double down on tourism development.

"Tourism increases the quality of life," he said. "It makes it a better place to live, and tourism helps to attract business. And it then becomes a lot easier to attract tourists when you have more restaurants and shopping."[21] During his four years as commissioner, Lamppa directed the agency into significant new initiatives designed to boost tourism, including the development of a snowmobile trail system that connected Iron Range communities to year-round resorts, the initiation of fish-stocking in abandoned mine pits, the development of sharp-tailed grouse habitat, the support of wood products projects, and the erection of the Ironman Statue in Chisholm.

The agency's involvement in Giants Ridge was IRRRB's attempt to create a year-round tourism industry in northeastern Minnesota.

But the biggest tourism development during Lamppa's tenure involved the agency's acquisition of Giants Ridge, the last remaining Iron Range ski area. In 1983, the Biwabik facility was rumored to be closing. Recognizing the closure would have an adverse impact on the agency's expanded tourism initiative, and understanding that the region needed to develop a year-round tourism base, Lamppa and the board purchased the facility and essentially re-made it as a new attraction.

Opened in November 1984, the 1,300-acre facility boasted eight downhill runs and nearly 40 kilometers of cross-country ski trails to appeal to everyone from beginners to intermediate and advanced Alpine and Nordic skiers. The United States Ski Association selected the facility for its new Midwest Nordic Training Facility that would house up to 50 athletes in training for everything up to and including the Winter Olympics.[22] The agency invested more than $8 million in Giants Ridge but deemed it utterly necessary to establish the Iron Range as a year-round tourist destination.

'NO SIMPLE ANSWER OR SIMPLE SOLUTION'

In 1984, IRRRB told its varied constituencies that "the entire question of economic development is so complex that there can be no simple answer or simple solution. The only absolute in the development picture is that a combination of remedies must be sought for the current economic slump so evident in our towns and cities."[23]

That economic slump was about to get much worse. In mid-May 1985, Hanna Mining Company announced the permanent closing of Butler Taconite near Nashwauk. The closing, which Hanna attributed to the bankruptcy of Wheeling-Pittsburgh Steel, sent shockwaves across the Iron Range.[24] The taconite plant, which employed 450

people in 1985, had a capacity of 2.6 million tons of pellets a year. During its 18-year life, Butler Taconite had produced 40 million tons of pellets, and had paid $215 million in wages and benefits and more than $50 million in taxes.[25]

Bill Hanna, a Northeast Minneapolis native, came to the *Mesabi Daily News* as managing editor from the Associated Press office in Pierre, South Dakota just after Butler Taconite closed. "That got a lot of second looks," he said, "because Butler Taconite was managed by M.A. Hanna, and my name was Hanna."[26]

Hanna recalled that "1985 was horrid. Everything was shutting down. All of the eggs were totally in one basket at the time. The steel industry completely restructured, and it was difficult to watch what that did to people."[27]

The Butler Taconite closing was followed within a year by the closure of Reserve Mining Company, the first taconite plant on the Iron Range. The Reserve Mining closure had as much to do with the environmental politics of the 1980s than it did the economics of iron and steel. Reserve's taconite processing facility at Silver Bay had been disposing taconite tailings into Lake Superior since the 1957 opening of the E.W. Davis Works, and environmentalists had waged an epic battle to halt the practice in the courts and media for 15 years. Reserve eventually agreed to disposal of its tailings at an on-land site near Milepost Seven of its railroad from Babbitt to Silver Bay. The debt encumbered by the construction of Milepost Seven, coupled with the massive industry slowdown in the early 1980s forced Reserve to sharply curtail production. When LTV Steel Co., Reserve's owner, filed bankruptcy in 1986, Reserve's mine and mill were already for all intent and purposes closed, although the trustees for LTV Steel wouldn't make the closure official for several more years.[28]

The Butler and Reserve closings gave a new measure of urgency to the agency's economic development activities. In 1983, the agency created an economic development division to administer monies from the 2002 Fund to assist businesses located within the Taconite Tax Relief Area. Two years later, in 1985, IRRRB revised the economic development grant program guidelines of the Taconite Area Environmental Protection Fund to give priority to projects most directly supporting economic development and diversification.[29] Brian Hiti, who arrived at IRRRB in 1983, recalled that the mid-1980s was when the agency "put full-court pressure on economic development. We started the business loan program."[30]

Joe Begich, an Eveleth native who served 18 years in the Minnesota Legislature and was an IRRR board member from 1975 to 2012, said the recession in the 1980s was worse than the Great Recession of 2009-2010. Begich also said economic development was what the agency was supposed to do when times got tough. "When there's economic distress and jobs are gone," he said, "IRRRB is supposed to create jobs here."[31]

When Jack DeLuca succeeded Gary Lamppa as commissioner in early 1987, the Bank Participation Loan Program was in full swing. Under the provisions of the program, IRRRB could buy up to a 50 percent participation in eligible business loans; the IRRRB portion of the loan was offered at interest rates 3 percent lower than comparable treasury securities, a considerable advantage when long-term interest rates still exceeded 10 percent.[32] In 1987-1988, the program was used to help such businesses as Minnesota Twist Drill in Chisholm, Willow Manufacturing in Parkville, Minnesota Automation Services in Crosby, the Superior Shores Hotel and Convention Center in Two Harbors, Lakewood Industries in Hibbing, Kasson Manufacturing in Babbitt, the Lutsen Hotel and Restaurant, Bluefin Bay in Tofte, and Steger Design Co. in Ely.[33]

The business loan program and other economic development initiatives had their share of both successes and failures. The Twin Cities media seized on some of the projects that didn't pan out. Lakewood Industries, a favorite of Governor Rudy Perpich, had the vision of making chopsticks from northern Minnesota aspen and shipping the finished product to China. "It really wasn't all that bad an idea," said Brian Hiti.[34] But Minnesota Republicans and much of the media criticized the agency for wasteful spending of tax money. Hiti recalled one state Republican spokesperson who called the agency "that Iron Range rathole."[35]

DeLuca recalled his introduction to what some agency staffers called "the wild, wild west of economic development."[36] The president of Abe Mathews, a Hibbing-based engineering firm before he was tapped by Perpich as IRRRB commissioner in early 1987, DeLuca wasn't in his new Eveleth office a week when he was called to St. Paul. He thought his visit to the capitol was to discuss budgets with legislators. Instead, he was grilled about IRRRB's support of Endotronics, a company that sought the agency's help to develop a serum for cancer.[37]

The agency understood that the economic development initiatives of the late 1980s wouldn't all be successful. But helping to provide jobs for local residents while diversifying the economy of the Iron Range was in IRRRB's DNA. As the agency approached its 50th anniversary in 1991, it could look back on far more successes than failures.

ENDNOTES

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INTERLUDE 2

THE IRON RANGE IN THE 1990s

The 1990s were by and large good years for the taconite industry on the Mesabi Iron Range. After nearly shutting down in the wake of the recession of the early 1980s, the industry recovered during the 1990s. The reopening of the former Reserve Mining Company in 1990 as Cyprus Northshore Mining Co. was an auspicious start to the decade. IRRRB played a critical role in the purchase of the facility several years later by Cleveland Cliffs and its renaming as Northshore Mining Co. The agency worked tirelessly to get National Steel Pellet Co. reopened in 1993. IRRRB was assisted by the changes in the domestic steel industry during the period, which led to a much leaner, more efficient integrated steel sector. IRRRB staff under Commissioners Jack DeLuca and Wayne Dalke worked with new owners to reorganize pelletizing operations at Eveleth Taconite and Ispat Inland Mining Company. The decade was one in which the agency focused on resuscitating the natural resources economy on which the Iron Range was built.

CYPRUS NORTHSHORE

The recovery of the Iron Range in the 1990s began with the decision by a Denver-based mining company to take a chance on reopening the recently closed Reserve Mining Company facilities at Babbitt and Silver Bay. In January 1990, Cyprus Northshore produced its first

load of taconite pellets since the former Reserve Mining Company had shut its doors in 1986, nearly four years before.

The four years between Reserve's closing and the reopening as Cyprus Northshore were a roller-coaster ride of ups and downs with more twists and turns than a "Perils of Pauline" silent movie. Denver-based Cyprus Minerals had first expressed interest in Reserve Mining Company in 1987, but the company's board of directors had vetoed the idea because of concerns about Reserve's Milepost Seven tailings disposal system and royalty agreements. Governor Rudy Perpich and Commissioner Jack DeLuca got on a plane and flew to Denver to convince Cyprus Minerals directors to change their minds.[1] "Jack DeLuca really worked hard in bringing Reserve Mining back," said IRRRB's Brian Hiti.[2]

Cyprus Minerals and its more than 4,000 employees operated mines in 20 U.S. states and five foreign countries that produced everything from copper and gold to talc and barite; Cyprus Northshore would be the Denver firm's first foray into the business of mining iron ore.[3]

Cyprus Minerals directors reconsidered their decision and appropriated funding to keep the mine, plant and other facilities ready for reopening until the company's attorneys could negotiate with all the parties involved in the complex transaction. One hurdle that Cyprus Minerals and IRRRB had to overcome was that Cyprus insisted the plant be run as a non-union operation. Eventually, the potential for bringing 350 jobs back to the northeastern Minnesota workforce proved the deciding argument for reopening Cyprus Northshore. Cyprus Minerals bid $52 million dollars for the plant and equipment of the former Reserve Mining Company in 1989 and began producing pellets early the next year.[4]

CHALLENGES OF THE 1990s

With the reopening of Cyprus Northshore, the taconite industry seemed to have made a complete rebound from the recessionary conditions of just a decade before. By 1991, total taconite production on the Mesabi Range topped 40 million tons for the fourth straight year. Some 6,300 people were directly employed by the industry, which paid $270 million a year in wages. The industry purchased more than $600 million in goods and services and paid $90 million in state and local taxes.[5]

But there were still concerns among many policy makers on both the Range and in the state capitol that northeastern Minnesota remained far too reliant upon an extremely volatile natural resources economy for its well-being. They pointed to the fact that the restructuring the domestic steel industry had undergone during the 1980s had reduced steel capacity at many of the industry's oldest and least competitive blast furnaces. As the 1990s got underway, the industry was producing less steel than it had before the recent recession.

And a growing percentage of that steel was being produced in electric arc furnaces that did not melt taconite pellets. The mini-mill transformation of the steel industry had begun in the 1960s and 1970s, and by the 1990s, electric arc furnaces were taking an ever increasing share of steel production away from blast furnace producers. Mini-mills used ferrous scrap – like old refrigerators and automobile bodies – to melt into steel. In the early days of the mini-mills, the industry primarily served long products markets like wire rod and reinforcing bar. By the 1980s, the mini-mills had captured substantially all of that market and were beginning to compete for the far more lucrative flat rolled segment of the market. In the mid-1980s, Nucor Corp., one of the most aggressive mini-mill companies, perfected a technique at its mill in Crawfordsville, Indiana, to make continuous cast steel from an electric arc furnace, opening up the automotive market to the mini-mills.[6]

That by no means meant that the Mesabi Range couldn't compete to serve the mini-mill sector of the steel industry. Electric arc furnaces could use direct reduced iron (DRI), which improved the iron content of pellets from 65 percent to near 95 percent, and which could be adapted to Minnesota taconite production. Already by 1991, the agency was working with taconite producers to improve product quality while reducing costs, to seek commercially feasible ways to add value to Minnesota taconite, and to develop and maintain innovative taconite partnerships.[7]

In the fall of 1992, Cyprus Northshore became the first Iron Range taconite producer to begin experimenting with value-added Minnesota pellets when it announced it would begin producing hot briquetted iron (HBI), a form of DRI, at its Silver Bay plant.[8] "The outlook for taconite pellets is a flat market," said Rick Maki, manager of iron ore sales for Cyprus Minerals. "The addition of HBI to our product line represents an opportunity for us to be a supplier for a growing mini-mill industry."[9] Cyprus said it planned to use a Midrex Fastmet process to make the HBI pellets.

TAPPING TAP

IRRRB pledged its assistance in helping local mines find ways to be more competitive in a changing steel industry. At a Blandin conference in Grand Rapids in the fourth quarter of 1992, the agency proposed an innovative loan program in which it would help the seven taconite plants on the range gain access to loan funds for capital equipment improvements, research and development.[10] Doug Schrader, president of the Iron Mining Association of Minnesota, lauded the agency for its willingness to help the industry succeed: "The philosophy in these measures helps everyone because it guarantees local investment in our plants, which protects jobs," he said.[11]

The unveiling of the Taconite Assistance Program (TAP) in the summer of 1993 was a measure of the agency's commitment to the bedrock natural resources industry of northeastern Minnesota. Through TAP, IRRRB made available to each taconite producer in the region up to $2 million in loans, loan guarantees and grants "for

plant expansion, process improvements, or new technology."[12] Coupled with the $8 million in rebates promised by Taconite Economic Development Fund Act that was passed by the 1992 session of the Minnesota Legislature for capital investments, the taconite industry received reassurance that the agency and the state were most firmly in the industry's corner.[13]

Meanwhile, the Governor's Task Force on Mining and Minerals was busy formulating recommendations to make the taconite industry as competitive as it could be. When the task force met at the agency's office in Eveleth in April 1993, it made 15 recommendations in four major areas: state and local taxes; permits, fees and conservation requirements; metallics minerals research; and the continued existence of the task force itself.[14]

Two Iron Range taconite producers immediately applied for TAP assistance. Inland Steel Mining Company's Minorca Mine used TAP funding to leverage $10 million in capital investment, including an expansion of pellet production from 2.45 million tons per year to 2.67 million tons per year. Inland also began research and development to ascertain if the company's orebody lent itself to potential DRI production.[15] LTV Steel Mining Company, which operated Erie Mining Company at Hoyt Lakes, requested TAP funds to supplement the cost of replacing 1957 loading equipment.[16]

In the next year, most, if not all, of the Iron Range taconite producers made use of leveraged funds through IRRRB. Eveleth Mines used nearly $400,000 in taconite funds to purchase new and upgrade used equipment. Hibbing Taconite received $830,000 in investment tax credits for new facilities, research, and new technology purchases. Minntac received $1.3 million for new projects, including the installation of a new chip regrind system and process modification in the agglomerator.[17]

UPS AND DOWNS

In some cases during the decade, the agency acted as a mediator between the mining companies and their constituencies. When National Steel Pellet Company was unable to negotiate a contract with the United Steelworkers of America in the summer of 1993, the firm idled its production facilities at Keewatin and laid off more than 400 workers. IRRRB closely monitored the situation, and when new management of the pellet plant and new leaders at the USWA local started talking in the spring of 1994, the agency, along with the Iron Range legislative delegation and Governor Arne Carlson, helped mediate the process. National Steel Pellet negotiated a new six-year labor agreement with Local 2660 of the USWA and signed a new ten-year electric power contract with Minnesota Power. The company also signed a multi-year pact with Burlington Northern Railroad to haul the firm's pellets to market and renegotiated royalty agreements with the State of Minnesota.[18]

IRRRB incentives helped sweeten the deal. The agency stepped forward with a $2 million TAP grant and provided National Steel Pellet with $6 million in two development loans to help finance the company's autogenous grinding project. In return, National Steel Pellet agreed to employ an average of 450 workers and produce 4.5 million tons of pellets at the Keewatin plant. Minnesota DFL Senator Doug Johnson pointed out that the reopened National Steel Pellet "annually spends $168 million on supplies, wages, benefits, and taxes that northeastern Minnesota cannot afford to lose."[19]

The work that the agency had done to improve the health of the region's taconite industry since the 1980s paid dividends by the late 1990s. In 1996, Iron Range taconite producers shipped 48.25 million tons of pellets, a total tonnage topped only in 1979 and 1981. The industry generated more than $100 million in taxes each year, and directly provided 6,600 jobs in northeastern Minnesota; another 13,200 jobs in the state were primarily dependent upon the taconite mining industry. Payrolls totaled nearly $350 million a year, and the industry purchased more than $875 million in goods and services each year.[20]

Commissioner Jim Gustafson explained in early 1997 that while IRRRB continued to work hard to diversify the northeastern Minnesota economy, the agency "remains committed to nurturing the long-term viability of our existing taconite industry."[21]

IRRRB also worked closely with the Governor's Task Force on Mining and Minerals to recommend mining policies that would ensure the continuation of mining in the region well into the 21st century. Established in early 1996, the Governor's Task Force made part of its focus recommendations designed to stimulate exploration and development of minerals other than iron. Since at least the 1960s, exploration geologists had been mapping sizable deposits of copper, nickel, platinum and other precious metals in northeastern Minnesota. In the summer of 1996, the agency co-hosted an exploration symposium with the Minnesota Exploration Association, a consortium of geologists and exploration companies.[22]

The region ended the 20th century with what appeared to be a healthy, thriving taconite industry. In 1998, the Iron Mining Association of Minnesota, which represented the region's seven taconite companies, estimated that the industry would need to fill as many as 3,000 jobs in the first decade of the 21st century in the mines alone, the result of the aging of the industry's work force. In fact, the association said, workforce development would become a major initiative on the Iron Range in the years to come.[23]

But, as so often has happened in the industry, the cyclical nature of iron and steel production was about to take a downward trend. The commodity upheavals that would characterize the global economy in the first decade-and-a-half of the 21st century would test IRRRB as it had never been tested before.

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CHAPTER 5

RECOVERY: 1990-1998

The 1990s was a time when the Mesabi Range recovered from the difficulties of the 1980s recession in the iron and steel industry. The programs put into place by Commissioners Jack DeLuca, Wayne Dalke and Jim Gustafson paid particular attention to economic and community development. The creation of the Ironton Industrial Park and the establishment of the Taconite Economic Development Fund early in the decade were typical, along with the formation of the Iron Range Economic Alliance and the 1994 opening of the Northwest Airlines Reservation Center in Chisholm. The agency invested in such diversified economic activity as Mesabi Electronics, ASV, the Silver Bay Marina, and Learning Byte International. The agency maintained its focus during the period on tourism as IRRRB worked to bring jobs to the region with such projects as the Villas at Giants Ridge, Ironworld, and the Giants Ridge Ski Chalet expansion.

