

# NEPA and the Dynamics of Public Participation in the Environmental Review Process:

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An Analysis of the NorthMet (PolyMet) Mining Project near Hoyt Lakes  
Minnesota

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Draft in Progress

# NEPA and the Dynamics of Public Participation in the Environmental Review Process:

An Analysis of the NorthMet (PolyMet) Mining Project near Hoyt Lakes Minnesota

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*Hypothesis:* That comments collected from agency “experts” during the scoping phase of the National Environmental Policy Act (NEPA) process would be disproportionately represented as changes in subsequent drafts of NorthMet’s Environmental Impact Statement (EIS).

*Methods:* Tabular analysis of data collected from the Minnesota DNR publication of Response to Public Scoping Projects PolyMet Mining Inc.; NorthMet Project. 2005

*Results:* There is an excellent cross section of comment sources represented in changes to subsequent drafts of NorthMet’s EIS. A lot of overlap exists between the various types of participants and their concerns, resulting in many of the successful comments stemming from multiple sources. Subsequently the most influential participants are those who have the same concern as three or more fellow participants and those who belong to interest -groups; not agency “experts”.

## Introduction

The National Environmental Policy Act (NEPA) is meant to facilitate a grassroots opportunity, through the public scoping process, for concerned citizens to affect policy regarding the use of natural resources. The intentions of this legislation were to diversify the sources of environmental review in order to prevent unreasonable degradation to the human environment. It was presumed that this would add to the quality and credibility of lead agency decision making when determining whether or not a project would get necessary permits to proceed. The lead agencies in charge of determining whether or not the NorthMet projects receives the permits it

needs to begin operations, based on the findings of the Environmental Impact Statement, are:  
The Department of Natural Resources and the U.S. Army Corp. of Engineers.

The goal of this study is to shed light on the dynamics of the public scoping process, specifically whether the opportunity for the public to participate, corresponds to an opportunity for the public to influence policy. In order to determine this, analysis was done on those who participated in this process and how those contributions changed the environmental review of the proposed NorthMet mine in Minnesota. The hypothesis is based upon previous authors' research on NEPA, which demonstrates that contributions to the review process originating from insider sources, such as other agency officials, is perceived to be disproportionately represented in changes to the scope of the environmental review. If this is supported by the results of this study, it begs the question. If lay participants don't actually influence the process very much; why go through the trouble and expense of such a time consuming process?

### NorthMet Background

The NorthMet project is a potential copper, nickel and precious metals mine that is applying for permits in Minnesota. It is located in a region of Northeastern Minnesota, just south of the Mesabi Iron Range, near the town of Hoyt Lakes. This area has historically relied on iron ore mining to support most of the local economy. In the last few decades the area has seen its economy shattered by the financial collapse of the taconite industry. Since the collapse of the mining industry the tourism industry has greatly expanded. Lake Superior National Forest and the Boundary Waters Canoe Area, along with the accompanying vast tracks of wilderness are among the regions' major assets.

Taking the above into account, the possibility of a new mine means different things to different people. The two prevailing motivators are: The huge potential for financial investment plus income from taxes from the profits of the mine or conversely the potential for environmental degradation as a result of sulfide mining. The NorthMet site is within the Lake Superior watershed district. The company trying to get the permits is determined to convince locals and policy makers that the benefits of the mine greatly exceed any potential harm from the mine. Of course many critics view NorthMet's claims as suspect because of the huge profits the company stands to gain if the mine goes into production. Many locals from the Hoyt Lakes area, as well as others, view a new mine as badly needed economic development for a community and state. Critics of the proposal, also includes some locals, view a new mine with wariness and skepticism due to the mining industry's less than stellar environmental and economic record. For agency officials, their job is to stay objective and contribute to the quality of the review. This entails making sure that as long as the project meets all of the legal requirements and shows itself to meet existing environmental regulations that the project gets a fair review and permit process.

The NorthMet mine is a new type of mine for Minnesota, if allowed to enter production it will be the first copper and other precious metals mine in the state. Advocacy groups and some individuals, including legislators, worry that the methods NorthMet would employ in its mining create a higher level of risk than the state has experienced in the past. Below are a few examples of concerns relating to the NorthMet mine:

"We are obviously going to be watching this very closely," said Chuck Laszewski, a spokesman for the Minnesota Center for Environmental Advocacy (MCEA). "In the hundreds of years of history of this kind of mining, not one of these has ever been environmentally safe." (Associated Press, 2007)

"They'll take out the valuable ore from the ground, and make a tidy profit," Anderson continues. "And about the time payday really rolls around for us, about the time we find that

there's groundwater contamination, some of the really tough problems to solve, they declare bankruptcy. And then the big bills, these multi-million dollars bills, are left to the taxpayers." (Hemphill, 2007)

On the other hand NorthMet's supporters are asking interested parties to let them proceed regardless of the industry's terrible track record. In exchange the local and state economies stand to gain four hundred or more jobs and a much enhanced tax base. NorthMet promises a local investment of more than 600 million dollars just to get the facilities up and running (Polymet, 2009). Some locals are considering the possibility that their community won't be financially viable without this new type of investment.

