

A MARKET ANALYSIS OF THE MIDWIN NATIONAL TALLGRASS PRAIRIE

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Abstract: This paper reports survey results of Chicago area residents conducted as part of a market analysis of the Midewin National Tallgrass Prairie (MNTP). Key topics reported include respondents' intention to visit Midewin, likely visitation behavior, preferences for specific attraction features and programming options, and reactions to pricing options.

Introduction

The Midewin National Tallgrass Prairie (MNTP) was established in 1996 as the first national tallgrass prairie in the United States. The site is the former 23,500-acre Joliet Army Ammunition Plant, or Joliet Arsenal, located 45 miles southwest of Chicago. The site was recently transferred to the USDA Forest Service from the US Department of Defense. The Forest Services initial efforts have been to plan for future uses (via the master plan process and other planning efforts) and manage the existing resources. The restoration of the MNTP is being guided by four goals: to conserve and enhance native populations and habitats; to provide opportunities for scientific, environmental, and land use education and research; to allow for continued agricultural use under certain conditions;

and to provide a variety of recreation opportunities. A key input in developing the master plan for MNTP was to analyze the site's market potential as a recreation resource and tourist attraction in a major metropolitan area. The primary objective of the market analysis effort was to develop a market definition for MNTP-specifically, to estimate demand/likely usage - and a market profile of likely visitors. The secondary objective was to examine a set of key marketing issues associated with developing the site for visitor use-the issues examined centered on product/program preferences, transportation options, pricing issues, and promotion/communication alternatives; commonly known as the elements of marketing mix. The market analysis approach developed by the research team to recommend possibilities for marketing mix elements involved multiple methods including: an analysis of existing secondary data sources, interviews with other Chicago area nature-based attractions, focus group sessions with potential Midewin visitors, and two mail surveys-one with Chicago area teachers, the other with Chicago area residents. The findings summarized here are based on the later survey effort - the mail survey of Chicago area residents.

Method

The mail survey was developed by the research team along with input from various individuals with experience conducting recreation studies in the Chicago area. The survey instrument, designed as an 8-page booklet consisting of 18 questions, was structured to obtain information about respondent's general recreation habits and interests, intentions to visit Midewin, likely visitation behavior, preferences for specific attraction features and programming options, reactions to pricing options, and demographic characteristics.

The sample consisted of two groups: (1) 1000 individuals in the Chicago area drawn from the general population (using a list obtained from a sampling service); and (2) 335 individuals in the Chicago area who have an interest in outdoor recreation issues and programming (using a list obtained from an outdoor interest magazine). In both groups, termed General Population and Outdoor Interest respectively, individuals residing within a 100 mile radius of Midewin were selected to participate in the study.

An initial mailing was assembled and mailed September 4, 2001. The mailing consisted of a personalized cover letter, a prepaid return envelope, the questionnaire, and a small incentive of a one-dollar bill. A postcard, which included both a thank you and a reminder, was sent to all respondents on September 19—approximately two weeks after the initial survey mailing. On October 5th, four weeks after the initial survey mailing, those individuals who had not yet responded were sent another personalized letter, an envelope, and another copy of the survey. It should be noted that the reminder postcard mailing and second survey mailing were both delayed because of the attacks on September 11th and the anthrax scare that occurred shortly thereafter.

A total of 592 surveys were returned, with 370 from the General Population sample and 222 from the Outdoor Interest sample. A total of 60 envelopes were returned as either undeliverable (due to bad addresses) or refusals. In all, a 46 percent response rate was achieved, with a rate of 39 percent for those in the General Population sample and 68 percent in the Outdoor Interest sample.

The potential of non-response bias (i.e., which occurs when survey respondents and non-respondents differ in how they would complete the survey) was examined by computing the approximate distance between the zip code of each respondent and non-respondent in the original mailing lists and the zip code at Midewin (60481). The results of this analysis indicated no statistically significant difference between survey respondents and non-respondents in terms of their distance to Midewin. Based on this finding, non-response bias was not viewed as a major problem and no further analysis of non-respondents was conducted.