DeLuca got the ball rolling in 1989 and 1990, at the end of his term as commissioner. During the second half of the 1980s, the domestic steel industry had shed many of its most outmoded facilities and was once again investing in new plants and equipment. Butler Taconite, which had closed in 1985 and had been quickly dismantled for scrap, wasn't going to reopen. But Reserve Mining Company had been carefully mothballed. The taconite facility had

solved its tailings disposal problem before being closed, and it had a solid ore deposit near Babbitt.

DeLuca and Governor Rudy Perpich made dozens of trips in 1989 and 1990 to talk to steel company executives about the Mesabi Range taconite industry, and in particular touted the potential of Reserve Mining Company. DeLuca was out of the office so much, he appointed Brian Hiti as deputy commissioner. Shortly before he left office in early 1991, DeLuca struck pay dirt when he convinced Cyprus Minerals, a Denver mining company, to re-open Reserve.[1] In 1992, about a year after DeLuca left the agency, the taconite facility reopened as Cyprus NorthShore Mining Company.

In 1990, the agency worked closely with taconite companies and their electric supplier, Minnesota Power, to reduce electric power costs for the plants. The commissioner continued to keep the agency's focus on the development of Giants Ridge as a tourist destination. On the political front, he advocated for assigning a full-time member of the attorney general's staff at the agency's Eveleth office.

DeLuca, who had a network of business contacts stretching back decades, established the Metro Advisory Board, a group of several dozen business executives from the Twin Cities. Many of the board members were former Iron Rangers, and they met with the commissioner and the agency board every three months to provide counsel and advice on economic development projects for the region.

Another way in which the commissioner attempted to broaden the agency's outreach to a wider community was through publication of *RangeView,* a quarterly publication about IRRRB programs and activities. "I thought about the fact there are so many Rangers living all over the country," DeLuca said years later. "They all have an affinity for the Range, and I wanted to tap into that."[2] DeLuca asked employees to go to the high schools on the Range to get a list of alumni. The agency then created a mailing list to send *RangeView* to alumni so the agency could keep them informed about what was happening on the Range and to solicit ideas about economic development. "Once a Ranger, always a Ranger," DeLuca said in a 2011 interview. "And I thought this publication could be a big thing."[3]

DeLuca's tenure as commissioner coincided with an accelerating recovery from the recession of the early 1980s. Cyprus Minerals' decision to reopen Reserve Mining was a shot in the arm for the Iron Range, particularly the communities along the East Range. When Boise Cascade's No. 1 paper machine began commercial production in International Falls in late 1990, it represented a half-billion dollar investment in the forest products industry in Koochiching and northwestern St. Louis Counties. The new paper machine guaranteed the jobs of more than 1,000 employees at the mill and 250 loggers in the region.[4]

'WE SHOULD DO BETTER'

In 1991, IRRRB celebrated its 50th anniversary with a new commissioner. Arne Carlson, who was elected the state's 37th governor in November 1990, selected Wayne Dalke, a longtime executive with U.S. Steel's Minntac operations, as commissioner in February 1991. Outgoing commissioner Jack DeLuca could look back with pride on the accomplishments of the agency in the post-recession era, particularly pointing to IRRRB's role in helping to foster economic development, a superior infrastructure, quality recreational opportunities, and a high quality of life for the Range's residents.[5]

Dalke, for his part, paid tribute to the work done by DeLuca and his predecessors during the agency's half-century of existence. "As I look at it," he said on his first day in office, "no matter what your attitude is toward the IRRRB, you have to admit it has been an influence, a powerful influence in this area over the last 50 years. And, I say it has been a powerful influence for the good."[6]

The new commissioner also pledged to continue the work of all those who had preceded him. "But really," Dalke said, "we should do better than the last 50 years. We should take those positives that came out of the IRRRB and expand and grow on them. And then, we should honestly look at the things that were negative and not make the same mistakes again. I want my children, my grandchildren to have an opportunity on the 100th birthday (of IRRRB) to stand up and say that the IRRRB continues to be a powerful force in northeastern Minnesota."[7]

Dalke, a South Dakota School of Mines graduate whose mining career spanned four decades, mostly on the Iron Range, did his part to make things better during an 18-month stint as IRRRB commissioner.[8] He helped the agency establish a storefront renovation program, saw the completion of the Community Entrance Enhancement Program, advocated for the creation of a new Taconite Economic Development fund, helped form the Northern Lights Tourism Alliance, and helped cut the ribbon for the opening of the Villas at Giants Ridge.[9]

The appointee of an Independent-Republican Governor to head an agency whose board members and constituents strongly identified with the DFL, Dalke transcended politics. His 'can-do' attitude and willingness to let others take credit for accomplishments won him many friends at the agency and in the community. "I liked Wayne Dalke," said Tom Rukavina, a UMD graduate and former agency employee who served 26 years in the Minnesota House of Representatives as a DFLer from 1986 to 2012; during that entire period, he was a member of IRRRB's board.[10]

BUILDING ON PAST SUCCESS

Wayne Dalke's successor as commissioner in mid-1992 would serve in the position for most of the rest of the decade. Governor Carlson appointed Duluth business owner and three-term Independent Republican state senator Jim

1991-1992 Board. Seated (L-R): Deputy Commissioner Gary Ellefson, Commissioner Jim Gustafson, Representative Joe Begich (Chair), Senator Doug Johnson (Vice Chair); Standing (L-R): Senator Sam Solon, Senator Bob Lessard, Senator Florian Chmielewski, Senator Ron Dicklich, Representative Jerry Janezich, Representative Loren Solberg, Representative David Battaglia, Representative Tom Rukavina, Commissioner Rod Sando

Gustafson to head the agency.[11] Gustafson, who operated the family business, A&E Supply, asked the governor for a day to consider the offer. A more political choice than his predecessor, Dalke, Gustafson reasoned that the appointment wouldn't be forever, and although his politics led to sparring with area legislators and board members – that resulted in "a lot of black eyes" – Gustafson said later he enjoyed the nearly seven years he spent in the job. "It was a fascinating, challenging, and rewarding part of my life," he said in a 2011 interview. "One of the things I liked the most was my associates at the agency."[12]

Because of his business background, Gustafson thought it was imperative that the agency focus on ways to diversify the taconite economy of the Iron Range. "We are working with leaders in the tourism industry to increase the number of year-round vacationers who visit the area," he noted shortly after being named commissioner in 1992. "We will continue to search for telemarketing, technologically innovative and other industries to bring to northeastern Minnesota."[13]

Gustafson outlined two primary goals for his tenure as commissioner. He wanted the agency "to be careful custodians of the public money entrusted to us. Second, to enhance the economic vitality of the Taconite Tax Relief Area through value-driven, cost effective projects and programs designed for long-range benefit of the region."[14]

The Taconite Economic Development Fund, which rebated a portion of the taconite production tax to the mining companies for capital improvement projects, began to make its impact early in Gustafson's term as commissioner. That freed up the agency to focus on tourism and diversified economic development. Unfortunately, not everybody was always on board with the direction the agency's tourism development initiatives should take. Gustafson inherited a situation in which Range communities were often pitted against each other when it came to allocating monies for tourism and economic development projects.

Gustafson called it a "me against them" mentality, and he supported the 1992 formation of the Northern Lights Tourism Alliance and the Iron Range Economic Alliance.[15] "I thought it was very important for everyone to be working together," Gustafson told *RangeView* in 2011. "Once we got going, it didn't take but six months for everyone to start working together."[16] One result of the Northern Lights Tourism Alliance was the completion of the Forest Highway 11 project that connected Iron Range communities with the North Shore. Another early 1990s tourism initiative that attracted visitors to Ironworld was the unveiling of a comprehensive exhibit detailing the history of the Civilian Conservation Corps (CCC) in northeastern Minnesota during the Great Depression."[17]

As a successful businessman, Gustafson was convinced that the Iron Range needed to develop industrial parks and business sites. The opening of the Ironton Industrial Park in 1992 was the kind of economic development that Gustafson thought critical for attracting business to the region. "Bringing businesses together is one thing," he said, "but if you don't have building sites, the whole thing is wasted. It was a high priority of mine to encourage the building of industrial parks and sites."[18]

During the next five years, the agency worked with communities across northeastern Minnesota to develop and build industrial parks targeting light manufacturing and technology-driven companies. By 1996, 18 industrial parks had either been sited and completed or were in the process of being developed. Seventeen communities from Ironton to Ely, and from Babbitt to the North Shore, had qualified for industrial park grants from IRRRB. Nashwauk, for example, leveraged a $100,000 grant from the agency with an additional $400,000 in county, federal and city funds to build an industrial park.[19]

Mike Larson, former IRRRB special grants supervisor, explained that identifying the need for industrial parks was a cooperative effort. "More than an IRRRB project," he said, "this was a group effort by community members who are committed to diversifying the economy of the region."[20]

GOLF AT GIANTS RIDGE

Initially, Gustafson wasn't sold on one of the agency's most ambitious tourism initiatives of the 1990s. Giants Ridge had established a reputation as one of the best downhill and cross-country skiing destinations in the

By the 1990s, Giants Ridge had become one of the preeminent winter sports destinations in the Upper Midwest.

Upper Midwest with its 1992 selection as "Best Cross-Country Ski Resort in the Midwest" and "Top Ten North American Cross Country Ski Resort" by *Snow Country* Magazine in 1992. But the multi-million dollar resort was essentially idle every year from April to November.

As far back as the mid-1980s, the agency board and staff had studied ways to boost tourism business at the iconic resort during the Minnesota summer months. Early on, the studies showed the most logical way to attract tourists during the warm months was to make Giants Ridge a golf destination. But Gustafson, who would have to sign off on a major capital investment to design and build the 18-hole course, had reservations about IRRRB getting involved in spending public money on an activity that was often viewed as a perquisite of the upper classes. But board members and community leaders convinced the commissioner that municipalities all over Minnesota and the rest of the United States for that matter had been building and operating golf courses since the early years of the 20th century. They also argued that development of a championship golf course would also likely lead to the development of residential lots along the golf course's fairways.

The Legend at Giants Ridge quickly developed into one of the signature golf courses in the Lake Superior region.

Gustafson said that at first, he "was skeptical about the golf course for a lot of reasons, but at the end of the day it was very successful and has contributed directly to the economy. Condominium and other developments began to occur along Wynne Lake."[21]

Groundbreaking for the course began in 1994. The agency contracted with the team of Jeffrey Brauer, a well-known Twin Cities golf course designer, and Coon Rapids-based Park Construction Company, which had built dozens of courses in Minnesota and Wisconsin since the 1960s, to design and build the $5 million, 18-hole course, along with a new driving range and learning center.[22] At the Giants Ridge Course, named The Legend, architect Jeffrey Brauer started with more than 400 acres of rocky, wooded hills. He applied the three commands of golf architecture to the course: drainage, visibility and playability. He integrated the landscape of the Laurentian Divide into a championship course that solicited raves when it opened during the summer of 1997. "The Giants Ridge Courses are very nice," said Don Slegers, the superintendent of Park Construction's Golf Course Division. "We were able to build a very high quality course."[23]

Area golfers were immediately impressed with the playability and beauty of the new course, which opened in June 1997. The course reported more than 22,000 rounds of golf played in the shortened 1997 season by visitors from as far away as Texas. Some 40 percent of the rounds were played by visitors from the Twin Cities, and golfers from Duluth and northwest Wisconsin made up another large segment of visitors to the new course.[24]

The Giants Ridge course also attracted interest from the regional business community. Brian Maki, then director of business development for Lakehead Constructors, which had offices in Virginia, Duluth-Superior, and Grand Forks, North Dakota, told *RangeView* in 1998 that the company had hosted 240 clients for a two-day golf tournament in June and planned to host a similar affair before the end of summer. "The course is beautiful and challenging," Maki said, "and I'd recommend it to other business people."[25]

IRRRB's Gustafson urged visitors to the new course to take in "other scenic activities from bird watching along the Mississippi, to houseboat vacations in the Voyageurs National Park area to the spectacular views and quaint lakeside towns of Minnesota's rugged North Shore."[26]

'HOME ON THE RANGE'

One of the economic development strategies followed by the agency during the 1990s involved leveraging the region's willing, educated workforce with the emerging technologies of telecommunications. Businesses nationwide were increasingly consolidating call centers to take advantage of the latest telecommunications technologies. One Minnesota company that had pioneered the merger of marketing and telecommunications was Minnetonka-based Fingerhut. One of the nation's largest direct marketing companies, Fingerhut had revenues exceeding $1.5 billion when it opened its Eveleth Telemarketing Center in March 1991 with assistance from the agency. The Eveleth Center opened with 63 employees and expanded in its first three years of operations to 200 telemarketers and 30 supervisory personnel. The company cited the Eveleth Center's record for "high productivity and low turnover" for its decision to open a second facility in Duluth in the fall of 1992.[27]

Fingerhut was so impressed with its operations in northeastern Minnesota that it was back to announce major expansions at both facilities in the spring of 1994. The company created 100 new jobs at the Eveleth Center, bringing total employment at the facility to 330. Fingerhut completed a $517,000 building expansion in Eveleth and reported that the new jobs would provide an additional $1 million in payroll and benefits. The company also added 100 new jobs to the Duluth Center; total employment for the two northeastern Minnesota centers was nearing 700 people.[28]

Senator Doug Johnson, IRRRB chairman, viewed the expansion as vindication of the agency's strategy to pursue technology-related economic development. "The Fingerhut expansion is a sign that our focus on diversification of northeastern Minnesota's economic base has been right on target," Johnson said. "We've worked to have the infrastructure in place, and our capable workforce has proved itself."[29]

That focus on telecommunications infrastructure and a capable, educated workforce proved itself again a year later when Northwest Airlines announced it was building an Iron Range Reservations Center on Highway 169 near Chisholm. The Eagan-based air carrier said it was building a 40,000-square-foot, $6.7 million facility to house the hundreds of Iron Rangers who would occupy the Chisholm call center.

"For the IRRRB, the main benefit of this project is the aspect of true economic diversification," Rick Goodman, a senior planner for the agency, told the media. "It's a whole new industry for the Iron Range. Job creation is an additional benefit."[30]

The agency's efforts to attract Northwest Airlines to the Iron Range dated back to 1989 when Governor Rudy Perpich and Minnesota Eighth District Congressman James Oberstar first met with Northwest Airlines officials about economic development opportunities in the region.[31] In 1991, Al Checchi, co-chair of the airline, had suggested that Northwest would like to locate a new facility to repair jet engines at the Chisholm/Hibbing Airport, but the ups and downs of the domestic air transportation industry had forced Northwest to scale back those plans.[32]

The onset of computerization allowed then Northwest Airlines to locate a major reservation facility in Chisholm, employing nearly 400 residents by 1998.

But by 1995, the airline was growing and needed to add staff in its critical reservations operations. The Iron Range had already proved itself with its willingness to take jobs in the growing telecommunications industry, and Northwest began lengthy negotiations with IRRRB for economic development assistance. IRRRB provided the airline a $6.7 million construction loan and a $3 million equipment loan for computer reservation terminals, telephones, and sophisticated switching equipment.[33] For its part, Northwest planned to hire 75 reservation workers when the center opened in 1996 and increase that to 200 workers by the early fall of 1997. Plans called for the center to employ 600 people by 2001, five years after the center's opening.[34]

1997-1998 Board. Seated (L-R): Senator Sam Solon, Commissioner Jim Gustafson, Senator Doug Johnson (Chair), Representative Irv Anderson (Vice Chair); Standing (L-R): Commissioner Rod Sando, Senator Robert Lessard, Representative Loren Solberg, Senator Don Samuelson, Representative Tom Bakk, Representative Tom Rukavina, Senator Jerry Janezich, Representative David Tomassoni, Deputy Commissioner Shawn Hooper

Chisholm Mayor Steve Bartek expressed the reaction of many Iron Rangers when he noted that "from the beginning, we thought of this as not a Chisholm project but an Iron Range project. Our hope is that all of the good things that may happen to Chisholm due to this project will happen to all Iron Range cities."[35]

Northwest kept its part of the bargain. In early 1998, employment at the Chisholm center was approaching 400 people. By the end of 1997, the center had handled 3.75 million calls. Northwest was so impressed with the center's performance that it assigned it responsibility for all of the correspondence for the airline's frequent traveler program.[36]

The agency's focus on telecommunications carried over into support for other high technology ventures on the Range in the late 1990s. Companies like Hibbing Electronics turned to IRRRB for business loans to expand its rapidly-growing business. In 1997 the company's sales neared $80 million, and a 1998 capital improvements program included new computers for manufacturing and the integration of engineering software on to the factory floor.[37] The Bridge, helped by IRRRB business loans, introduced high-speed cable internet to the Iron Range and had plans in 1998 to introduce video-on-demand and video telephony to the region.[38] In the early spring of 1998, IRRRB hosted a two-day information technology workshop for Iron Range business executives. Dick Nordvold, the agency's special projects coordinator, said the goal of the workshop was to develop a "smart" region. "The IRRRB is making a major foray into information technology," Nordvold said.[39]

The agency also encouraged the use of smart technology on the factory floor. In the spring of 1998, IRRRB approved financing a $1.25 million loan package for the expansion of Cincinnati Milacron's Minnesota Twist Drill subsidiary in Chisholm. The money leveraged loans of $3.75 million from US Bank in Hibbing, Minnesota

RUDY

During the 75-year history of IRRRB, no Minnesota politician has been a better friend of the agency than Rudy Perpich. Born in 1928 in Carson Lake, a mining location just west of Hibbing, Perpich served as governor two separate times, from late 1976 to 1979 following Wendell Anderson's resignation to take Hubert Humphrey U.S. Senate seat, and from 1982 to 1990.[41] The only northeastern Minnesotan to hold the office, and the first Roman Catholic elected governor, Perpich never forgot his Iron Range roots. A child of the Great Depression, he instinctively understood the value of a job, and worked tirelessly with IRRRB during the 1980s to jumpstart the moribund taconite industry and to attract diversified businesses to his beloved Mesabi Range. Perpich was a big-ideas governor who boosted Minnesota whenever and wherever he could.

