

The Felton Prairie Stewardship Committee gratefully acknowledges funding for this project from the Minnesota Legislature through the Legislative Commission on Minnesota Resources, ML 1999, Chapter 231, Section 16, subsection 7.

EXECUTIVE SUMMARY

The Felton Prairie Stewardship Committee was organized in 1997 as an outcome of the Clay County Beach Ridges Forum. Development of the stewardship plan was funded by the Minnesota Legislature as recommended by the Legislative Commission on Minnesota Resources (LCMR) in 1999. The plan addresses land use for approximately 3,000 acres of public land in northern Clay County, east of Felton, Minnesota. The LCMR grant also funded an aggregate resource evaluation completed in 2000 and the reclamation of an abandoned gravel mine known as the Zillmer site. Signs interpreting the prairie, gravel mining, and reclamation process have been installed at a public parking area and overlook developed at the Zillmer reclamation site. Below is a summary of the stewardship plan:

AGGREGATE RESOURCES:

1. The rotosonic drill study conducted for the Aggregate Resource Evaluation (MN DNR 2000) indicates a significant aggregate deposit running from the Clay County gravel pit north to the State School Trust Fund mine. The report estimates 24.1 million cubic yards (c.y.) of aggregate in the primary deposit, but not all of it is recoverable (page 29).
2. Much of this aggregate appears to be high quality and suitable for concrete production (page 29).
3. Electrical resistivity profiles conducted on Bicentennial Prairie SNA indicate significant aggregate resources in the northwest quarter but the quality and quantity could not be determined from this testing method (page 30).
4. Of the estimated 6.5 million c.y. of aggregate in the county pit, 3.3 million can be mined with a backhoe or dragline. Nearly all of the deposit is below the water table and must be mixed with fines (clay, silt) to make suitable road gravel. Based on the county's current annual usage rate (100,000 c.y.), the supply would last for 43 years, although the onsite supply of fines is estimated to last only 16 years (page 36).
5. The county currently purchases 150,000 c.y. of gravel per year of which 60,000 c.y. or 40% comes from the county pit. Thirteen northern townships also purchase gravel from the county pit (40,000 c.y. per year). To date, all mining has occurred above the water table and all material has been used for county and township road maintenance (page 34).
6. Mining below the water table in the county pit is estimated to increase the total cost of gravel purchased from this source by approximately 40%. The cost of this material would then equal the cost of purchasing road gravel from the private sector until local fines are exhausted. For the county, this will increase its annual, county-wide costs for gravel by an estimated 20%. If fines must be imported from another location to achieve a suitable road gravel mix, then costs of material from the county pit will exceed the private purchase price based on current knowledge and resource estimates (page 43).
7. If the current footprint of the county pit were leased to a private aggregate company for a royalty rate of \$1.25 per yard, and this payment were deposited into a 'gravel endowment', the committee estimates a fund value ranging from \$2.4 million to \$20.6 million by the end of the pit's life (32-59 years depending on the mining alternative chosen), extraction rate (assumed 200,000 yds/yr for estimate), and interest rate. The sooner the pit is leased, the greater the return, provided these funds are applied exclusively to county gravel needs. This calculation assumes the county will need to mine below the water table or purchase gravel from the private sector in 2002 (page 43).
8. Preliminary estimates of the value of the county land if it were sold (excluding the county pit, but including Bicentennial Prairie) ranged from \$2.8 - 7.5 million dollars. If this were invested at a conservative 4% APR, the fund would grow to \$10.8 – 30 million dollars in 32 years (the shortest proposed lifespan of the county pit, page 44-45).

PRAIRIE RESOURCES:

1. The committee relied on data collected by the Minnesota DNR during the Clay County biological survey to determine the amount of native prairie remaining in the county. According to this survey the county has lost 97% of its original native grasslands (page 5).
2. A total of 1,425 acres of native prairie remain in the 2,900 acre study area; of that total approximately 337 acres have no formal protection and support several rare species.
3. The prairie communities in the study area support (pages 15-21):
 - a. Federally threatened species: 1 plant,
 - b. State endangered species: 2 butterflies and 1 bird,
 - c. State threatened species: 1 butterfly and 2 plants,
 - d. State special concern species: 3 butterflies, 3 birds, 1 mammal, 1 reptile, 8 plants.
4. Calcareous seepage fens, a rare type of wetland, are protected by state law and placed under DNR jurisdiction. Actions that will impact them require a fen management plan. Mining on School Trust Fund land is believed to have impacted the north fen in the study area. This resulted in a groundwater study conducted by the DNR Division of Waters (pages 24,32).
 - a. The DNR fen study concludes that a 10' buffer must be maintained above the highest groundwater elevation.
 - b. Mining north of the current county footprint and east could impact the fens and must remain above the 10' buffer.
 - c. Mining below the water in the current footprint or south will not result in significant degradation to the fens.
5. Significant aggregate resources north of the county pit are below the fen buffer elevation and will require considerable planning, analysis, and potentially, mitigation costs before any mining could take place. Given the current regulatory requirements, it would be difficult to mine in this area (p. 32).