As was expected the two sample groups, General Population and Outdoor Interest, differed considerably in their interest both in the general survey topic (Outdoor Recreation) and in visiting Midewin. Consequently, separate analysis were conducted for each group of respondents.

Findings

Respondent Demographic Profile. Compared to those in the Outdoor Interest group, respondents in the General Population group were more likely

to be male (59% GP versus 37% OI), to be slightly younger (mean age of 50.6 GP versus 51.8 OI), more likely to have a larger household (84% in the GP group had more than one person versus 79% in the OI group) and to have at least one child living at home (40% in the GP group had more than one child living at home versus 29% in the OI group). The majority of respondents in both groups were predominately Caucasian/white (91% GP and 99% OI). The percentage of African American respondents was slightly higher in the General Population group (6%) compared to the Outdoor Interest group (1%). Finally, the annual household income of those in the General Population group tended to be slightly lower than the income of those in the Outdoor Interest group (36% in GP group had an income below \$50,000 compared to 26% in the OI group).

Intention to Visit MNTP. In order to assess intentions to visit Midewin, respondents were provided with a current description of the outdoor recreation site along with a set of maps showing Midewin's general location and the basic land-use plan. Respondents were then asked, "Given what you have seen and read, how interested would you or the members of your household be in visiting the Midewin National Tallgrass Prairie?" A "purchase intent" scale, with four response categories ranging from "definitely would not visit" to "definitely would visit" was employed to gauge intent to visit when the site was open with an appropriate range of managed areas and activities.

The response to this question, summarized in Table 1, revealed a strong level of interest in Midewin. Of those in the General Population group, approximately 74 percent indicated that they "probably" or "definitely" would visit Midewin, with 22 percent indicating that they "definitely" would visit. As would be expected, the interest of those in the Outdoor Interest group was even higher. Almost 94 percent of this group indicated that they "probably" or "definitely" would visit Midewin, with 70 percent indicating that they "definitely" would visit. Although these results are encouraging, it is important to note that no time frame was specified for this question. Consequently, the estimates generated should be viewed as representing the level of visitation or demand that Midewin will eventually achieve once the site has been fully developed. Nonetheless, the

Table 1. — Intentions to Visit Midewin

	General Population n=349	Outdoor Interest n=212
Definitely would not visit	3.4%	1.4%
Probably would not visit	22.9	4.7
Probably would visit	52.1	24.1
Definitely would visit	21.5	69.8

Table 2. — Number of times over a 12-month period respondents interested in visiting Midewin would visit

	General Population (Interested in MNTP) n=234	Outdoor Interest (Interested in MNTP) n=187
None	0.4%	0.0%
Once a year	45.7	25.1
2 times a year	26.1	32.1
3 times a year	11.5	13.9
4 times a year	9.8	13.9
5 times a year or more	6.3	15.0
Mean	2.4 times	3.0 times
Std Deviation	(4.10)	(2.49)

figures generated by this question provide a useful foundation for future planning efforts.

Likely Visitation Behavior. Those respondents who indicated an interest in visiting Midewin (i.e., that responded that they “probably” or “definitely would visit” in the question above) were then asked a number of questions about their likely visitation behavior. When asked how often during a 12-month period they would visit (see Table 2), most of those in the General Population group indicated that they would visit either “once” (46%) or “twice a year” (26%), just over one-fourth (27%) would visit “three times a year or more.” In contrast, those in the Outdoor Interest group indicated that they would visit more frequently. More specifically, while one-fourth of that group (25%) would visit only “once a year,” the remainder would visit “twice a year” (32%) or “three times a year or more” (43%).