Perpich spent the late 1970s and early 1980s as a business executive representing Minnesota companies in Vienna, Austria, and he returned to Minnesota in 1982 to run for governor, convinced that the state needed to participate in the growing global economy. In 1990, he hosted Mikhail Gorbachev in the Twin Cities during the Soviet leader's visit to the United States.[42]

Minnesota and the Iron Range lost a great friend when Rudy Perpich passed away at the age of 67 on Sept. 21, 1995. IRRRB historian Dana Miller noted that the agency, the Range and the state would remember Perpich as more than a friend. "In the final analysis," Miller said, "Rudy Perpich was a leader. Rudy Perpich made a difference to us all, and he will be remembered for that."[43]

Power, the Northland Foundation, and the Minnesota Department of Trade and Economic Development. Cincinnati Milacron, which had purchased Minnesota Twist Drill in September 1997, said it planned to use the $5 million in capital investment to double capacity of high-speed drill bits at the Chisholm facility, which would grow from 100 personnel to 140 with the expansion.[40]

The 1990s witnessed a strong comeback on the Iron Range, fueled by a resurgent taconite industry and major strides in the diversification of tourism and economic development in the region. As the new millennium loomed, the agency could look back on the decade recently passed with a feeling of accomplishment. But the cyclical nature of the natural resources extraction business would once again reveal itself in the early years of the new century.

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CHAPTER 6

FACING ADVERSITY AGAIN: 1999-2004

IRRRB found itself focused in the early 21st century on the 2000 bankruptcy of LTV Steel Mining Company and the closing soon after of LTV Steel Mining's Erie Mining Co. complex in Hoyt Lakes and Taconite Harbor. The loss of Erie Mining lent an urgency to the work IRRRB was doing at the turn of the new millennium to encourage development of Mesabi Nugget, the first alternative iron technology on the Range since the closing of Daniel Jackling's Mesabi Iron Company 80 years before. IRRRB would also play a role in the 2003 reopening of the former Eveleth Taconite (Evtac) Mine as United Taconite. The early years of the century brought about new technology initiatives implemented by the agency during the tenure of Commissioner John Swift, including the extension of fiber optics to Ely and the launching of the Northeastern Minnesota Area-Wide Network. Mineland Reclamation included its outstanding work, including the opening of the Leonidas Overlook and the Chisholm Business Park, improvements to the Gilbert campground, fish stocking in mine pits, and grading for a new housing development in Virginia. Mineland Reclamation also planted more than 3.5 million trees at 900 sites in northeastern Minnesota from 1978 to 2001. On the economic development front, the agency worked with Blue Cross and Blue Shield and Delta Dental to open new customer service centers across the Range. The agency's longstanding forestry initiatives continued to provide the region jobs and energy efficiency projects, including the construction

The agency financially supported the construction of the Laurentian Energy biomass boiler project at Virginia Public Utilities and Hibbing Public Utilities.

of the Laurentian Energy biomass boiler projects at both Virginia Public Utilities and Hibbing Public Utilities.

'THE VERY FIRST THING ON MY AGENDA'

When John Swift succeeded Jim Gustafson as commissioner in 1999, his introduction to the agency was a crisis that IRRRB hadn't faced in more than a decade. "I walked into the bankruptcy of LTV Steel," Swift said. "That was the very first thing on my agenda during my first two weeks on the job."[1]

LTV Corporation had become a part owner of Erie Mining Co. in 1978, and 100 percent owners of the Iron Range taconite producer in 1984. LTV changed the name of Erie Mining Company in early 1987 to LTV Steel Mining Company. In the 1990s, LTV went through reorganization, and Cleveland Cliffs became the manager of the Erie Mining Co. property. In the spring of 1999, LTV Steel again filed for bankruptcy proceedings.

Swift, a St. Cloud banking executive and Tower resort owner who had been appointed commissioner by Governor Jesse Ventura, knew that a bankruptcy filing required speed on the behalf of creditors. "I knew that the first thing at the top of the list was taxes," he said. "LTV Steel owed us millions of dollars in production taxes, and we had loaned them money."[2] Swift immediately went to the Minnesota Attorney General to get a lien filed, which protected the agency and made IRRRB a secured creditor in the bankruptcy proceedings. "The very next day after the lien was filed, they filed Chapter 11," Swift said.[3]

Of more concern, perhaps, was the threat posed by the bankruptcy to one of the oldest taconite producers on the Iron Range. In May 2000, LTV and its LTV Steel Mining Company subsidiary made the decision to close Erie Mining Company. The second LTV bankruptcy hastened the actual closure of the plant at Hoyt Lakes by about six months and was primarily caused by the impact on the integrated steel industry by an increasingly aggressive domestic electric arc furnace mini-mill industry; most non-integrated plants had the advantage of no legacy costs, were located in right-to-work states, and had relatively cheap sources of raw materials and energy. By the time Erie Mining Company closed for good in 2001, EAF mini-mills were using those advantages to produce well over half the finished steel in the United States.

Brian Hiti, who had been responsible for the agency's interaction with mining companies since 1995, was IRRRB's representative to the East Range Emergency Response Team. "We knew the closure was coming," Hiti said. "Our goals were one, to preserve the assets; two, bring some jobs back; and three, take care of the environmental liabilities."[4] The agency and the emergency response team concentrated on the bankruptcy, safeguarding the assets and ensuring that the property was not torn down and scrapped, as some bidders had proposed.

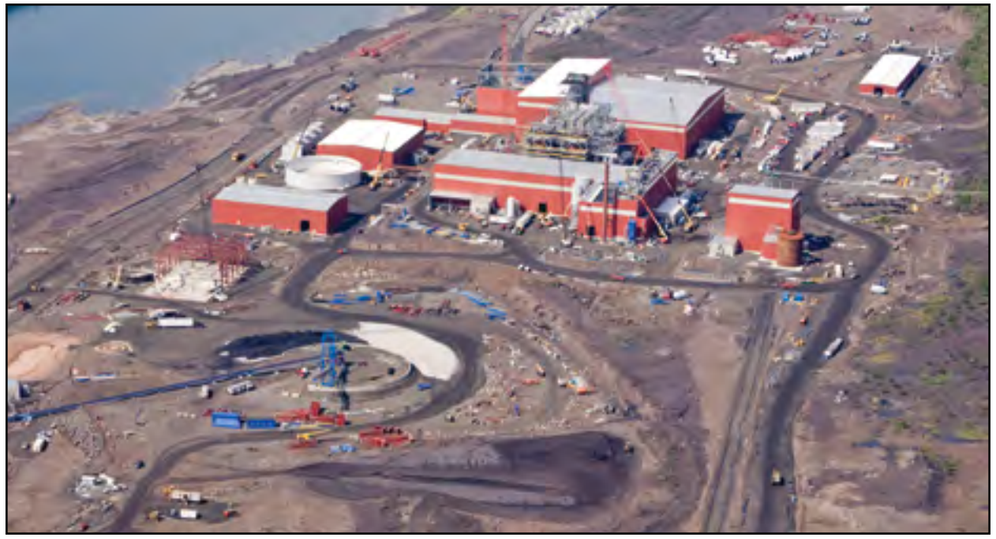
In the end, the state supported a joint bid by Minnesota Power and Cleveland Cliffs. The Duluth-based electric utility was interested in adding Erie Mining Company's Taconite Harbor power plant to its generation portfolio, and Cleveland Cliffs, which had served as the general manager of the former Erie Mining Company for LTV Corp., wanted to maintain the plant infrastructure as a potential future mining site.

"The state ultimately signed a master agreement with LTV," Hiti explained. "Out of that came Cliffs Erie, and that allowed the property to become the catalyst for Mesabi Nugget and PolyMet. IRRRB ended up with rights on the tailings basin at Hoyt Lakes."[5]

The LTV bankruptcy and Erie Mining Company closure had been a painful experience for the agency and the Iron Range, but it had underscored the necessity of diversifying the economic and community development initiatives that IRRRB had been supporting for 60 years.

MESABI NUGGET

One economic development diversification effort that dovetailed nicely with the efforts the agency was making to find a re-use for the former Erie Mining Company site was alternate iron technology. The increasing demand for steel made from electric arc furnaces, both in North America and abroad, created a shortage of ferrous scrap By the beginning of the 21st century, the U.S. had topped out at 76 million tons of production a year.[6] Coupled



Mesabi Nugget was the region's first major attempt to provide electric arc furnace steelmakers with alternative iron projects from the Mesabi Range.

with an export market that consumed more than 10 million tons of scrap a year, steel mills soon found themselves competing for scarce scrap. As a result, scrap prices began a decade-long run-up, topping out at an average of more than $600 a ton by 2010. Electric arc furnaces were able to supplement the feed of ferrous scrap by using alternate iron, typically pig iron, direct reduced iron (DRI), or hot-briquetted iron (HBI).

One local mining engineer who was intrigued by the possibility of reducing iron ore from the Mesabi Range as an alternate iron substitute for electric arc furnaces was Larry Lehtinen. In 1999, Lehtinen had approached the agency about DRI, and Lehtinen was later hired to perform a study of potential reuses of the Erie Mining Company site. Lehtinen proved to be a cheerleader for using Minnesota ores for producing DRI.

Meanwhile, Commissioner John Swift had been introduced to a UMD professor working at the Coleraine Laboratory who had contacts with Kobe Steel in Japan. At the time, natural gas was far too expensive to use as a

Representatives of the agency, the state of Minnesota, Mesabi Nugget and Kobe Steel watch as Governor Tim Pawlenty signs loan documents for the construction of a demonstration plant (below) on the Mesabi Range.

reductant for DRI. Kobe Steel was working with Midrex, its American subsidiary, to use powdered coal as a reductant. The process appeared promising.

"We went to Japan with the NRRI (Natural Resources Research Institute) and the Minnesota DNR," said Brian Hiti. "We met with Nippon Steel, NKK and Kobe Steel, and we brought back the Kobe-Midrex technology."[7] IRRRB and the State of Minnesota each put up $8 million for a demonstration plant to test the technology on ore mined from the former Peter Mitchell Pit near Babbitt. The resulting nuggets increased the iron content of Mesabi Range taconite from 67 percent to 96 percent.[8]

Later, when the agency and the state needed a partner to take the demonstration plant to a full-scale commercial plant, Lehtinen helped convince Steel Dynamics Inc. (SDI), an Indiana-based electric furnace steelworker, to partner with Kobe Steel in the construction of a full-scale commercial iron nugget plant.

WIRING THE RANGE

Diversifying the mining and natural resources economy that had sustained the Iron Range for well over a century continued to be an IRRRB goal. One key to achieving that goal was ensuring that northeastern Minnesota had the tools to attract and retain businesses. Increasingly by the dawn of the new millennium, that meant creating the digital infrastructure that allowed residents, communities and businesses to carry on seamless electronic communications with the world at large.

By 2000, the American economy and society were being transformed by e-mail, the internet and social media. Rural communities that had been isolated from the growth of the urban economy were suddenly exposed

to a far more level playing field. Jobs could as easily be outsourced to Eveleth as to Edina. The agency had understood that societal trend in the early 1980s and began building the digital infrastructure that made it possible for Northwest Airlines to locate its major reservation center in Chisholm, rather than in Chanhassen. In the early 21st century, the agency doubled down on its commitment to wiring the Iron Range for next generation business operations.

In a 2000 special edition of *RangeView,* the agency explained that its Technology Center Committee and do Information Technology (do I.T!) initiative had invested more than $850,000 to establish technology centers around northeastern Minnesota.[9] "Northeastern Minnesota is on the leading edge of technology, thanks to the do I.T! initiative," Commissioner John Swift told readers.[10]

The do I.T! initiative was working with multiple partners, including U.S. West, Onvoy, MP Telecom, and the Northeast Service Cooperative to bring high-speed broadband to the region. IRRRB had created a technology and training center at Ironworld, and funded a technology center at Ely. The Itasca Technology Exchange in Grand Rapids was serving as a small business incubator for the West Range, and the Northeast Service Cooperative was building a technology center in Mountain Iron.[11]

The technology centers springing up across the Iron Range were designed to provide local communities with high-speed internet connections, computer labs and business support services. By the dawn of the new millennium, the do I.T! initiative had assisted with the establishment of technology centers in Grand Rapids, Chisholm and Ely, with centers on the drawing board in Cook, Crosby, Eveleth, Gilbert, Grand Marais, Hibbing, Mountain Iron, Two Harbors, Tower-Soudan, and Virginia.

Bill Henning, director of the Ely Area Economic Development Association (EAEDA), pointed out the importance of the centers to the goal of providing 21st century jobs to local communities. "We realized the days of the railroad bringing in industry were long over," he said, "so we turned to technology."[12]

One critical component to bringing rural northeastern Minnesota into the digital economy involved creating the actual digital infrastructure that would connect the region with folks down the street and across the globe. Working with MP Telecom of Duluth, the do I.T! initiative helped fund a fiber optic asynchronous transfer mode (ATM) network that connected residents in Ely with Duluth, Brainerd, Virginia, Eveleth, Hibbing, Babbitt, St. Cloud, Rochester, St. Paul, and the world.

"It's exciting to see that communities in greater Minnesota are on board in the information age," said Andrew Lucero, director of emerging technologies at Minnesota Power, the parent of MP Telecom. "The opportunities associated with connectivity possess the power to invigorate any rural economy."[13]

THE DIGITAL ECONOMY

The creation of a digital infrastructure in northeastern Minnesota was done with a specific goal in mind. "The more high tech companies that we can bring to the region, the easier it will become to convince other companies that northeastern Minnesota has the infrastructure and high-speed connections that it requires to run a business in the 21st century," said Terry Thomas, business recruitment director with the agency. "This is an evolutionary process, the result of which will be a vibrant, diversified economy for the region."[14]

By 2000, a number of companies had discovered the truth of what Thomas and IRRRB were saying. Learning Byte International, a designer and producer of interactive multimedia employee training programs, opened an office in Chisholm for writing software programs and conducting quality tests for the firm's global clients. Sato Travel opened a customer service center in Ely's Technology Center to expedite government and military travel, its primary line of business; the Arlington, Virginia-based firm soon had 128 employees in its Ely office.[15]

Entronix quickly became the cornerstone tenant at the Progress Industrial Park in Eveleth-Virginia. The contract manufacturer and remanufacturer of electronic circuit boards made its first expansion out of the Twin Cities into northeastern Minnesota. Marty Lehman, Entronix's CEO, had become familiar with the region after fishing Ely-area lakes for more than 20 years, but it was the

Minneapolis-based Blue Cross Blue Shield of Minnesota built two claims processing facilities in Aurora and Virginia early in the 21st century to take advantage of the highly educated iron range workforce.

skilled workforce and digital infrastructure that convinced Lehman to locate two facilities in the region in less than five years. "We've got an all-star team up there," Lehman told the agency. "When we opened the doors, we brought in people in the morning, and production had started by afternoon."[16]

IRRRB began advertising the "high tech, low stress" aspects of life on the Iron Range, and in late 2000, another Twin Cities employer made the commitment to northeastern Minnesota. Delta Dental Plan of Minnesota, a group dental insurance provider based in the Minneapolis suburb of Eagan, opened a call center in Gilbert and quickly ramped up to 100 employees. By the spring of 2001, the facility was handling more than 5,000 calls a day from clients and the firm's 2.7 million subscribers.

"There's a work ethic and level of commitment on the Iron Range that's hard to find in other places," said Mike Walsh, Delta Dental president and CEO. "When you combine that with the technological connectivity of the region, you can't find a better place to do business."[17]

Another Twin Cities health insurance giant that found the Iron Range "a better place to do business" was Blue Cross Blue Shield of Minnesota. In January 2002, the firm hired and began training its first class of 31 employees, who would go on to staff the first of two northeastern Minnesota Transactions Processing Units (TPU). In 2002, the Minneapolis-based company would hire and train 165 local residents for its two claims processing facilities in Virginia and Aurora.[18]

Commissioner John Swift was bullish on the Iron Range's ability to attract diversified, high technology employees. "We have every reason to be proud of the kinds of jobs that have been created in the past year," Swift said in the spring of 2002. "Not only are these the kind of jobs that will allow people to raise a family here, but they open doors to other companies who are looking to relocate or expand."[19]

John H. Sykes, CEO of Sykes Enterprises Inc., agreed. Sykes, who had located the firm's state-of-the-art technical service center on the Iron Range, cited the "expansion assistance, technology infrastructure and quality workforce available" for making the decision to locate on the Iron Range. Michael J. Premo, president of Navigant Integrated Services, echoes Sykes' comments. "Expanding Navigant to northeastern Minnesota has been a positive experience in every way," he said. "The area offers a strong technology and telecommunications infrastructure, excellent secondary education, assistance with job training programs, and a qualified workforce."[20]

Northwest Airlines, which had added 200 new jobs since the turn of the new century to bring its Chisholm workforce to more than 600 employees, was a strong supporter of the region.[21] Susan Edberg, Northwest Airlines' vice president for reservation sales and services, said Chisholm employees demonstrated "an incredible work ethic and a commitment to customer service…"[22]

THE BENEFITS OF THE GLOBAL ECONOMY

While IRRRB was preparing the Iron Range for the diversified digital economy of the 21st century, the global economy was taking a giant pendulum swing back to the industrial consumption of natural resources. The recovery of the global economy in the early years of the 21st century was driven primarily by what the media dubbed the "BRIC" nations – Brazil, Russia, India and China.

From 1996 to 2000, taconite production in Minnesota had remained steady, with the mines and mills on the Iron Range producing between 41 and 44 million tons. Production dropped off in 2001 in the wake of the closure of the former Erie Mining Company, but it began climbing back to the 40 million ton per year level in 2002, a level it would remain at for the next six years. During that period of time, however, world iron ore production more than doubled, from just over 1 billion tons in 2002 to more than 2.4 billion tons in 2008.[23]

Most of that demand for iron ore was going to China, which was in a crash program to industrialize its economy and move hundreds of millions of rural residents to the growing urban areas of China. The ever increasing demand for iron ore put upward pressure on the commodity; most Iron Range producers were captive either to their steel company owners, or to Cleveland Cliffs, an iron ore merchant. As a result, the fixed costs of the taconite properties gave domestic steel companies a low-priced source of pellets for their taconite pellets.