ISSUES:

1. Clay County has nearly exhausted surface supplies of road gravel within the boundaries of the county pit. Expanded surface mining will result in significant impacts to rare species and will incur DNR regulatory oversight. Mining below the water table will lead to increased costs.
2. The existing prairie resources are fragmented by mining activities and multiple management objectives of multiple owners. Five different entities manage the prairie resource without formal coordination of those efforts (private industry, MN DNR, Clay County, TNC, USFWS).

RECOMMENDATIONS:

1. The stewardship plan provides general management and land use recommendations for sub-units of the 2,900 acre study area (pages 51-87). These parcels were defined by ownership, land use, and gravel potential. The following land uses or activities were recommended:
 - A. Aggregate mining - 232 acres, 8% of area (must reclaim after mining, but not included in percentage calculation below),
 - B. Mine reclamation – 63 acres, 2% of area in the near future, 232 acres when mining ends on acreage identified above,
 - C. Restore native vegetation – 681 acres, 23% of area,
 - D. Preserve native communities, including fens, shrub swamps, and prairies – 1502 acres, 52% of area,
 - E. Preserve or transfer ownership/management of native communities – 431 acres, 15% of area.
2. Develop mine plans for active aggregate operations that provide for progressive reclamation.
3. Use native species of local genotype, if possible, for all reclamation and restoration activities.
4. Obtain an appraisal from a licensed appraiser to determine the market value of county land based on the aggregate resources they hold. Explore the sale of land without environmental impediments and with aggregate resources for the endowment of a gravel fund that will provide for the county's future road gravel needs.

FELTON PRAIRIE STEWARDSHIP PLAN

Clay County, Minnesota

May 21, 2002

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TABLE OF CONTENTS

I.	Introduction - Felton Prairie Stewardship Plan	1
	A. Challenges and Opportunities	1
	B. Clay County Beach Ridges Forum	4
	C. Planning Process	4
II.	Background	5
	A. History of Felton Prairie Conservation Activities	6
	B. Issues	8
III.	Prairie Resource Considerations	10
	A. Prairie Resources Inventory	10
	1. Dry Prairie	13
	2. Mesic Prairie	13
	3. Wet Prairie	14
	4. Calcareous Seepage Fens	14
	5. Shrub Swamp	14
	B. Rare Species Inventory	15
	1. Butterflies	15
	2. Birds	18
	3. Small Mammals	20
	4. Reptiles	21
	5. Plants	21
	C. Fragmentation	22
	D. Calcareous Fen Study	24
IV.	Aggregate Resource Considerations	26
	A. Regional Consumption	26
	B. Clay & Cass County Consumption	26
	C. Felton Prairie Aggregate Resources	28
	1. Summary of the Division of Lands and Minerals Study	28
	2. Resistivity Study of Bicentennial Prairie	30
	3. Impacts of Fen Study on Gravel Mining	32
	4. General Assessment of Aggregate Resources	34
	D. Northern Clay County Aggregate Needs	34
	E. Mining Alternatives for the Clay County Mine	36
	1. Alternative 1: Continue to Mine for County Use	36
	2. Alternative 2: County Use, Lease to Industry Sooner	40
	3. Alternative 3: Continue Surface Mining	42
	4. Alternative 4: Lease to Industry	42
	F. Assessment of Mining Alternatives	43
	G. Mining Recommendations	44
	1. Current County Mine Management	44
	2. Management of County Lands beyond Footprint	44
V.	Felton Prairie Stewardship Plan	46
	A. Prairie - Aggregate Conflicts	46
	B. Fen - Aggregate Conflicts	46
	C. Planning Criteria	48
	D. Parcel Recommendations	50
	1. Mine & Reclaim	51
	2. Restore	61
	3. Preserve and/or Transfer	69
	E. General Resource Management Recommendations	88
VI.	Implementation Recommendations	89
	A. Management Coordination	89
	B. Alternate Aggregate Resources	89
	C. Education & Research	89
	D. Passive Recreation	89
	E. Conclusion	90
	Bibliography	91