In terms of when they would visit (Table 3), the members of both groups indicated that they would be most likely to visit Midewin during the fall season (September, October, and November) and

Table 3. — Seasons respondents interested in visiting Midewin would be likely to visit Midewin¹

	General Population (Interested in MNTP) n=255	Outdoor Interest (Interested in MNTP) n=194
Spring (March, April, May)	59.2%	83.0%
Summer (June, July, Aug)	59.2	67.5
Fall (Sept, Oct, Nov)	81.2	90.2
Winter (Dec, Jan, Feb)	12.9	30.4

¹ Multiple responses allowed.

Table 4. — Length of time for a typical visit to Midewin for respondents interested in visiting Midewin¹

	General Population (Interested in MNTP) n=255	Outdoor Interest (Interested in MNTP) n=194
2 hours or less	7.1%	10.3%
3-4 hours	57.6	58.2
5-7 hours	29.8	44.8
8 hours or more	6.3	8.2
Overnight for 1 day	24.7%	22.7%
Overnight for 2 days	15.7	13.4
Overnight for 3 or more days	5.1	2.6

¹ Multiple responses allowed.

Table 5. — Intentions to use basic facility features for respondents interested in visiting Midewin (% that Probably or Definitely would use)

Feature/Option	General Population (Interested in MNTP) n=254	Outdoor Interest (Interested in MNTP) n=198
Visitor center	96.1%	98.5%
Paved trails	89.6	87.8
Unpaved natural-surface trails	84.5	96.9
Hiking trails	81.1	92.7
Biking trails	56.4	61.7
Horseback riding trails	38.3	26.9
Picnic areas	84.7	77.6
Fishing areas	54.8	34.9

least likely to visit during the winter season (December, January, and February). Those in the Outdoor Interest group also indicated a strong level of interest in visiting during the spring season (March, April, and May).

In terms of how long they would visit (Table 4), most indicated their visit would last either “3-4 hours” or “5-7 hours.” Outdoor Interest respondents were more likely to stay for longer day visits than General Population respondents. Of the overnight stay categories, most indicated that that they would stay “overnight for one day.”

Table 6. — Intentions to use camping-options for respondents interested in visiting Midewin (% that Probably or Definitely would use)

Feature/Option	General Population (Interested in MNTP) n=254	Outdoor Interest (Interested in MNTP) n=198
Vehicle accessible campsites w/flush toilets and showers	57.1%	41.1%
Vehicle accessible campsites with flush toilets only	49.6	36.1
Vehicle accessible campsites w/pit toilet or outhouse only	31.0	27.7
Group campsites with flush toilets and showers	44.3	21.7
Group campsites with flush toilets only	31.1	16.8
Group campsites with pit toilet or outhouse only	19.2	11.6
RV camping areas with flush toilets, showers, and electric/water hookups	28.6	14.0
RV camping areas with electric/water hookups only	24.6	11.6
RV camping areas w/toilets and showers but no hookups	20.2	9.7
Walk-in only campsites with pit toilet or outhouse only	28.3	26.3
Walk-in only campsites with no facilities	17.9	15.2

Preferences for Attraction Features and Programming Options. Respondents were asked a number of questions about their interest and preference for selected design features and programming options. As shown in Table 5, of the features examined, almost all respondents indicated that they would use a “visitor center” and both “paved” and “unpaved/natural-surface trails.” General Population respondents preferred paved trails over unpaved natural-surface trails, whereas Outdoor Interest respondents preferred unpaved natural-surface trails over paved trails. In terms of types of trails, respondents would be most likely to use “hiking trails,” followed by “biking” and “horseback riding trails.” Of the other basic features examined, most indicated that they would use “picnic areas” while a smaller number indicated that they would use “fishing areas.”