In 2003, U.S. Steel made a successful bid for the closed National Steel Pellet Co. site at Keewatin and reopened the property as Keewatin Taconite (KeeTac). The facility quickly ramped up to its annual capacity of 6 million tons of pellets. About the same time U.S. Steel was preparing KeeTac for commercial production, Cleveland Cliffs announced it had entered into a joint venture with China's Laiwu Steel to reopen the Evtac Mine at Eveleth. The new company, United Taconite LLC., was the first taconite property on the Iron Range to have minority Chinese ownership. As part of the negotiations, the State of Minnesota and IRRRB pledged $2 million to get the property back into commercial operation.[24]

IRRRB had negotiated a tricky transition early in the 21st century, encouraging traditional taconite mining and mining, supporting the emergence of alternative iron technologies, and preparing the region for a diversified digital economy. The agency had little time to rest on its laurels. It would face significant new challenges in the years ahead.

ENDNOTES

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CHAPTER 7

DIVERSIFYING THE RANGE ECONOMY: 2005-2008

The agency's work to encourage diversified economic development in the region came into its own in the early years of the 21st century. Agency loans helped such firms as Hedstrom Lumber, Minnesota Twist Drill, Wide Open Company, American Peat Technology, Cast Corporation, Minnesota Diversified Industries and others expand and grow. IRRRB was heavily involved in the start-up of Minnesota Steel Industries and Magnetation, and the agency continued to provide Taconite Economic Development Fund rebates to mining companies for expansion of their facilities. The agency's loans to Essar Steel Minnesota for development of a greenfield taconite facility and DRI plant came at a time when the Indian firm seemed to have the vision, expertise and financing to carry off an audacious plan to make the Iron Range more indispensable to the North American iron and steel industry. The agency under Commissioner Sandy Layman began a long-term privatization of tourism initiatives when it spun off the Ironworld Development Corp. as a non-profit to manage the Ironworld Discovery Center at Chisholm. IRRRB and the Northeast Higher Education District partnered to hire a coordinator for a regional workforce development initiative. The agency's support of a roundwood timber program to provide a supply of wood from area loggers to the Laurentian Energy Authority was a logical extension of IRRRB's interest in supporting home-grown forestry and energy initiatives on the Mesabi Range. Meanwhile, taconite and iron ore took

part in a commodities bubble that gathered steam in 2006 and 2007. Continuing strong demand from the rapidly expanding Chinese steel industry, interest rates that were lower than anyone had seen in several generations, and a stock market that trended inexorably higher fueled commodities bubbles in nearly all metals. All in all, it was a good time for northeastern Minnesota and the iron-rich Mesabi Range.

'A TIME OF CRISIS'

When Sandy Layman arrived at the Eveleth offices of IRRRB in 2003, the Iron Range was in "a time of crisis. Before I even took office, I was on the phone with the Governor because Evtac had shut down and declared bankruptcy."[1] Layman, who had led the Grand Rapids Chamber of Commerce and the Itasca Development Corporation before being appointed IRRRB Commissioner by incoming Governor Tim Pawlenty, was the first female commissioner in the agency's history. A graduate of Concordia University who had earned her MBA from the University of St. Thomas, admitted that her early years at the agency involved a fair amount of on-the-job training. "I was trying to learn on the job," she said. "I needed to be a spokesperson for the region and give good counsel to the Governor."[2]

IRRRB led a team of State of Minnesota agencies in expediting the re-opening of Evtac. Cleveland Cliffs and a Chinese partner re-opened the taconite facility as United Taconite. The next five years saw a major upswing in the

The increasing digitization of the state's economy allowed employers like Cast Corporation and Delta Dental to site facilities in northeastern Minnesota, a trend that the agency encouraged with low interest economic development loans.

mining boom and bust cycle that had characterized the economy of the Iron Range for more than a century.

But Layman and IRRRB faced other challenges in the early 21st century that were both local and statewide. The state of Minnesota was facing a $4 billion deficit in 2003-2004, and IRRRB's deficit was projected to be $4 million for the period. Layman was the fourth straight commissioner appointed by a Republican or Independent Governor, and the agency during her 8-year tenure was often involved in partisan disagreement between the commissioner and the DFL-dominated board.

Layman saw her charge as commissioner to make the agency more efficient. "IRRRB needed to be slimmed down," she said. "We needed to flatten the organization and refocus on economic development for the future."[3] Layman secured approval to offer an early retirement plan and was immediately able to eliminate several staff positions. When she left IRRRB in 2011, Layman had reduced the agency staff from 85 full time equivalent (FTE) employees to 55 FTE. "Most of that was through early retirement," she said.

IRRRB began to examine programs that weren't necessarily essential to the agency's historical mission. "We set up task forces to bring the stakeholders together to implement decisions," Layman said, adding that the first two task forces were concerned with the operation of Giants Ridge and Ironworld. "We created a new master plan for Giants Ridge, seeking new revenues from private investors. We retained ownership, but transitioned the golf courses to private management."[4]

Bill Hanna, the longtime editor of the *Mesabi Daily News,* reflected the opinion of many in the region when he noted: "I think Giants Ridge is a good deal. Any subsidy is money well spent."[5]

Laurentian Energy epitomized the agency's commitment to clean energy.

Ironworld was a tougher proposition. The attraction had been losing money for years, but it was the first major tourism initiative the agency had undertaken. It was also near and dear to the hearts of many of the agency's board members. "Three or four commissioners had tried everything they could to right Ironworld," Layman said, "none of which worked. The board was involved in the day-to-day operations, and many of them felt very strongly about Ironworld."[6]

In the end, a new non-profit organization took over management of Ironworld as the Minnesota Discovery

Center, which focused on maintaining an interest in the history of the region. The state maintained ownership of the buildings, grounds and collections, but the day-to-day management of the center became the responsibility of the non-profit.

A TACONITE TAX WINDFALL

The strong recovery of the taconite industry in the years after 2003 reflected itself in the agency's receipts. When Layman arrived at the agency in 2003, total taconite production tax revenues were $73 million; that had increased 33 percent by 2008.

"That was all positive income," Layman said. "It was due in large part to the growth of China. We didn't foresee it. But it allowed us to make investments for the future. And we were looking for value-added projects."[7]

IRRRB leveraged the windfall in taconite tax revenues into financial support and encouragement for a number of economic development initiatives during the period. The agency continued its policy of supporting diversified economic development across the Iron Range, and it encouraged the start-up of projects that added value to the traditional iron mining industries that called the region home.

In the fall of 2005, *RangeView* highlighted some of the diversified industries that were expanding and adding job opportunities, many of which had been supported

By 2005, Minnesota Twist Drill was reporting more than $10 million in sales to customers like Black & Decker, Lowe's and Home Depot.

by agency grants and loans. Today, the publication said, "small manufacturers throughout the region serve not only timber and taconite, but the electronics, home improvement, recreation, and retail sectors. The result? A regional economy that's as diversified as ever, at a time when manufacturing in other areas of the country is sagging."[8]

Longtime diversified manufacturers like Minnesota Twist Drill in Chisholm continued to grow. The company and its 75 employees manufactured drill bits up to ½-inch for customers like Irwin, Black & Decker, Lowe's and Home Depot. The customer then repackaged the drill bits and sold them under their name. Sales had tripled from $3 million in 2003 to $10 million in 2005.[9]

Premier Plastics set up shop at the Laskin Energy Park in Hoyt Lakes to make plastic parts for the marine, ATV and sporting goods sectors.

On the west end of the Iron Range, ASV had been named number seven on *Fortune* magazine's list of 100 fastest-growing small public companies in the United States in 2005. Founded in 1983, the company employed 240 people at its Grand Rapids and Cohasset facilities designing, manufacturing and selling rubber track loaders and all-purpose crawlers in the global marketplace. In 2005, the company was moving into its 110,000-square-foot addition and had increased sales 67 percent to $161 million.[10]

Plastics were a growth area for the region. Virginia Plastics had parlayed an IRRRB loan in 1996 to the purchase of a building and installation of the first of seven extrusion machines to become a manufacturer of poly tubing and plastic bags for the mining industry. The company was best-known on the Range, however, for its plastic minnow bags that kept baitfish lively on the way to a favorite fishing hole.

Premier Plastics got its start in the north suburbs of the Twin Cities in 1997 but moved to Hoyt Lakes to take advantage of the area's skilled manufacturing workforce. Operating out of a 35,000-square-foot facility in the Laskin Energy Park, the company operated rotational molding and vacuum forming equipment to make boat consoles, cargo boxes, and wheels for the marine, ATV and sporting goods sectors. "Everyone at Iron Range Resources was helpful and supportive in supplying the tools we needed to succeed," said Bob Menne, Premier Plastics' owner.[11]

The agency sometimes ranged far afield to support local industries. Northeastern Minnesota had always supported a thriving logging equipment industry, and IRRRB understood its mission to help that industry thrive, even if some of the larger players were located on Minnesota's North Shore. The agency had long supported Hahn Machinery in Two Harbors, which had started in 1972 and employed 34 workers manufacturing equipment for logging contractors. Northshore Manufacturing, another Two Harbors-based firm, had gotten its start making equipment for the timber harvesting industry. But by 2005, the firm was custom fabricating its "Builtrite" line of handlers and grapples for the scrap, waste material, garbage, and material handling industries. The firm and its

34 employees sold equipment into the lower 48 states, with customers on the Pacific Coast and in the South accounting for much of the firm's volume.[12]

Minnesota's growing interest in outdoor recreation spurred sales of clothing at Arctic explorer Will Steger's Steger Designs in Ely. Helped with a $175,000 loan from the agency, Steger was using the proceeds from the loan to help pay for computerized equipment to help increase production of the company's line of unique footwear for winter sports.[13] The agency also worked closely with the Itasca Technology Exchange (ITE), which occupied 18,000 square feet of space in the Grand Rapids Central Square Mall and provided high level technology services to eight small and start-up technology businesses. A partnership of IRRRB, Blandin Foundation, and Itasca Development Corporation, ITE worked to diversify the region's economy through the development of technology-based businesses.[14]

The agency's support of ITE dovetailed nicely with IRRRB's do I.T! initiative, which continued to work to bring fiber optic broadband connectivity to the Iron Range. The nineteen-member do I.T! Council also worked with cutting edge technology businesses like Superior Edge, Inc. to recruit high technology industry to the region. It supported technology training and awareness on the Iron Range, and renewed its commitment to creating a diversified high-technology environment in northeastern Minnesota.[15]

A VALUE-ADDED MINING ECONOMY

The middle years of the first decade of the 21st century also saw a double-barrel approach to diversifying the region's mining economy, both through the creation of a value-added alternative iron product capable of being melted in the steel industry's electric arc furnaces, and through the encouragement of exploring for the rich veins of non-ferrous and precious metals that underlay much of the Mesabi Range.

A major consideration for the iron mining sector of the economy as it entered the new century was the increasing importance of electric arc furnace mini-mills to the production of steel in North America. The industry dated from the late 1960s, when visionaries such as Ken Iverson of Nucor, Jerry Heffernan of Co-Steel International, Marvin Selig of SMI-Texas Steel and Gordon Forward of Chaparral Steel created a business model that replaced much of the steelmaking that had been lost when the integrated sector of the steel industry restructured in the 1980s. From a minuscule percentage of national steel production in 1970, mostly in concreted reinforcing bar and other long products, the EAF mini-mill segment of the steel industry was approaching 50 percent of U.S. steel production by the early years of the 21st century.

The lion's share of the feed for electric arc furnaces was ferrous scrap, everything from shredded automobiles to demolition scrap to torn-up rails. But the price of ferrous scrap was much more volatile than taconite pellets, and steel mini-mill operators had become adept at using alternative iron substitutes like pig iron and direct reduced iron (DRI) as hedges for rapidly fluctuating scrap prices. DRI, which involved reducing iron pellets in gas or coal-fired furnaces to nearly pure iron, had the potential for creating a value-added product from taconite pellets.

"DRI was the push to diversification within the mining economy," said IRRRB's Brian Hiti. "Even the blast furnace guys are looking at electric arc furnaces. It's ultimately where we are going to need to go – direct reduced grade pellets, DRI, pig iron, all from taconite."[16]

Research on DRI production on the Iron Range had been ongoing since shortly after the turn of the new century. Mesabi Nugget, a LLC made up of Ferrometrics, Cleveland Cliffs, Steel Dynamics and Kobe Steel, had begun experimenting with the production of iron nuggets at Cliffs' Northshore Mining plant in Silver Bay in 2001. Ultimately, interest shifted to the former LTV Steel Mining Co. site in Hoyt Lakes, and Mesabi Nugget began applying for permits with the State of Minnesota in 2005. In 2006, Mesabi Nugget announced plans to build an iron nugget plant at Hoyt Lakes, but that partnership came apart late in the year when Cleveland Cliffs pulled out.[17]

The plan to turn taconite into DRI pellets came to fruition in 2007 when a reconstituted Mesabi Nugget LLC, consisting of SDI and Kobe Steel, announced the

A supervisor monitors a pellet furnace at Mesabi Nugget, circa 2006.

construction of a $235 million iron nugget manufacturing facility at the former LTV Steel Mining site in Hoyt Lakes. The plant, which would use Kobe Steel's patented coal gas reduction process, would employ 100 workers plus an additional 50 employees working at the Mining Resources scram-mining operation that produced the plant's iron concentrate. The project would mean the employment of at least 500 construction workers during the 18 months it would take to build the facility.[18]

Once in full production, Mesabi Nugget's 500,000 tons of DRI pellets each year would be shipped to SDI's flat-rolled steel mills in the Ft. Wayne, Indiana area, and to the company's Special Bar Quality mill at Pittsboro, Indiana. IRRRB's Lee Bloomquist noted that "a lot of

IRRRB investment has been made in mining-related economic development."[19]

Much of that investment began with the economic package put together to support the creation of Mesabi Nugget in 2007. On Sept. 20, 2007, Minnesota Governor Tim Pawlenty traveled to Eveleth to formally approve $16.5 million in IRRRB financing for the new Mesabi Nugget plant. He announced that Mesabi Nugget would also receive a $10 million loan from the Minnesota Minerals 21st Century Fund administered by the Minnesota Department of Employment and Economic Development. "This public-private investment means jobs for the Iron Range, and the potential of expanded markets for Minnesota iron ore," the Governor said.[20]

At about the same time that Governor Pawlenty signed the aid package for Mesabi Nugget, the State of Minnesota was in the process of providing $6.5 million for public infrastructure supporting Indian steelmaker Essar Steel's construction of a massive complex at the former Butler Taconite plant that would mine and pelletize taconite, direct reduce them on site and feed them to an electric arc furnace mini-mill that would make the Iron Range competitive with any steel mill in North America.

Essar Steel was making a major investment in North America in the summer of 2007. It had purchased Algoma Steel in Sault Ste. Marie, Ontario, and had invested $1.65 billion in Minnesota Steel. The economic impact the Indian steelmaker projected for Minnesota Steel was enormous, dwarfing even the Mesabi Nugget project. Minnesota Steel expected to employ 700 workers at a wage of between $38 and $42 per hour, with benefits, and spin-off employment was estimated at more than 2,000 people. Another 2,000 workers would be employed building the massive steelmaking complex.[21] The company said it intended to start construction in the fall of 2007 and begin initial production of pellets in 2009. IRRRB had supported the venture with development loans to Minnesota Steel Industries, which Essar assumed when it acquired MSI. At the time, it all appeared to be a can't miss project.

SUPPORTING PRECIOUS METALS MINING

The spring of 2008 brought more good news for northeastern Minnesota's natural resources extraction economy. On Feb. 1, United States Steel Corp. held a press conference at the Keewatin City Hall to announce that it planned to invest more than $300 million to expand its Keewatin Taconite property (KeeTac). The investment capital project would add 3.6 million tons per year of pellet capacity at KeeTac, bringing the facility total capacity to just under ten million tons per year. The 3-year expansion project would create more than 500 construction jobs and require 75 new permanent workers at the plant on the west end of the Iron Range.[22]

But the KeeTac expansion announcement was overshadowed by an even more exciting mining development. PolyMet Mining announced it was moving ahead with plans for a major mining and processing facility at the former LTV Steel Mining Co. site in Hoyt Lakes. But instead of mining and processing taconite, PolyMet intended to mine and extract and concentrate copper, nickel and precious metals including platinum, palladium, cobalt, gold and silver.[23]

Commissioner Sandy Layman called the PolyMet project "the potential birth of a new industry that could someday rival the value of Minnesota's $1.7 billion a year taconite industry."[24] PolyMet Mining estimated the investment to develop the former LTV Steel Mining Co. site would initially approach $380 million. Once in operation, the facility would process 32,000 tons of rock per day in the former taconite plant's crushers, which would be reduced to 1,000 tons of mineral bearing rock. That rock would be processed further to yield an estimated 36,000 tons of copper, 7,700 tons of nickel, 360 tons of cobalt, and 7,200 tons of platinum, palladium, and gold each year. The company estimated construction would employ 500 workers, with the promise of 400 or more permanent workers at the site.[25]

By the spring of 2008, PolyMet was in the process of requesting permits from state and federal agencies to continue with its plans to explore for precious metals in northeastern Minnesota. The existence of those precious metals had been known for decades. As far back as the 1970s, AMAX Minerals had explored for copper-nickel and other precious metals on the east end of the Iron Range, in what geologists identified as the Duluth Gabbro Complex. Now, in 2008, PolyMet Mining was closing in on the release of a draft environmental impact statement (EIS).[26] Other companies were also ramping up exploration efforts in the region. Franconia Minerals and Wallbridge Mining, both Canadian-based firms, were doing exploratory drilling around Birch Lake near Babbitt. Working with the Minnesota DNR and the Natural Resources Research Institute (NRRI) at the University of Minnesota-Duluth, geologists from PolyMet and the other Canadian firms were helping to create what one developer called "a whole new frontier of mining."[27]

IRRRB did what it could to encourage the new industry. In 2005, the agency had waived its option on the tailings basin at the LTV Steel Mining Company site in Hoyt Lakes, which helped PolyMet Mining in its negotiations to purchase the site from Cleveland Cliffs.[28] Three years later, it appeared that the PolyMet Mining project would quickly progress from exploration and permitting to mining, processing and shipping product.