Table 7. — Interest in programming options for respondents interested in visiting Midewin (% that Probably or Definitely would use)

Program Content	General Population (Interested in MNTP) n=251	Outdoor Interest (Interested in MNTP) n=193
Wildlife programs	34.9%	82.0%
Home gardening/prairie-plant programs	29.3	51.0
Native American history programs	27.9	52.6
Programs that provide an overview of our Nations forests and grasslands	26.9	58.5
Ornithology (bird-related) programs	16.5	63.7
Prairie restoration programs	16.5	62.2
Prairie ecology/ecosystem programs	15.6	63.2
Military history programs and arsenal tours	15.4	18.6
Farmstead and agricultural history programs	14.3	24.5

Table 8. — Interest in programming options for respondents interested in visiting Midewin (% that Probably or Definitely would use)

Program Format	General Population (Interested in MNTP) n=251	Outdoor Interest (Interested in MNTP) n=193
Self-guided tours	39.5	77.2
Roving naturalist/ranger programs	34.9	60.1
Nature walks/tours led by an interpreter	33.9	72.0
Evening programs at a campground, picnic area or amphitheater	24.4	35.6
Programs held at visitor centers	24.0	52.1
Audio-visual programs in the Visitor Center	20.2	38.8
Audio-cassette guided tours	16.8	32.6
Volunteer opportunities at Midewin	6.2	22.0

Of the different types of camping options examined (Table 6), “vehicle accessible campsites” would be used by more, followed by “group campsites” and “RV campsites.” “Walk-in only campsites” would receive the least usage. Within each type of campsite, those offering “flush toilets, showers, and hookups” would be used by more compared to those offering “pit toilets or outhouse only.”

When asked about the different types of programs that might be offered at Midewin (Table 7), respondents in the General Population group were most interested in those involving “wildlife” (35%) and ‘home gardening/prairie plants’ (29%), whereas respondents in the Outdoor Interest group were most interested in programs involving “wildlife” (82%), “ornithology” (64%), “prairie ecology” (63%), and “prairie restoration” (62%).

In terms of program format (Table 8), both groups indicated the strongest interest in the on-site options (“self-guided tours,” “Roving naturalist/ranger programs,” and “nature walks/tours”) and the least for the “audio-cassette

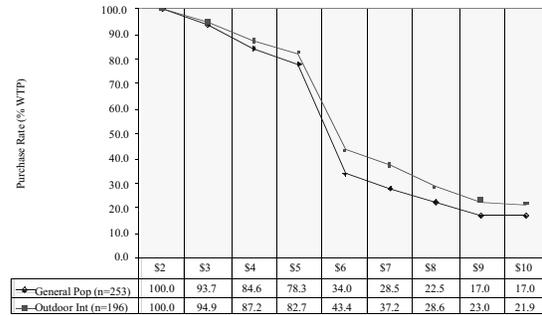


Figure 1. “Demand Curve” Based on Purchase Rate (Cumulative % WTP) for a Daily Vehicle Pass

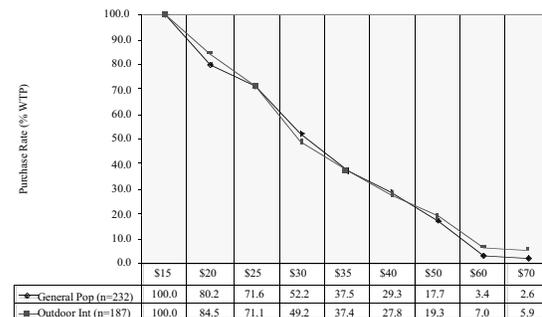


Figure 2. “Demand Curve” Based on Purchase Rate (Cumulative % WTP) for an Annual Vehicle Pass

tours.” “Volunteering” at Midewin was more appealing to the members of the Outdoor Interest group compared to those in the General Population group.

Reactions to Pricing Options. Survey respondents were told that the plan for developing Midewin required the enforcement of an access fee to partially cover the cost of the restoration effort and basic visitor services. They were then asked to indicate the maximum amount they’d be willing to pay for both a daily pass and an annual pass for a vehicle to access Midewin. For the “daily pass”, both groups indicated a preference for the \$5 price level. As shown in Figure 1, analysis of the purchase rate for each price level (i.e., the percent of respondents willing to pay a particular amount or more) indicated that roughly 8 out of 10 respondents in both groups were willing to pay \$5 for a daily pass for Midewin. For the “annual pass,” respondents’ preferences were more mixed. As shown in Figure 2, analysis of the purchase rate for each price level suggests that a price of \$20 to \$25 would be acceptable to most respondents. In

both groups, 8 out of 10 respondents would be willing to pay \$20, while 7 out of 10 would be willing to pay \$25.