FORESTRY AND BIOFUELS

Mining wasn't the only natural resources extractive industry that appeared to have a bright future in 2007 and 2008. In the summer of 2007, the Governor's Task Force on the Competitiveness of Minnesota's Primary Forest Products Industry reported that logging, pulp and paper manufacture, and biofuel production supported the

The region's wood products industry provides an ample supply of biomass for Mesabi Range energy projects like Laurentian Energy.

economy of rural Minnesota with more than 22,000 primary jobs.[29]

The push for renewable energy created new opportunities for Minnesota's forest industry. The pulp and paper industry in the state had long been a leader in renewable energy, using mill wastes to power boilers at sawmills and paper mills. IRRRB supported closer collaboration between forest products companies and energy suppliers. In September 2007, the agency and the Blandin Foundation hosted an economic summit to explore the issue. Titled "Seizing Opportunity: Forestry and the Bioeconomy," the summit began to prepare the way to understanding the role the region's forest products industry could play in an emerging biofuels and biochemical industry in the state.[30] Commissioner Layman noted that the Grand Rapids summit was "intended to prepare the region to be a player in the emerging global bioeconomy."[31]

One example of the collaboration that the agency encouraged was the Laurentian Energy Authority, the first biofuel initiative on the Iron Range. Encouraged and supported by IRRRB, Laurentian Energy Authority was a combined effort by the municipal utilities in Hibbing and Virginia to burn wood from northeastern Minnesota in converted boilers at the two Iron Range utilities. The goal, said Terry Leoni, general manager of Virginia Public Utilities and the treasurer of Laurentian Energy Authority, "was to save our steam systems in Hibbing and Virginia, retain over 70 high-paying jobs, create 65 new jobs in the logging, trucking and farming sectors, displace the purchase of coal from out west, and create major economic development in the region."[32] The new boilers went on line in early 2007 and were quickly providing 20 megawatts of electricity in Hibbing and 15 megawatts in Virginia; each megawatt of electricity produced provided enough electric power for 450 homes.[33]

A NEW ERA IN MINNESOTA MINING

On Sept. 19, 2008, Essar Steel Holdings broke ground on the first mine-to-steelmaking facility in North America and the first steel mill to be built on the Iron Range. The $1.65 billion project near Nashwauk was slated to be producing taconite pellets by 2010, DRI pellets by 2013 and 2.5 million tons of slab steel a year by 2014. "This is an historic event," IRRRB Commissioner Layman told reporters at the groundbreaking. "This project marks the beginning of a new value-added industry on the Iron Range that will generate tremendous economic benefits for our communities, schools, businesses and the state."[34]

IRRRB had been part of a $40 million state bonding initiative, $11 million in supplemental appropriations, a $14.9 million grant from the Minnesota 21st Century Minerals Fund, and $6 million in agency project development loans, all of which had helped jumpstart the project. The first of 2,000 construction workers were on the job that bright September morning as Governor Tim Pawlenty and Essar Steel Minnesota President and CEO Madhu Vuppuluri presided over the groundbreaking ceremonies.[35]

On the face of it, the Iron Range appeared to have turned the corner to a new era in mining that would build on the region's century-and-a-quarter mining tradition while

CITIZEN MEMBERS

One major change in how IRRRB was governed happened at the end of the 20th century when the state of Minnesota opened up citizen membership to the agency's board of directors. Since its inception, IRRRB's board had consisted of elected officials from the Iron Range. That changed in 1998 when the Minnesota Legislature passed legislation signed by Governor Carlson providing for the appointment of three citizen members to serve on the IRRRB's expanded 13-member board. Under the new arrangement, the board consisted of five state senators appointed by the Senate Majority Leader, five state representatives appointed by the Speaker of the House, a majority of whom were required to live in the Taconite Assistance Area (TAA), and three citizens from the TAA, one each appointed by the Senate Majority Leader, the Speaker of the House, and the Governor. [36]

Jack Ryan was a citizen member, appointed by Governor Tim Pawlenty in the fall of 2007. The president of Ryan Kasner Bialke L.L.C., Ryan had been a business leader in Hibbing for his entire life. [37] *For Ryan, the experience was one of the highlights of his professional life. "It was a great experience for me," he said, "because it opens your eyes to the amazing amount of good things the agency can do for northeastern Minnesota."* [38]

The existence of citizen members of the board was sometimes difficult for longtime elected board members to accept, although retired State Representative Joe Begich was re-appointed to the board as a citizen member after he left politics. "The approval process became a little bit different when the citizen members came aboard," Ryan said. "There was a lot of conversation about pros and cons of issues at the board level, a lot of clearing the air. The process took place in more of a public forum." [39]

paving the way to the creation of a value-added 21st century mining economy.

Just four days before, however, the global economy had stood on the brink of an abyss, a yawning chasm that would grow wider in the years ahead and suck in much of the global economy. On Sept. 15, 2008, Lehman Brothers, one of the world's pre-eminent financial services firms, filed Chapter 11 bankruptcy and was quickly liquidated. The Lehman bankruptcy was the outlier of a subprime mortgage lending crisis that would bring the U.S. economy to its knees during the next three years. It was the beginning of a global recession that is still playing out in the world economy.

It would be a much different world for IRRRB and the Mesabi Range following the effects of the economic crisis of the fall of 2008.

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CHAPTER 8

RIDING A ROLLERCOASTER: 2009-2014

The global recession of 2008-2009 swept across the Mesabi Range, idling all six taconite plants in the region and putting 3,600 miners out of work. The agency under Commissioners Sandy Layman and Tony Sertich worked with non-ferrous mining projects in the region, including PolyMet Mining Corp., Duluth Metals and Franconia Metals Corp. to diversify the Range's mining economy. IRRRB also continued its economic development activities during the period and helped support the start-up of Silicon Energy in Mountain Iron, Joy Global in Virginia, and Midwest Manufacturing in Nashwauk, as well as the expansion of Detroit Diesel Remanufacturing, Delta Air Lines Customer Engagement Center, Louisiana Pacific, Cast Corp., Conveyor Belt Service, American Peat Technology and Northshore Manufacturing, among others. The agency's Workforce Development initiatives, including the launching of technical training programs at area colleges and the establishment of Iron Range Engineering at Mesabi Range College, helped create a new educated workforce in northeastern Minnesota. Ironically, the short, but sharp recession in the mining sector was quickly followed by surging demand from China that resulted in a restart of all of the Range taconite plants by late 2010 and an expansion of the Magnetation project. In the five years between 2009 and 2014, the region and the agency took a wild ride on an economic rollercoaster that characterized the natural resources sector in

an incredibly compressed period of time in the early 21st century.

THE BOTTOM FALLS OUT OF THE MARKET

As the presidential election heated up just after Labor Day in 2008, unprecedented financial strains threw the North American economy into the worst recession since the early 1980s. Credit all but dried up as some of the nation's largest investment banks struggled with solvency. Home prices, propped up for years by sub-prime mortgages and inflated appraisals, dropped off a cliff. Wall Street plunged 40-50 percent from its fourth quarter 2007 highs.

On Sept. 15, Lehman Brothers filed for Chapter 11 bankruptcy protection. U.S. Treasury Secretary Hank Paulson, Federal Reserve Chairman Ben Bernanke and a group of grim-faced investment bankers had spent the weekend huddled together, trying to cobble together a rescue plan. When the smoke cleared that Monday morning, Lehman Brothers, a fixture on Wall Street for more than 100 years and holding more than $600 billion in assets, had engineered the largest bankruptcy filing in U.S. history.

Meanwhile, the Dow Jones Index was in a tailspin of epic proportions. The Dow dropped more than 300 points on Sept. 9 as investors digested the news that Lehman Brothers – and perhaps other investment banks – were in serious trouble. The day that Lehman Brothers filed, Sept. 15, the market experienced the greatest one-day drop – 500 points – since the week after 9/11. And the market dropped another 777 points on Sept. 29. After hitting a high of nearly 14,000 points the previous November, the closely watched index had shed 3,500 points in a matter of weeks.

As September stretched into October, there was literally panic on Wall Street. Rumors were rife. Citigroup would be the next to file. Goldman Sachs was in trouble. Merrill Lynch was tottering. Teams put together by the U.S. Treasury and the Federal Reserve attempted to play matchmaker and stem the bleeding. Bank of America bought Merrill Lynch at a fire sale. Wachovia, once one of the proudest names in American banking, sold itself for a song to Wells Fargo.

The credit crunch rippled quickly into industrial segments of the American economy. Plummeting new home sales meant all that many fewer appliances coming out of GE's Appliance Park in Louisville and the Whirlpool factories in Michigan. Tightening credit for American consumers – and $4 a gallon gasoline during the summer tourist season – instantly translated into a precipitous drop in automotive sales. Annualized sales of 16-18 million vehicles in 2006 and 2007 plunged to the 10-million vehicle level for 2008.

TACONITE ON LIFE SUPPORT

By the end of the year, America's Big 3 automotive companies were lining up in Congress, seeking billions of dollars in bailouts just to keep the lights on into the first quarter of 2009. The woes besetting automotive and consumer durables segments of the economy almost immediately made themselves felt in flat rolled steel production. Literally overnight, operating rates at domestic steel mills fell into the 50 percent range, and blast furnaces from one end of North America to the other were idled and banked.

For the Mesabi Range, the Great Recession of 2008-2009 was a sad old story often told. By 2008, the region was producing just under 40 million tons of taconite pellets and expecting to hit that level again in 2009. Then the bottom fell out of the U.S. economy, taking the iron and steel industry with it. By June 2009, more than 2,000 of the 3,500 mining workers in the region's taconite industry were laid off. That rippled back into the Upper Great Lakes economy, as hundreds of employees of U.S. fleets and workers in related jobs got pink slips. For several months in 2009, all six of the taconite plants on the Range were shut down. Production dropped to 17 million tons for the year, the lowest annual tonnage since 1963, the last full year of the then declining natural ore era. There were many in the region who predicted that the Mesabi Range would repeat the difficult times of the 1980s, coming back as a smaller version of itself perhaps eight to ten years in the future.

IRRRB, however, saw a bright future in mining, even as many doomsayers chronicled the impending demise of the iron ore economy. IRRRB Commissioner Sandy Layman told audiences throughout 2009 that despite production cutbacks, temporary shutdowns, reduced hours and layoffs in the taconite sector, the industry had a bright future. "In looking at the future," Layman said, "the natural resources held within this region of the state will be in high demand across the nation and the world. Which gives me confidence that brighter times are ahead for Minnesota as a whole."[1]

'A FUNNY THING HAPPENED'

And a funny thing did happen on the way to the Great Depression of 2009. Things began to turn around in the nation's iron and steel industry, and workers gradually returned to their jobs as taconite mines and pellet plants resumed production in the second half of 2009 and 2010. Between July and December 2009, five of the Range's six taconite operations recalled workers and restarted production lines.

The reason for the fast turn-around was simple. U.S. iron ore production in the 21st century is essentially controlled by two steel firms – US Steel and Arcelor Mittal – and one merchant seller, Cliffs Natural Resources. The consolidation of the U.S. industry created impressive productivity gains in the 21st century. Meanwhile, North American iron ore was relatively inexpensive when compared to world pellet prices.

Outbound ore from the Mesabi Range flowed down the Lakes in 2010 in numbers approaching 2008 levels. All told, 37.5 million tons of pellets were produced for the

blast furnaces and Basic Oxygen Process (BOP) shops in the steel-producing regions at the lower end of the Lakes. Mines and taconite mills called back all of the 3,600 taconite workers on the Range and started hiring additional personnel for the first time in more than a decade. Production in 2011 topped 40 million tons, which meant the Range was literally at full capacity. And there was continuing demand for the pellets from the Mesabi Range and the Marquette Range in the nearby Upper Peninsula of Michigan.

Mesabi Range iron mines were always captive to the big integrated steel mill owners who developed them. For decades, the steel companies sold taconite to themselves at $30-$35 a ton, essentially the cost of producing and shipping the pellets. But with prices on the world market reaching as much as $200 a ton for iron ore, taconite plant owners were increasingly investigating the potential for shipping pellets to rapidly-growing consumers in China and India as the first decade of the new century drew to a close.

Between 2007 and 2011, as much as 1 million tons of Mesabi Range taconite pellets left docks on Lake Superior for China each year. Most of the China-bound pellets went down the Lakes on U.S. or Canadian bulk carriers and then were shuttled out to St. Lawrence River deep draft ports for transshipment to meet the insatiable demand of China's steel industry for iron ore. That trend seemed likely to continue into the future as mine owners on the Mesabi Range spent as much time investigating the growth rate in India and the other emerging economies as thinking about future demand at U.S. automotive plants. And in 2010 and 2011, as the taconite economy kicked into high gear, there were increasing hopes on the Mesabi Range that value added iron products would help the region crack the all-important domestic electric arc furnace market.[2]

A POTENTIAL COMPETITOR TO FERROUS SCRAP

The rapid run-up in scrap prices in 2008 and 2009 to unheard-of prices in the $900-a-ton level motivated a number of U.S. mini-mill executives to begin running the numbers for making direct reduced iron ore on a captive basis that would compete with prime grades of scrap in the electric arc furnace. One of those executives was Keith Busse at Steel Dynamics, which had already hedged its ferrous scrap strategy by purchasing Ft. Wayne, Indiana neighbor OmniSource. At the same time, Steel Dynamics was pouring millions of dollars into the Mesabi Nugget Project, which the agency had backed and was promising to transform the feed source for EAFs.

The performance of the nuggets would be watched closely by America's steel and ferrous scrap industry. Fired in a rotary hearth furnace at Mesabi Nugget's plant near Hoyt Lakes, Minnesota on the Mesabi Range, the nuggets combined low-grade taconite and pulverized coal into a nugget similar in iron content to pig iron but lower in

Larry Lehtinen helped convince Steel Dynamics Inc. to make a $260 million investment in Mesabi Nugget.

carbon. The nuggets were also capable of being continuously charged in an electric furnace.

SDI bet its $260 million investment in the project that nuggets would provide the company with a domestic source of feedstock comparable to, or better than pig iron. The Mesabi Nugget plant on the Iron Range used Kobe Steel's patented ITmk3 ironmaking process to run the world's first commercial iron nugget plant.

Peter Kakela, then professor of resource development at Michigan State University in East Lansing and the nation's pre-eminent expert on iron ore, said that the Mesabi Nugget process essentially took a taconite pellet that was 65 percent iron ore and increased the iron ore content to 97 percent. He added that the high-quality Mesabi Nugget had the potential to make steel cheaper and cleaner than traditional scrap resources.

Kakela pointed out that the gains in sustainability with the commercial grade iron nuggets was equal to the gains made half-a-century ago when the steel industry adopted its pioneer taconite processing technology in the Lake Superior iron ore fields. Beginning in April 2011, Mesabi Nugget operated at a monthly rate of 20,000 metric tons, on track to reach the plant's operating capacity of 500,000 metric tons per year. By late 2011, Steel Dynamics was reportedly already looking at expanding the plant on the Mesabi Range, perhaps doubling capacity by 2014.

"We are pleased with the continuing production improvements at Mesabi Nugget," Busse told shareholders and the investment community in the spring of 2011. "With the additional supply of liquid pig iron from Iron Dynamics to our flat roll mill, we have nearly achieved our goal of self-sufficiency of iron for our steel operations."[3]

The rapid rebound of the mining economy pumped new life into areas of the Range that had struggled in recent years. The ramp-up of the Mesabi Nugget project was a shot in the arm for the East Range, devastated by the closure of LTV Steel Mining seven years before. New

businesses and homes in Aurora and Hoyt Lakes sprouted up after Mesabi Nugget announced its plant to build the world's first commercial iron nugget plant. IRRRB, which had developed a detailed prospectus for industrial prospects like Mesabi Nugget after the closure of the LTV Steel Mining plant, had formed an East Range Economic Response Team that worked with developers and civic officials to bring new projects to the area. The Team also worked closely with Minnesota Power to help attract business to the Laskin Industrial Park near Hoyt Lakes.[4] IRRRB worked hard to develop commercial and residential projects at the nearby Giants Ridge complex. "The economic response team instilled hope and made sure that we didn't lose our skilled workforce," Hoyt Lakes Mayor Marlene Pospeck said in 2009.[5]

Anticipation of the PolyMet project spurred planning for a 60- to 80-unit housing development on the west side of Babbitt. New housing developments along Leeds Road and Colby Ridge in Hoyt Lakes were on the drawing board because of the start-up of Mesabi Nugget and the anticipated growth of PolyMet. The planned development of 200 residential lots at Voyageurs Retreat at Giants Ridge near Biwabik was another affirmation of the projected health of the region's natural resources economy.[6]

The opening of Mesabi Nugget in 2009 was followed by some anxious moments when the taconite industry slowed way down in the wake of the 2008-2009 recession, but the quick turnaround of the natural resources economy in 2009 and 2010 put many of the initial fears to rest.

Magnetation partnered with Ohio-based AK Steel to develop a process to recover iron units from the many natural ore tailings piles across Minnesota's iron ranges.

NEW PRODUCT, NEW JOBS

Steel Dynamics wasn't the only company investigating using Mesabi Range taconite for 21st century steelmaking. Magnetation, a local start-up backed by IRRRB loans and grants, developed a patented mineral reclamation processes to turn the very low-grade ore in hematite tailings into a pellet suitable for feeding blast furnaces worldwide. The company provided taconite concentrate to Mesabi Nugget and embarked upon a joint venture project with Cargill, the Twin Cities-based global grain and food processing conglomerate that helped found North Star Steel, a major electric arc furnace mini-mill company. Cargill invested in Magnetation's plant near Nashwauk, and expressed hopes in further investment in other Magnetation plants.

Magnetation had developed a proprietary process that recovered iron units from natural iron ore tailings, which were dispersed across the Iron Range at hundreds of tailings sites, some dating back more than a century. The concentrate was able to be used in iron making as either sinter plant or reduced iron plant-feed. It could also be used in a host of other niche markets, including media, drilling for coal preparation plants, ship ballast, paint pigments, and as a glass manufacturing coloring agent.[7]

The company also entered into a supply agreement with AK Steel of Middletown, Ohio and built a plant in north central Indiana to supply the Ohio steelmaker with enriched pellets. Magnetation's goal was to boost production at the Mesabi Range facility to the 450,000-ton-per-year level by the end of 2012. IRRRB had early on seen the potential for the Magnetation project, and by 2009, the agency was heavily involved in helping financing the $9.6 million start-up costs.

THE IMPORTANCE OF SHALE GAS

A third alternative iron project under consideration on the Mesabi Range during the years surrounding the Great Recession was Essar Steel Minnesota's plan to build a taconite pelletizing plant on the west end of the Range near Nashwauk. The former Butler Taconite property was a major producer in the 1970s and 1980s, and Essar planned to build a 7-million-ton pellet plant on the site. Much of the production would be loaded in ore carriers

Minnesota Governor Tim Pawlenty and Essar Steel officials presided over the 2008 groundbreaking for what was hoped would be the first mine to steelmaking facility in North America.

at Duluth-Superior and shipped across Lake Superior to Sault Ste. Marie, Ontario, where Essar operated the former Algoma Steel mill complex. The renamed Essar Canada operated the widest strip mill in North America and was a major supplier of flat roll steel to automotive companies in Canada and the United States.

All of the production from Essar Steel Minnesota, however, would not be designated for the former Algoma Steel property. Instead, Essar Steel Minnesota announced plans to build a direct reduced iron (DRI) plant on the site of the pellet plant to reduce the pellets into DRI with an iron content of 93 percent. Essar Steel Minnesota also intended to build an electric arc furnace adjacent to the DRI plant that would melt up to 2.5 million tons of steel

2011-2012 Board. Seated (L-R): Senator David Tomassoni (Vice Chair), Representative Tom Rukavina (Chair), Citizen Joe Begich; Standing (L-R): Representative Carolyn McElfatrick, Senator Tom Bakk, Senator John Carlson, Citizen David Chura, Senator Tom Saxhaug, Representative Tom Anzelc, Citizen Jack Ryan, Senator Paul Gazelka, Representative Carly Melin; Not pictured: Representative David Dill

a year and feed it into a thick slab caster to make slabs up to ten inches thick and 40 feet long.

Steel companies had determined that the best reduction fuel for DRI in an electric arc furnace was natural gas. Before about 2010, natural gas had been too expensive to use for direct reduced iron in northern Minnesota. But increasing volumes of Canadian natural gas flowing south into Minnesota and the Great Lakes states on the Enbridge Pipeline led Essar Steel Minnesota to announce that it planned to use natural gas at its Nashwauk, Minnesota DRI plant.

The 21st century discovery that billions of cubic feet of natural gas are locked up in U.S. shale formations, from North Dakota to the Marcellus Shale deposit, which underlies much of Pennsylvania and western New York State, had steel companies like Essar Steel Minnesota re-assessing the potential for U.S. DRI production. The upshot for the Mesabi Range was that iron ore and taconite, the oldest competitor to domestic ferrous scrap, recovered

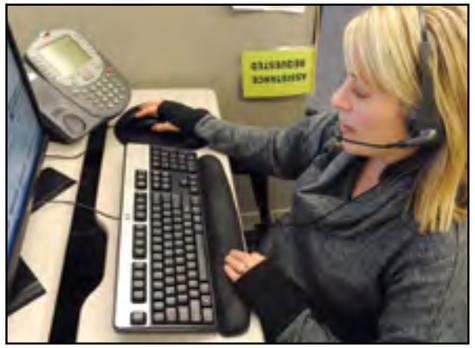
extraordinarily quickly from the financial upheaval of 2008-2009. The then 120-year-old Mesabi Range was set to produce 40 million tons of taconite in 2012, essentially a full recovery from the worst recession in a quarter-century in a little more than three years. The recovery from the recession of the early 1980s had taken more than a decade.[8]

A CHANGE AT THE TOP

That recovery would be in the capable hands of Tony Sertich, a fourth-generation Iron Ranger who was named to succeed Sandy Layman as commissioner in 2011. Appointed by incoming DFL Governor Mark Dayton, Sertich was the great-grandson of an underground miner and was the first commissioner who had grown up on the Mesabi Range following the collapse of the taconite industry in the early 1980s recession.

Taking what one commentator called "the most important job on the Range for the next four years." Sertich resigned his seat in Minnesota House District 5B to take over as IRRRB commissioner.[9] Sertich, a native of Chisholm and a Hamline University graduate, brought more than a decade of experience in Iron Range political affairs to the post. Elected to the Minnesota House in 2000 as the lower body's youngest member, he became the youngest House Majority leader in Minnesota history in 2006. Since 2001, he had served as a member of the IRRR board.[10]

Delta Air Lines, which absorbed Northwest, maintained its commitment to the workforce manning its Chisholm reservations center.



The ten years between his swearing in as a board member in 2001 and his swearing in as commissioner in 2011 encapsulated some of the challenges that IRRRB faced in the first decade of the 21st century. The day he joined the board was the day that LTV Steel Mining Company

announced it was closing. The day he was sworn in as commissioner a decade later was the day that an environmental group sued the agency over its support of the PolyMet project.[11] But Sertich's service as a board member helped prepare him for the challenges ahead.

"When I got to the agency as commissioner, we were coming out of another bust cycle from the Great Recession," said Sertich. "I knew the agency, the staff, the board, the elected officials in the region. I was able to hit the ground running."[12] One of his first initiatives was to reacquaint the community with the agency's mission. "We barnstormed the region reintroducing ourselves," he said. We held a series of town hall meetings across the Range. We'd get 50 people who showed up, 20 people who showed up. It was a start."[13]

Sertich kept the agency focused on value-added mining products during his years as commissioner, but he also redirected IRRRB efforts into other areas of economic, community and workforce development. Under Sertich's leadership, IRRRB began investigating the potential for forest biotechnology projects to supplement the Laurentian Energy Authority that was expanding. Generation facilities at Minnesota Power, Sappi Fine Paper in Cloquet, and the Georgia Pacific Mill in Duluth were all experimenting with using biomass from northeastern Minnesota to create renewable energy.[14]

IRRRB increasingly focused on assisting businesses in the region. "If you helped ten businesses create ten jobs

Detroit Diesel Manufacturing expanded its facility in Hibbing in 2013, supported by an economic development loan from IRRRB.

apiece, you had 100 new jobs," Sertich said. "It made for a more diverse, stable economy."[15] The agency worked with dozens of business during the period from 2010 to 2014. In 2010 and 2011, IRRRB supported development of Silicon Energy, a solar panel producer in Mountain Iron. Cast Corporation in Hibbing expanded. Midwest

Manufacturing in Nashwauk opened. Northshore Manufacturing in Two Harbors expanded.

Economic development initiatives continued from 2012 to 2014. Detroit Diesel Remanufacturing expanded in Hibbing. Delta Air Lines once again expanded its Iron Range Customer Engagement Center in Chisholm. Sundell Eye Associates constructed new facilities in Virginia. ProBlast Technology expanded in Keewatin, and IRRRB worked with the Louisiana-Pacific expansion in Two Harbors.

But it was what Sertich called "education-based economic development" that the agency took special efforts to encourage during the period. Ironically, it was the reality that one of the workforce challenges facing the region in 2011 was that the baby boomer workers who had been the mainstay of the taconite industry since the early 1970s were reaching retirement age. And the skills needed by the taconite industry and other sectors of the economy were going to be vastly different than the skills workers brought to the table 40 years before.

"The best return on investment we could offer was making sure we had a world-class educational system," Sertich said. "And that meant partnerships with our community colleges. Tom Rukavina said we have to take workforce development to the next level and invest in job training at our colleges."[16]

IRRRB worked closely in 2012 with the Applied Learning

ProBlast Technology was one of the companies aided by IRRRB to expand its Keewatin facilities in 2014.

Institute, which had enrolled 1,400 students in high school technology courses. The agency also worked with Iron Range Engineering which held a June 2012 groundbreaking for its new $3 million, 11,000-square-foot manufacturing laboratory at Mesabi Range Community College in Virginia. The community college also established the Iron Range Nursing program to offer local residents advanced nursing degrees.

THE MORE THINGS CHANGE

The agency and policymakers could take comfort from the fact that there were still billions of tons of taconite reserves scattered beneath the pine covered hills of the Lake Superior uplands. And to top it all off, new technologies and energy resources were driving plans for the

Nearly a half-century after using an agency loan for seed capital, Minnesota Twist Drill continued to provide good jobs to iron range residents.

production of as much as 3 million tons of alternative iron in Minnesota in the second decade of the 21st century.[17]

The reality remained in the early years of the second decade of the 21st century that despite years of economic development efforts, the iron ore industry remained the benchmark foundation of the Iron Range economy. The industry directly employed about 3,000 people, pumped more than $2 billion into the Minnesota economy, and created an additional $700 million in interindustry spending and an additional $425 million in household spending in the state. In total, the industry had a $3.1 billion annual impact on the state economy and directly and indirectly employed nearly 10,200 Minnesotans. "This area would be in big trouble without mining," said Jim Skurla, University of Minnesota Duluth assistant director of the Bureau of Business and Economic Research.[18]

But the transition to a global natural resources economy that had begun at the turn of the new century also meant that the Iron Range could be just as quickly impacted on the downside by events occurring halfway around the world. And that's what happened in 2014 when the insatiable Chinese demand for iron ore began to slacken.

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INTERLUDE 3

THE IRON RANGE IN A GLOBAL ECONOMY

In the late summer of 2014, America's steelmakers were pursuing a dream of substituting direct reduced iron (DRI) for ferrous scrap in the nation's electric arc furnaces. Abundant supplies of domestic natural gas released by hydraulic fracturing and horizontal drilling in fields from North Dakota to Pennsylvania opened up the possibility of using inexpensive gas to reduce iron ore in the United States. Natural gas is the best fuel for iron ore reduction, but throughout the latter years of the 20th century it was far too expensive to use as a reducing fuel. Because of the proximity to the Bakken Shale deposits of North Dakota and their bountiful supply of natural gas, the Mesabi Range was expected to play a major role in the development of new, greenfield alternative iron facilities.

The shale boom resulted in a two-thirds drop in the price of domestic natural gas. Steelmakers jumped at the chance to build domestic DNR capacity. Fort Wayne, Indiana-based Steel Dynamics Inc. was in the process of getting its Mesabi Nugget DRI plant at Hoyt Lakes ramped up for commercial production. Domestic iron ore producer Cliffs Natural Resources was expressing growing interest in forming a DRI joint venture somewhere in the Great Lakes states of Minnesota or Michigan.

The enthusiasm for DRI, sparked by plummeting domestic natural gas prices, was spurred by a desire to control volatile iron ore and scrap prices. In the summer of 2014, seaborne iron ore was selling for as much as $150 a metric

ton. Prime grades of ferrous scrap in closest competition to DRI were being delivered to mills in the nation's heartland for more than $400 a ton. Electric arc steelmakers reasoned that DRI priced at $400 a ton or less could serve as an effective check against skyrocketing ferrous scrap prices. And with domestic natural gas priced at roughly $3 per MMBTU, and DRI plants able to use the nation's inland waterway system to ship product to mills in the U.S. Midwest, that economic model looked to be a winner, especially for the projects planned on the Mesabi Iron Range.

In the summer of 2015, however, economic assumptions were knocked down like so many bowling pins. Growth in China slowed dramatically. The U.S. dollar rose steadily against just about every currency in the world as global investors sought the safe harbor of U.S. government bonds. Global steel overcapacity and the strong dollar resulted in a flood of imported steel inundating North America. Ironically, both iron ore prices and natural gas were trading at historic lows, but that was little comfort to DRI producers.

One casualty of the bear market for iron ore and ferrous scrap was Mesabi Nugget, Steel Dynamics Inc.'s attempt to make pig iron nuggets on the iron-rich Mesabi Range. The Mesabi Nugget plant, which was a partnership between SDI and Japan's Kobe Steel, differed from other domestic DRI plants in that it used powdered coal for reducing the iron nuggets, rather than natural gas.

The Mesabi Nugget plant was plagued with production problems, and in February 2015, managing partner SDI announced it was placing the Minnesota plant on warm idle status. By summer, SDI had placed the facility on an extended shutdown. Richard P. Teets, president and chief operating officer of SDI's steel operations, told reporters the company had shuttered the plant for at least a two-year period. A workforce of about 18 employees remained at the plant for upkeep, security, shipping of remaining inventories, and environmental issues. All other employees were offered the opportunity to explore employment at other locations within the company.

Another casualty of the upheaval in iron and ferrous scrap markets was Minnesota-based Magnetation. The company was formed to reclaim the iron in tailings piles left behind when miners dug out the rich natural ore of the Mesabi Range. Magnetation, which had a patent to reduce the tailings to enriched iron pellets, filed for Chapter 11 bankruptcy to reorganize its finances in early May 2015. The company cited the drastic fall in iron ore prices for its decision to seek bankruptcy protection, and Matt Lehtinen, Magnetation's president and chief operating officer, said in a statement that the company was entering into a process to reduce its debt burden.

Magnetation idled two of its four plants in northeastern Minnesota, but continued to produce enriched iron pellets at its facility in Reynolds, Indiana until the summer of 2016. The bankruptcy filing flowed down the balance sheet to Magnetation's joint venture partner, AK Steel.

The Middletown, Ohio-based steelmaker concluded at the end of its first quarter in 2015 that its 49.9 percent equity interest in Magnetation was impaired; the steelmaker wrote off $256.3 million as a result of its investment in Magnetation.

One longtime observer of the nation's domestic iron ore industry pointed out the reality that metallics continue to be an inherently cyclical business. Peter Kakela, retired professor of natural resources at Michigan State University in East Lansing and a longtime industry consultant, said he thought although Magnetation had been hammered by the 2014-2015 drop in iron ore prices, the firm did continue to have one major advantage over other producers. "They are using existing tailings," he said, "which means they don't have to mine the iron ore. They don't have any of the mining costs."[1]

THE PRECIPITOUS DROP IN IRON ORE PRICES

The precipitous drop in iron ore prices from 2014 to 2015 resulted in layoffs at the mines and processing facilities on the Mesabi and other Lake Superior Ranges. Michigan State's Kakela explained that most producers on Minnesota's Mesabi Iron Range were shipping pellets in 2015 that cost about $75 a ton to produce. With spot market iron ore going for about $50 a ton in the summer of 2015, consumers idled captive mines to save money. By the fall of 2015, three of the Mesabi Range taconite plants had been shut down, including Keewatin Taconite, United Taconite, and Northshore Mining.

Iron mining has always been a cyclical business, and at least two producers on the Mesabi Range were still talking about the possibility of adding DRI facilities in Minnesota in late 2015. Ironically, the two would become embroiled in a major dispute that would rock the Iron Range in 2016. Essar Steel, the big Indian steelmaker, spent the years between 2011 and 2015 building the first greenfield iron processing plant on the Mesabi Range in a third-of-a-century. The company said in the summer of 2015 its new mine and taconite pellet plant near Nashwauk was about 80 percent complete and would start to produce pellets in the early summer of 2016. The company said at full production, the new plant would ship 7 million tons of pellets per year to its customers, 4.5 million tons a year to ArcelorMittal and 2.5 million tons a year to Algoma Steel in Sault Ste. Marie, Ontario. The company also said it hoped to produce direct reduced grade pellets at the Nashwauk facility.

But by late 2015, the Essar Steel Minnesota project was experiencing major financial problems. The global steel overcapacity glut had affected the Indian parent company's bottom line, and in November 2015, Essar Steel Algoma Inc. and four of its affiliates filed to restructure the company's finances while continuing normal operations under the protections afforded by the Canadian Companies' Creditors Arrangement Act.[2] The company listed 125 local creditors holding more than $38 million

in debt, including the city of Sault Ste. Marie, Ontario, which was owed $14 million.

Meanwhile, in Minnesota, Essar Steel Minnesota ran afoul of backing from the state's political establishment when it was revealed that the Indian company was in arrears for millions of dollars to contractors and subcontractors working on the huge new plant. In January 2016, the company laid off literally all of the construction workers at the $1.9 billion plant, saying it was essentially out of cash. The next month, the company was sued by a New York investor who claimed Essar Steel Minnesota owed it $27.6 million for haul trucks and shovels delivered to Nashwauk. At the time, the company owed $66 million to the state of Minnesota for unfulfilled economic development incentives and promises, as well as nearly $50 million owed to Minnesota vendors on the project.[3]

On July 8, 2016, Minnesota Governor Mark Dayton ordered the Minnesota Department of Natural Resources to terminate Essar Steel Minnesota's mining leases. That same day, the company filed for Chapter 11 bankruptcy protection in federal court in Delaware. "The company has been told for the past nine months that the state would not extend those leases beyond July 1, 2016, unless it paid the full amounts it owed to Minnesota contractors and showed that it had the ability to carry its current construction project through to completion," Governor Dayton said in a statement. "The company has not done so, and has provided no reliable assurances that it will be able to do so in the foreseeable future."[4]

One of the few creditors to fully recover its money in the Essar Steel Minnesota saga was IRRRB. The agency had kept an extremely close watch on the developing situation and had put the company on an irrevocable letter of credit securing its $6 million loan to the project which the agency collected on prior to the expiration date of the LOC. The Essar Steel Minnesota bankruptcy also quickly precipitated a fight between the Indian company and Cliffs Natural Resources. Cliffs President and Chief Executive Officer Lourenco Goncalves had long questioned Minnesota government support for the Essar Steel Minnesota project, claiming that the Indian steelmaker was undercapitalized and would simply create subsidized competition on the Iron Range. Following the bankruptcy, Governor Dayton came down on the side of Cliffs Natural Resources, which began making plans to acquire the property from the bankruptcy court and complete it.