Discussion

This market analysis reveals that this new outdoor recreation site holds great interest to both a general population of Chicago metropolitan residents, as well as a special outdoor recreation interest group. The interest levels are based on the existing knowledge-level that respondents held before receiving the survey instrument and the education about the site that occurred with the survey instrument. Importantly, the intention estimate provides a baseline for Forest Service planners to formulate facility access, design, and capacity estimates. While Midewin National Tallgrass Prairie is of local interest in a large metropolitan area, the site will also be known and marketed nationally and internationally. Tourism visitation estimates were considered, however, these estimates have not been presented here.

For those households intending to visit this outdoor recreation site, patterns of visitation can be inferred. Close to 50 percent of the General Population are likely to visit once a year with fall as the most popular season. Slightly over 50 percent of the General Population is likely to visit several times a year. Their visits are most likely to be a half day in length and not include an overnight stay in the general area. Facilities such as a visitor center, trails, picnic areas, and developed campgrounds with showers and flush toilets would be some of the attractions used by these visitors. Moderate levels of interest (between 25-40% of those intending to visit the site) were shown in guided tours, wildlife programs, prairie-plant programs, or Native American history programming. The results suggest that “traditional” recreation opportunities and facilities hold the greatest interest for the broader General Population. A daily rate of \$5 for a vehicle or annual rate of \$20-\$25 is the most acceptable entry fee for the General Population.

As expected, households from a specialized list representing the same geographic area as the General Population were more interested in visiting Midewin National Tallgrass Prairie and experiencing some of the unique elements of the site than the General Population. Three-quarters

of the Outdoor Interest group who intend to visit the site expressed an interest in several trips each year. Fall and spring were the most popular seasons to visit. While a half day trip was most popular, a 5-7 hour trip was also desirable. Facilities such as a visitor center, trails, picnic areas, and developed campgrounds with showers and flush toilets were highly desirable. Very high levels of interest are shown in programming (in stark contrast to the General Population). Specifically, wildlife programs, ornithology, prairie restoration, prairie ecology and ecosystem, programs that provide an overview of our Nation’s forests and grasslands, home gardening and prairie plant programs, and Native American history were high desirable with over 50 percent of the Outdoor Interest group who intent to visit Midewin. A daily rate of \$5 for a vehicle or annual rate of \$20-\$25 appears to be the most acceptable entry fee for the Outdoor Interest group.

In addition to the vast opportunities Midewin offers to restore a prairie landscape and educate the public about wildlife and horticulture, the site also has a rich history in farmstead and agriculture, and the military. These stories and related programs also have a niche market of interested visitors amongst both the General Population and Outdoor Interest groups.

Future analysis of these data can enable richer profiles of demanded activity and facility clusters that might suggest itineraries for future visitors. This marketing knowledge can then be used to create customized itineraries. For the Outdoor Interest group, these itineraries could be marketed through relevant member communication programs. For the General Population, itineraries may need to be used as “add-on” experiences to a picnic or a stop at the visitor center. Recreation opportunities such as picnicking and visitor centers can be found throughout the Chicagoland area, however Midewin offers a unique education and outdoor experience other recreation sites might not provide. Effective communication and marketing efforts will be needed to expose the general population to the program possibilities once they arrive.

In conclusion, the market analysis study affords planners the opportunity to consider the level of demand for recreation facilities and programming opportunities. The results also provide useful

insights into the marketing strategies that can be developed and targeted towards key market segments and market niches. A sequence of market analysis, planning and marketing

implementation can help resource providers, such as the Midewin National Tallgrass Prairie, to be more efficient in their attempts to develop and deliver effective and valued user experiences.

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