"The big prize is that Butler orebody," said IRRRB's Brian Hiti.[5]

Essar Steel Minnesota refused to go away quietly. In late August 2016, the company's attorneys asked the U.S. bankruptcy court in Delaware to force Cliffs Natural Resources to provide documents including contracts and correspondence it claimed would show that Cliffs interfered with Essar Steel Minnesota's construction of the Nashwauk plant. The company asked the court to determine whether the alleged interference violated state or federal anti-trust laws.[6]

Cliffs, meanwhile, remained one of the few bright spots in an otherwise disconcerting domestic iron mining outlook. Even though ferrous scrap dipped near the $200 per ton level in the late summer of 2016, Cliffs announced plans to move ahead with a $65 million project to produce what it called Mustang Pellets at its United Taconite Mine near Eveleth. The pellets will be designated for Arcelor Mittal's No. 7 blast furnace at the Indiana Harbor Works in northern Indiana; in May, Cliffs signed a ten-year contract with Arcelor Mittal for the designer pellets, which will begin flowing to the Chicago-based steelmaker in the spring of 2017.[7] The Cleveland-based company also continues to seek a partner for a DRI plant it would like to build somewhere in the Lake Superior Basin.

That good news aside, the global collapse of commodity prices in 2015 and 2016 ushered in another wildcard for the iron-mining economy of the Mesabi Range. No longer would northeastern Minnesota's taconite industry be isolated from the realities of the economic world around it.

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CHAPTER 9

PREPARING THE RANGE FOR THE GLOBAL ECONOMY: 2015-2016

When Mark Phillips succeeded Tony Sertich as IRRRB's 15th full-time commissioner in January 2015, the Eveleth economic development specialist was the self-described sleeper candidate for the job. He and his wife were building a retirement home on Vermilion Lake when Tom Renier retired as president of the Northland Foundation in Duluth, and the foundation's board tapped Sertich to be Renier's successor. Phillips, who had served in the Dayton Administration as head of the Minnesota Department of Employment and Economic Development (DEED) in 2011 and 2012, had a strong resume and would be a safe choice for commissioner of IRRRB.

"What I didn't count on was the steel industry collapsing again," he said in a 2016 interview.[1]

Phillips came to the agency at a time when there was a transformation underway in the global natural resources economy. In early 2015, three of the six taconite plants in the region were idled, Magnetation was in bankruptcy, and Mesabi Nugget was on long-term shutdown. Essar Steel Minnesota had delayed the completion of its new taconite plant amid troubles paying its bills. People were suggesting that the downturn may not have been the latest version of the boom and bust mining economy experienced by the Iron Range so many times in the past. This time, some said, the downturn was different. This time,

the iron mining industry might not come back like it always had in the past.

A LIFETIME OF EXPERIENCE

Although Phillips' appointment as IRRRB commissioner might have taken many people by surprise, it shouldn't have. Phillips had perhaps more experience in economic, community, and workforce development than any of his predecessors in the near 75-year history of the agency.

In addition to serving as DEED commissioner, Phillips also served as IRRRB's director of economic development from 1983 to 1988, director of development for Minnesota Power, vice president of Northeast Ventures Corporation, and director of business development at Kraus-Anderson Construction Company.

Phillips also is a graduate of the Minnesota Executive Program within the Carlson School of Management at the University of Minnesota and has a bachelor's degree in business administration from the University of Minnesota Duluth.

When Tony Sertich left IRRRB for the Northland Foundation, Phillips, with more than 30 years of experience in Minnesota economic development, was an obvious choice to head the agency.

'VERY COMPLEX PROBLEMS'

The global collapse of commodity prices in 2014 and 2015 created a set of both short-term and long-term challenges for the agency. Long-term, the biggest challenge was the collapse of Chinese demand for commodities. In the years immediately following the Great Recession, the Politbureau in Beijing had decreed that the country would become a world power. The government more or less ordered the country's banks – many of them controlled by the government – to force feed money to steel mills, factories, multi-family housing units, and massive infrastructure projects. The result was a decade-long growing demand for iron ore and every other commodity imaginable.

"You had people scouring the planet looking for ways to produce more iron ore," Larry Lehtinen, the CEO of Magnetation told a reporter for the *Star Tribune* in the spring of 2016.[2] The price of iron ore soared to nearly $200 a ton, pulling the iron range economy along with it after 2009. Lehtinen had built his Grand Rapids-based Magnetation from a start-up in 2008 to a company with 500 employees and $1 billion in assets just five years later.[3]

Lehtinen, and others like him who had commodities projects on the drawing board in 2008, benefited from a flood of cheap capital between 2008 and 2013. The Great Recession in North America and Europe unleashed a sustained initiative by central banks to drive down interest rates in the hope of jump-starting national economies. Iron ore projects in Australia and Brazil attracted investors searching for better yield than they could get by investing in government bonds.

"We have seen huge new mines come on board in Australia and Brazil," Mark Phillips said. "The Roy Hill Mine in Australia has a projected output of 55 million tons. That's more iron ore in a year than is produced in the entire Lake Superior region."[4] One projected Brazilian mine will produce 90 million metric tons of iron ore a year when it goes into commercial production.

Chinese demand and some of the lowest interest rates in history produced a glut of iron ore by 2014 that pushed the price of the commodity to less than $40 a ton. For the most part, new automated mines in Australia and Brazil could produce iron ore at that price and break even or make a small profit. The taconite industry couldn't. Plunging iron ore prices pulled down the price of all metallics, including ferrous scrap, pig iron and DRI-grade pellets.[5]

Compounding the problem by 2015 was a change of direction in Beijing. The government ordered industries to slow their pace of growth because that rapid increase was putting pressure on social policies, principally the movement of rural Chinese to the cities. GDP growth in China slowed down dramatically, and that set in motion events that further compounded economic problems for Iron Range taconite producers. With excess annual production of an estimated 325 million metric tons, Chinese steelmakers began aggressively exporting steel around the world at cut-rate prices. By 2015, steel imports to the United States were estimated at 30 percent or more of annual domestic capacity. Companies like U.S. Steel, Arcelor Mittal and Cliffs Natural Resources were devastated by the collapse in commodity prices. In early 2015, when Mark Phillips was getting acquainted with his new position at IRRRB, PolyMet, which was still a start-up years from commercial operation, had a market capitalization that exceeded that of Cliffs Natural Resources.[6]

"The people that were laid off in the taconite industry in 2015 were laid off because of the collapse of commodity prices, because of steel imports, because of the strong dollar, because China was dumping steel in countries across the globe," Phillips explained.

An even longer term challenge for the agency and the industry is environmental. "Blast furnaces are going to go," Phillips said. "I don't think there's any question of that. So we've got to get to a value-added project up here."[7]

The volatility in the market creates one major short-term project, Phillips added. "We're finally getting the workforce turned over to a younger generation," he said. "We're getting workers in their 20s to 40s into the mines. But if we're down too long, the younger workers mostly have college degrees. They can go to the Twin Cities and have a job in a week."[8]

THE ENVIRONMENTAL ISSUE

Phillips and the agency see value-added iron products as the future of iron mining in the region. He noted Cliffs Natural Resources' commitment to producing Mustang pellets at United Taconite, the possibility of converting KeeTac to making value-added products, and the richness of the Butler orebody, currently a bone of contention between Essar Steel Minnesota and Cliffs Natural Resources. He also noted the strengths of existing taconite facilities, which should bode well for the future of mining in the region, at least for the short term. "HibTac is running wide open because they have the best flow sheet on the Iron Range," he said. "USX is very aggressive on cost containment."[9]

The longer-term future of mining in the region is also tied to the fortunes of precious metals mining. "We have a lot of environmental issues," Phillips said, both on the taconite and precious metals fronts. Taconite tailings, for example, have sulphate issues, primarily with the wild rice that grows in the region. "The legislature is forcing the Minnesota Pollution Control Agency (MPCA) to re-examine the wild rice sulphate standards," he said. "Minntac's tailings basin is not permitted to those standards. That comes into play if they ever need to do an expansion at KeeTac."[10]

On the precious metals side, the environmental issue has become the frontline between those who want to develop the resource and those who don't. The issue boils down to the exposure of waste rock to air and water, and although PolyMet has consistently agreed to meet the most stringent federal and MPCA standards, it has met with almost constant opposition from environmental groups.

"The anti-mining groups just don't care," he said.

Minnesota State Senator David Tomassoni said the hypocrisy of the anti-mining groups is mind-boggling. "We have the best and most stringent environmental laws in the world," he said. "It's totally outrageous. You'd think the enviros would want to shut down China, and not the U.S."[11]

Tomassoni, a long-time IRRR Board member, said there are 1.5 billion tons of non-ferrous and precious metals in the ground on school trust lands that companies have shown an interest in mining. Twin Metals is investigating the potential for an underground mine on the Iron Range. Kennecott has begun acquiring mining leases in Carlton County, just south of the Iron Range. The agency continually hears about companies exploring for gold in northeastern Minnesota.

"I just get so frustrated with the permitting process," said Tomassoni. "We know how to mine. We've been doing it for 130 years."[12] He noted that the nation needs copper and precious metals. "Windmills are made up of 4.5 tons of copper," he said. "Solar arrays are all copper. It's in the ground. Cellphones have 39 different metals in them, and they don't fall from the sky."[13]

As the Iron Range suffered through an unprecedented commodities recession in 2015 and 2016, IRRRB worked with the area's public and private sectors in a series of business and community meetings titled Recharge the Range to help plan for the future.

Bill Hanna, the outspoken editor of the *Mesabi Daily News,* said "regulation is strangling this country. The state government could have been an advocate for PolyMet. It's frustrating. That's been our editorial thrust for the past year."[14]

THE DIFFICULTY OF ECONOMIC DEVELOPMENT AND DIVERSIFICATION

Bill Hanna is one who thinks the current recession is different from those in the past. "With the other recessions we've experienced, there always seemed to be a definitive end to it," he said. "There's not with this one. I talked to Al Hodnik of Minnesota Power about this, and we agreed this is totally different than anything else we've seen."[15]

Hanna said the influx of unfairly subsidized foreign steel is a symptom of the problems the Iron Range is facing "We are not positioned well to handle a long-term change," he said. "There are a number of things we can't control. Right now, the cheaters are winning. We're fighting for sanctions to be imposed on the Washington level. The basic industry of this country is steel and iron ore. And we're getting screwed in Washington on the international level."

IRRRB's Tomassoni said the existence of the taconite industry is a double-edged sword for the Iron Range. "We

have the mineral," he said. "We're blessed by it, but it's also a curse because we are so dependent upon it."[16]

Diversifying that dependence is as much a mission of IRRRB in 2016 as it was when the agency was founded in 1941. And that effort continues as the agency celebrates its 75th year in existence.

"When I worked here, economic diversification was based on timber," Mark Phillips explained. "But since then, we've lost all of our board plants because of the housing recession. And paper has been hit particularly hard by the electronic revolution."[17] But IRRRB does not plan to abandon forest products as an economic development alternative. "We are looking very closely at bio-mass," Phillips said. "We have a wood procurement system in place. You don't have that with agricultural waste."[18]

Phillips is the first to admit that the region's economy is natural resource-based. That means focusing on timber and taconite. "Are there things we can exploit?" he asked. "Advanced manufacturing? Is there new technology coming? There are certain things that fit, but unfortunately, most of them are natural resources-based. For example, some of our skill sets lend themselves to heavy manufacturing. That inevitably means we are going to do some smokestack chasing."[19]

Because of his background, Phillips is also a proponent of regional planning. In response to a prolonged downturn in the region's economy as a result of a major slowdown in the domestic steel and iron ore industries, Phillips spearheaded "Recharge the Range," a series of four strategic economic forums.

Nearly 600 community, business, cultural leaders and members of the public participated in the forums. Hosted by IRRRB and its regional economic development partners, the forums generated new ideas for business growth, community improvement, culture, arts, tourism and recreation.

Following the forums, action groups led by area business, community and cultural leaders moved forward with implementing a strategic roadmap for economic development. Targeted areas are: small business strategies; large business expansion; natural resources; education and talent development; infrastructure; tourism and recreation; and livable communities.

New partnerships within the health care industry, recreational trail organization, arts community and among IRRRB service area mayors were formed as a result of the forums.[20]

So the work of the agency carries on, 75 years after Governor Harold Stassen and then State Senator John Blatnik had a vision for an agency whose mission would involve smoothing out the ups and downs of a natural resources economy by focusing on economic, community and workforce development in northeastern Minnesota.

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CHAPTER 10

IRRRB TODAY AND TOMORROW: 2015-2016

In the spring of 2016, the Office of the Legislative Auditor for the state of Minnesota released a report sharply criticizing IRRRB for its oversight of economic development loans and grants. "IRRRB has not adequately overseen the use and impacts of its loans and grants," the report said, citing the failure to adequately specify objectives for job growth when awarding loans and grants. "IRRRB's practices for measuring job creation are inadequate. IRRRB cannot evaluate its loan program because it does not maintain an accurate database of loans."[1]

The Legislative Auditor's report criticized the agency for its oversight of Giants Ridge, the ski resort and golf course complex that had been the Mesabi Range's most distinctive recreational outlet for more than a quarter-of-a-century. "Giants Ridge operating losses grew substantially from 2006 through 2014," the report claimed. "In addition, IRRRB has not set sufficient targets to evaluate how well Giants Ridge is meeting its goals."[2]

Finally, the report questioned the legality of the very governing structure of the agency, set up by the legislature in 1941. "The state law that requires members of the IRRRB Board to be legislators is vulnerable to challenge under the Minnesota Constitution," the Office of the Legislative Auditor concluded. "We base our conclusion on our review of the plain language of the Minnesota Constitution, historical context from the state constitutional conventions,

Mark Phillips (bottom center) and the staff of IRRRB continue to focus on business, community and workforce development for northeastern Minnesota.

and opinions from the Minnesota Supreme Court and Attorney General."[3]

The report from the Office of the Legislative Auditor coincided with the publication of Jeffrey T. Manuel's *Taconite Dreams: The Struggle to Sustain Mining on Minnesota's Iron Range, 1915-2000.* Published by the University of Minnesota Press, the book included several chapters on IRRRB and its sometimes unsuccessful attempts to both support and diversify the natural resources economy of northeastern Minnesota.[4] Finally, Reporter Lee Schafer questioned whether IRRRB or anybody else could save the iron mining economy of the Mesabi Range from the embrace of 21st century globalization. Schafer's long series of articles in the *Star Tribune* in April 2016 argued that iron mining on the Mesabi Range was fully as much of a curse as it was a blessing.[5]

The criticism wouldn't be the first time the agency has weathered the storm of adverse publicity. Through 75 years of helping administer the economic fortunes of northeastern Minnesota, IRRRB has been the target of urban elites offended by the existence of an industrial commonwealth astride the route to their beloved Boundary Waters. One northern Minnesota writer once lampooned regulations from Twin Cities-based do-gooders as "St. Paul's epistle to the lake dwellers," and the residents of the Mesabi Range have learned to band together when their way of life is under attack.[6]

And the agency has been in existence long enough to know that attacks from the state's urban areas come with the territory. Commissioner Mark Phillips responded to the Legislative Auditor's criticisms in March 2016 without rancor or petulance. He told the Office of the Legislative Auditor IRRRB will upgrade its loan database and is already implementing new software for managing the grants it awards. Phillips noted IRRRB will determine how to best analyze the collective impact of its loans and grants on northeast Minnesota. He added it is necessary to continue offering economic incentives to attract certain businesses to the region; in other situations, however, the agency intended to expand how it evaluated loan applications by determining whether businesses could complete projects without IRRRB funding.

As far as the criticisms concerning the Giants Ridge Recreation Area, the commissioner said the report's recommendations coincided with the agency's current efforts, which he expected would lead to a strategic plan and improved measures of Giants Ridge performance. And the complaint that the agency's board was appointed in violation of "the plain language of the Minnesota Constitution, historical context from the state constitutional conventions, and opinions from the Minnesota Supreme Court and Attorney General" would likely someday be taken up by a legislative subcommittee.

DOING WHAT IT HAS ALWAYS DONE

In the end, IRRRB would deal with the criticism and the doom and gloom by doing what it has always done: looking for ways to foster meaningful economic, community, and workforce development for the residents of northeastern Minnesota that was first laid out by visionary political and community leaders three-quarters of a century ago. In 2015 and 2016, the agency worked to help expand employment at Delta Air Lines, Blue Cross Blue Shield, and Range Tool Co. It oversaw the completion of the new Giants Ridge Chalet and Events Center and the opening of the new Range Regional Airport terminal. IRRRB continued to encourage the creation of a robust broadband network for the Mesabi Range to ensure that residents were plugged into the global digital economy. The agency moved ahead with its focus on biomass through its support of the Sweetwater Energy Biotechnology project in Mountain Iron. Workforce development initiatives included the agency's support for a new biochemical systems engineering program at Itasca Community College and a healthcare simulation of excellence program at Hibbing Community College.

Mark Phillips said the agency doesn't apologize for its support of economic development initiatives like tourism. "Tourism is still a big play for us," he said. "We shed ownership of Ironworld, but not necessarily the expense."[7] The agency is looking at encouraging mountain biking as a summer recreational activity, and it is paying close attention to the Farm to Table movement as a tourist attraction. At a recent culture and tourism seminar, the agency "had a whole table of locally-produced foods," Phillips said.[8]

That willingness to try things is a hallmark of the agency today as it was back in the beginning. "The interesting part of the mission is as much as it changes, it remains the same," said IRRR Board Member and Chair Dave Tomassoni. "What's even more important today than it was in 1941 is keeping the mining going. But hitting the home run is really hard."[9]

Tomassoni pointed out that the agency today is focusing on "high tech, hands-on type stuff for our kids."[10] Agency initiatives in 2016 stressed infrastructure development, solar manufacturing, biomass development, along with more pedestrian economic development activities designed to encourage local small businesses.

"We've had things start and never get off the ground," Tomassoni said. "People criticize the agency, but frankly, we get the opportunity to try things. Sometimes it works, sometimes it doesn't."[11]

Tomassoni said he thinks the variety of projects the agency oversees is an advantage. "All of the things the agency does gives us the ability to be nimble," he said.[12]

Bill Hanna, longtime editor of the *Mesabi Daily News,* said he fears the agency is losing that ability to be nimble. "It's disappointing the IRRRB is not a better advocate on economic development," he said. "They are too concerned about process and public works. I think the agency is a great thing, but it's too bogged down in process. There's not enough rolling up the sleeves and getting the job done. I'd much rather see people try some things and fail rather than throw a lot of money into the process."[13]

Tom Rukavina is worried that the continuing loss of population in northeastern Minnesota and the ongoing environmental opposition to mining will create a de facto agency that will have lost its connection to iron and taconite mining. He noted that he has been redistricted in 1992, 2002 and 2012, each time picking up a bigger district geographically than the time before. "The next redistricting in 2022, there's not going to be two people on this board who knows what a taconite mine is," he said. "That scares the hell out of me. The next redistricting, my seat might stretch from Fargo to Lake Superior."[14]

Rukavina added that he feels the agency already pays too much attention to economic development initiatives in places like Grand Rapids and the North Shore that are well out of the core mining communities on the Iron Range. "We don't mind sharing our wealth," he said, "because we shared it with John D. Rockefeller, J.P. Morgan and the State of Minnesota, but by God, this isn't fair."[15]

Tony Sertich says, "Hey, it was a Republican Governor who started this agency. It was funded by local tax revenues collected by the state. And Harold Stassen said the agency should be on the Range and run by people from the Range."[16]

Sertich, who now heads the Northland Foundation in Duluth, said IRRRB was unique. "We walk like a duck, we talk like a duck, but we're not a duck," he said. "We're a state agency, but we're not funded by state taxes as such. There's really not another agency like this. It cuts across boundaries, but still reflects a lot of influence by state government."[17]

Sertich noted IRRRB has been under attack since its founding, but those attacks ramped up in the 1980s and accelerated into the 1990s and the 21st century. Still, he thinks the agency has a bright future ahead of it. "This agency can be nimble, change with the times, and be responsive to the communities it serves," he said.[18]

That was the vision for IRRRB that Harold Stassen and John Blatnik laid out 75 years ago. They would no doubt agree with Sertich that the need for the agency will exist as long as there's an Iron Range.

ENDNOTES

1 Office of the Legislative Auditor, State of Minnesota, "Iron Range Resources and Rehabilitation Board (IRRRB)," Evaluation Report Summary, March 2016, 1-3

2 Ibid., 4

3 Ibid.

4 Jeffrey T. Manuel, *Taconite Dreams: The Struggle To Sustain Mining On Minnesota's Iron Range, 1915-2000* (Minneapolis and London: University of Minnesota Press, 2015)

5 Lee Schafer, "Iron Range latest to face resource curse," *Star Tribune,* April 10, 2016

6 Edward M. "Ted" Hall, Editor, Publisher, Advertising Manager, Janitor and Fielder of Irate Complaints, *The Rainy Lake Chronicle,* to the Author, March 17, 1976

7 Mark Phillips Interview

8 Ibid.

9 Dave Tomassoni Interview

10 Ibid.

11 Ibid.

12 Ibid.

13 Bill Hanna Interview

14 Tom Rukavina Interview

15 Ibid.

16 Tony Sertich Interview

17 Ibid.

18 Ibid.

1941 — 1967

GOVERNORS

Harold Stassen
JAN. 2, 1939 -
APRIL 27, 1943

Edward J. Thye
APRIL 27, 1943 -
JAN. 8, 1947

Luther Youngdahl
JAN. 8, 1947 -
SEPT. 27, 1951

C. Elmer Anderson
SEPT. 27, 1951-
JAN. 5, 1955

Orville Freeman
JAN. 5, 1955 -
JAN. 2, 1961

Elmer L Andersen
JAN. 2, 1961 -
MARCH 25, 1963

Karl F. Rolvaag
MARCH 25, 1963 -
JAN. 2, 1967

COMMISSIONERS

Herbert Miller
JULY 1, 1941 -
JUNE 30, 1942

Robert Wilson
JULY 1, 1942 -
MAY 1, 1949

Ben Constantine
MAY 2, 1949 -
NOV. 20, 1950

Edward Bayuk
NOV. 21, 1950 -
APRIL 30, 1955

Kaarlo Otava
MAY 1, 1955 -
JAN. 4, 1961

A.M. Deyoannes
FEB. 3, 1961 -
MAY 1, 1971

BOARD MEMBERS

1943-1944
- Senator C.A. Dahle (Chair)
- Senator M.J. Galvin
- Senator George O'Brien
- Rep. Luke Burns
- Rep. Joseph Daun
- Rep. Fred Schwanke
- Conservation Dept Commissioner Chester Wilson

1945-1946
- Senator C.A. Dahle (Chair)
- Senator M.J. Galvin
- Senator George O'Brien
- Rep. Luke Burns
- Rep. Joseph Daun
- Rep. Fred Schwanke
- Conservation Dept Commissioner Chester Wilson

1947-1948
- Senator C.A. Dahle (Chair)
- Senator George O'Brien
- Senator Thomas Vukelich
- Rep. Joseph Daun
- Rep. Charles Root
- Rep. Fred Schwanke
- Conservation Dept Commissioner Chester Wilson

1949-1950
- Senator George O'Brien (Chair)
- Senator Herbert Rogers
- Senator Thomas Vukelich
- Rep. Emil Ernst
- Rep. Charles Root
- Rep. Fred Schwanke (Vice)
- Conservation Dept Commissioner Chester Wilson

1951-1952
- Senator George O'Brien (Chair)
- Senator Elmer Peterson
- Senator Herbert Rogers
- Rep. Emil Ernst
- Rep. Warren Moore
- Rep. Fred Schwanke (Vice)
- Conservation Dept Commissioner Chester Wilson

1953-1954
- Senator George O'Brien (Chair)
- Senator Elmer Peterson
- Senator Herbert Rogers
- Rep. Emil Ernst
- Rep. Warren Moore
- Rep. Fred Schwanke (Vice)
- Conservation Dept Commissioner Chester Wilson

1955-1956
- Senator George O'Brien
- Senator Elmer Peterson (Chair)
- Senator Herbert Rogers
- Rep. Peter Fugina
- Rep. Karl Grittner (Vice)
- Rep. Charles Halsted
- Conservation Dept Commissioner George Selke

1957-1958
- Senator George O'Brien
- Senator Elmer Peterson (Chair)
- Senator Herbert Rogers
- Rep. Peter Fugina
- Rep. Karl Grittner (Vice)
- Rep. Charles Halsted
- Conservation Dept Commissioner George Selke

1959-1960
- Senator Leo Lauerman
- Senator Elmer Peterson (Chair)
- Senator Charles Root
- Rep. Elmer Berglund (Vice)
- Rep. Peter Fugina
- Rep. Willard Munger
- Conservation Dept Commissioner George Selke

1961-1962
- Senator Leo Lauerman
- Senator Elmer Peterson (Chair)
- Senator Donald Wright
- Rep. Charles Halsted
- Rep. Loren Rutter
- Rep. Arne Wanvick
- Conservation Dept Commissioner Clarence Prout

1963-1964
- Senator Michael McGuire
- Senator Benjamin Patterson
- Senator Donald Wright (Vice)
- Rep. Al France
- Rep. Arthur Frick Sr
- Rep. Charles Halsted (Chair)
- Conservation Dept Commissioner Wayne Olson

1965-1966
- Senator Benjamin Patterson (Vice)
- Senator Arne Wanvik
- Senator Donald Wright
- Rep. Arthur Frick Sr
- Rep. Charles Halsted (Chair)
- Rep. Duane Rappana
- Conservation Dept Commissioner Wayne Olson

1967 — 1983

GOVERNORS

Harold LeVander
JAN. 2, 1967 -
JAN. 4, 1971

Wendell R. Anderson
JAN. 4, 1971 -
DEC. 29, 1976

Rudy Perpich
DEC. 29, 1976 -
JAN. 4, 1979

Al Quie
JAN. 4, 1979 -
JAN. 3, 1983

COMMISSIONERS

Robert Scuffy
MAY 2, 1971 -
JAN. 10, 1975

Frank Ongaro
JAN. 11, 1975 -
DEC. 31, 1978

Patrick J. McGauley
JAN. 1, 1979 -
DEC. 31, 1982

BOARD MEMBERS

1967-1968
Senator Robert Ashbach
Senator Arne Wanvik
Senator Donald Wright
Rep. Arthur Frick
Rep. Duane Rappana (Chair)
Rep. Howard Smith (Vice)
Jarle Leirfallom - Conservation Dept

1969-1970
Senator Carl Jensen
Senator Arne Wanvik
Senator Donald Wright
Rep. Duane Rappana (Chair)
Rep. Howard Smith (Vice)
Rep. Raymond Wolcott
Jarle Leirfallom - Conservation Dept

1971-1972
Senator Carl Jensen (Chair)
Senator Richard Palmer
Senator George Perpich
Rep. Sidney Mason
Rep. Roger Scherer
Rep. Howard Smith (Vice)
DNR Comm. Robert Herbst

1973-1974
Senator Norbert Arnold
Senator Anthony Perpich
Senator George Perpich (Chair)
Rep. Delbert Anderson
Rep. Doug Johnson
Rep. Howard Smith (Vice)
DNR Comm. Robert Herbst

1975-1976
Senator Norbert Arnold
Senator Anthony Perpich
Senator George Perpich
Rep. Doug Johnson (Chair)
Rep. Norman Prahl
Rep. Howard Smith (Vice)
DNR Comm. Robert Herbst

1977-1978
Senator Nicholas Coleman
Senator Robert Dunn
Senator Doug Johnson
Senator Robert Lessard
Senator George Perpich (Chair)
Rep. David Battaglia
Rep. Joe Begich
Rep. Peter Fugina
Rep. Norman Prahl (Vice)
Rep. Don Samuelson
DNR Comm. William Nye

1979-1980
Senator Robert Dunn
Senator Doug Johnson
Senator Robert Lessard
Senator George Perpich
Senator Sam Solon
Rep. David Battaglia
Rep. Joe Begich (Chair)
Rep. Doug Carlson
Rep. Norman Prahl (Vice Chair)
Rep. Glen Sherwood
DNR Comm. Joseph Alexander

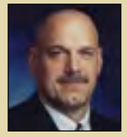
1981-1982
Senator Ron Dicklich
Senator Doug Johnson (Chair)
Senator Robert Lessard
Senator David Rued
Senator Sam Solon
Rep. David Battaglia
Rep. Joe Begich (Vice)
Rep. Douglas Carlson
Rep. Dominic Elioff
Rep. Mary Murphy
DNR Comm. Joseph Alexander

1983 — 2003

GOVERNORS

Rudy Perpich
JAN. 3, 1983 -
JAN. 7, 1991

Arne Carlson
JAN. 7, 1991 -
JAN. 4, 1999



Jesse Ventura
JAN. 4, 1999 -
JAN. 6, 2003

COMMISSIONERS

Gary Lamppa
JAN. 3, 1983 -
FEB. 27, 1987

Jack DeLuca
FEB. 28, 1987 -
JAN. 7, 1991

Wayne Dalke
FEB. 1, 1991 -
MAY 31, 1992

Jim Gustafson
JUNE 1, 1992 -
MARCH 5, 1999

John Swift
MARCH 8, 1999 -
JAN. 3, 2003

BOARD MEMBERS

1983-1984	1985-1986	1987-1988	1989-1990	1991-1992
Sen. Florian Chmielewski	Sen. Florian Chmielewski	Sen. Florian Chmielewski	Sen. Florian Chmielewski	Sen. Florian Chmielewski
Sen. Ron Dicklich (Vice)	Sen. Ron Dicklich	Sen. Ron Dicklich (Vice)	Sen. Ron Dicklich	Sen. Ron Dicklich
Sen. Doug Johnson	Sen. Doug Johnson (Chair)	Sen. Doug Johnson	Sen. Doug Johnson (Chair)	Sen. Doug Johnson (Vice)
Sen. Robert Lessard	Sen. Robert Lessard	Sen. Robert Lessard	Sen. Robert Lessard	Sen. Robert Lessard
Sen. Sam Solon	Sen. Sam Solon	Sen. Sam Solon	Sen. Sam Solon	Sen. Sam Solon
Rep. David Battaglia	Rep. Joe Begich (Vice)	Rep. Dave Battaglia	Rep. Dave Battaglia	Rep. Dave Battaglia
Rep. Joe Begich (Chair)	Rep. Douglas Carlson	Rep. Joe Begich (Chair)	Rep. Joe Begich (Vice)	Rep. Joe Begich (Chair)
Rep. Douglas Carlson	Rep. Lona Minne	Rep. Lona Minne	Rep. Mary Murphy	Rep. Jerry Janezich
Rep. Dominic Elioff	Rep. Loren Solberg	Rep. Tom Rukavina	Rep. Tom Rukavina	Rep. Tom Rukavina
Rep. Mary Murphy	Rep. Paul Thiede	Rep. Loren Solberg	Rep. Loren Solberg	Rep. Loren Solberg
DNR Comm. Joseph Alexander	DNR Comm. Joseph Alexander	DNR Comm. Joseph Alexander	DNR Comm. Joseph Alexander	DNR Comm. Rob Sando

1993-1994	1995-1996	1997-1998	1999-2000	2001-2002
Sen. Florian Chmielewski	Sen. Florian Chmielewski	Sen. Jerry Janezich	Sen. Doug Johnson	Sen. Doug Johnson (Chair)
Sen. Jerry Janezich	Sen. Jerry Janezich (Vice)	Sen. Doug Johnson (Chair)	Sen. Jerry Janezich (Vice)	Sen. Robert Lessard
Sen. Doug Johnson (Chair)	Sen. Doug Johnson	Sen. Robert Lessard	Sen. Robert Lessard	Sen. Don Samuelson
Sen. Robert Lessard	Sen. Robert Lessard	Sen. Don Samuelson	Sen. Don Samuelson	Sen. Sam Solon
Sen. Sam Solon	Sen. Sam Solon	Sen. Sam Solon	Sen. Sam Solon	Sen. Dave Tomassoni (Chair)
Rep. Irv Anderson	Rep. Irv Anderson (Chair)	Rep. Irv Anderson (Vice)	Rep. Tom Bakk	Rep. Tom Bakk
Rep. Dave Battaglia (Vice)	Rep. Tom Bakk	Rep. Tom Bakk	Rep. Larry Howes	Rep. Larry Howes
Rep. Tom Rukavina	Rep. Tom Rukavina	Rep. Tom Rukavina	Rep. Tom Rukavina	Rep. Tom Rukavina
Rep. Loren Solberg	Rep. Loren Solberg	Rep. Loren Solberg	Rep. Loren Solberg (Chair)	Rep. Tony Sertich
Rep. Dave Tomassoni	Rep. Dave Tomassoni	Rep. Dave Tomassoni	Rep. Dave Tomassoni	Rep. Loren Solberg (Vice)
DNR Comm. Rob Sando	DNR Comm. Rob Sando	DNR Comm. Rob Sando	Citizen Joe Begich	Citizen Joe Begich
			Citizen Pat Ives	Citizen Pat Ives
			Citizen Sandy Layman	Citizen Sandy Layman

2003 — 2017

GOVERNORS

Tim Pawlenty
JAN. 6, 2003 -
JAN. 3, 2011

Mark Dayton
JAN. 3, 2011 -
PRESENT

COMMISSIONERS

Sandy Layman
MAY 5, 2003 -
JAN. 3, 2011

Brian Hiti *(Acting)*
JAN.6 - MAY 2, 2003,
JAN. 4-13, 2011 & JAN. 6-16, 2015

Tony Sertich
JAN. 14, 2011 -
JAN. 5, 2015

Mark Phillips
JAN. 19, 2015 -
PRESENT

BOARD MEMBERS

2003-2004
Senator Tom Bakk
Senator Becky Lourey
Senator Tom Saxhaug
Senator Yvonne Prettner Solon
Senator Dave Tomassoni
Rep. Dave Dill
Rep. Maxine Penas
Rep. Tom Rukavina (Chair)
Rep. Tony Sertich
Rep. Loren Solberg (Vice)
Citizen Joe Begich
Citizen Bill Henning
Citizen Matt Matasich

2005-2006
Senator Tom Bakk
Senator Becky Lourey
Senator Tom Saxhaug
Senator Yvonne Prettner Solon
Senator Dave Tomassoni (Chair)
Rep. Dave Dill
Rep. Maxine Penas
Rep. Tom Rukavina
Rep. Tony Sertich
Rep. Loren Solberg (Vice)
Citizen Joe Begich
Citizen Bill Henning
Citizen Matt Matasich

2007-2008
Senator Tom Bakk
Senator Tom Saxhaug
Senator Rod Skoe
Senator Yvonne Prettner Solon
Senator Dave Tomassoni (Vice)
Rep. Tom Anzelc
Rep. Dave Dill (Chair)
Rep. Tom Rukavina
Rep. Tony Sertich
Rep. Loren Solberg
Citizen Joe Begich
Citizen Shelley Robinson
Citizen Jack Ryan

2009-2010
Senator Tom Bakk
Senator Tom Saxhaug
Senator Rod Skoe
Senator Yvonne Prettner Solon
Senator Dave Tomassoni (Chair)
Rep. Tom Anzelc
Rep. Dave Dill
Rep. Tom Rukavina
Rep. Tony Sertich
Rep. Loren Solberg (Vice)
Citizen Joe Begich
Citizen Shelley Robinson
Citizen Jack Ryan

2011-2012
Senator Tom Bakk
Senator John Carlson
Senator Paul Gazelka
Senator Tom Saxhaug
Senator Dave Tomassoni (Vice)
Rep. Tom Anzelc
Rep. Dave Dill
Rep. Carolyn McElfatrick
Rep. Carly Melin
Rep. Tom Rukavina (Chair)
Citizen Joe Begich
Citizen David Chura
Citizen Jack Ryan

2013-2014
Senator Tom Bakk
Senator Tom Saxhaug
Senator Rod Skoe
Senator David Tomassoni (Chair)
Rep. Tom Anzelc (Vice)
Rep. David Dill
Rep. Carly Melin
Rep. Jason Metsa
Rep. Joe Radinovich

2015-2016
Senator Tom Bakk
Senator Tom Saxhaug
Senator Rod Skoe
Senator David Tomassoni (Vice)
Rep. Tom Anzelc (Chair)
Rep. Dale Lueck
Rep. Carly Melin
Rep. Jason Metsa
Rep. David Dill (Chair) (Feb. 10 - Aug. 8, 2015)
Rep. Rob Ecklund (Dec. 17, 2015 - Present)

IRRRB AT 75

1941 | 2016