"For the last six or seven years, we saw nothing coming into our community," said Chamber of Commerce President Bartholomew, who worked 32 years as a welder on the LTV railroad that served the mine. "The young people had to leave to go after jobs and we're hoping to bring them back." (Bailey, 2008)

The proposed project consists of an open pit mine, a processing plant and on-site storage of the crushed tailings. The plan is to extract the trace amounts of precious metals that are present in the mafic (heavy, magnesium, iron, and sulfur rich) rock in quantities of about 1%. This means that there will be a lot of left over rock tailings after the valuables are extracted. This type of mining is often referred to as acid mining (sulfur mining by the industry) due to the by-product, sulfuric acid, which is produced when rain water and oxygen react with the exposed tailings. Sulfuric acid can be devastating to waterways if it is allowed to contaminate them. NorthMet promises to be among the first in the mining industry to successfully protect the environment and run a profitable sulfate mining operation. This means it is up to NorthMet and their team of experts to convince policy makers and the public that the technology they'll be using allows safe mining to be possible. Another challenge will be convincing opponents that they are sincere in their determination to prevent a disaster.

Unfortunately, this is not just a question of whether or not NorthMet will get the permits it needs to mine. If NorthMet is allowed to proceed, there are a number of other mining companies waiting in the wings to develop their own mining plans. These future mining endeavors have a much greater chance of being permitted if the NorthMet applications get approved. The potential benefits for allowing this type of industrial investment are huge; however the potential for lasting environmental damage is also very high. This is a case where the National Environmental Policy Act (NEPA) and the Minnesota counterpart (MEPA) currently provide the primary mechanism to document and ensure the level of substantial review necessary in this type of decision- making (Way, 2008) Ideally this process acts as a mediator, and all sides emerge satisfied that their concerns were met. Unfortunately it seems very difficult to accomplish this. (MCEA, 2008).

### Thirty Years of NEPA

Ever since its passage the National Environmental Policy Act (NEPA) in 1969 it has received a lot of attention. Few doubt that the environment is better off because of the laws' passage. The debate centers on whether or not the law can be improved, and if it can, what should those reforms look like. The laws' supporters often herald it as an important first step towards a federal policy which ensures that environmental concerns are given consideration prior to government support of projects. A major criticism of the law is that NEPA's requirements are vague and add miles of red tape to a system that is already mired in bureaucratic inefficiency.

NEPA requires that environmental impact be taken into account prior to the commencement of most federally regulated or funded projects. Many states, including Minnesota, adopted state versions of NEPA to extend this requirement to state regulated projects

as well. The specific requirements under NEPA vary depending upon the size, cost and potential environmental impact of a proposed project. The most demanding and costly tool required to comply with NEPA's mission is the Environmental Impact Statement (EIS). An EIS is only required for projects that have an obvious potential for environmental harm. The EIS is a long process that stipulates extensive documentation of potential environmental impacts, potential alternatives to proposed actions and the opportunity for outside participants to offer objections to and oversight of the proposed project. This latter requirement, called the public scoping process, is one of the most controversial aspects of the legislation, and the part of NEPA that is the focused on in this study. The objective of the EIS and the scoping process is to identify potential environmental risks and determine how these risks will be eliminated or minimized before starting the project.

Previous literature on the subject suggests a number of conclusions regarding the history of NEPA and its' application in the agencies. These conclusions include: multiple examples of potential agency abuse and incompetence as well as the propensity for bias in the environmental review process. This wide array of opinions on the NEPA process lacks an in depth quantitative analysis on the dynamics between the participants and results of the public scoping process. This study aims to fill that void by analyzing the public comments on the NorthMet EIS submitted so far along with their results, and, when possible, other available public data in an attempt to answer the age old question of whether or not governance should be left to the "experts".

## Previous Studies

In January 1997, the Council on Environmental Quality (CEQ) published *The National Environmental Policy Act: A Study on its Effectiveness After Twenty-Five Years*. This study

was meant to identify the successes and shortcomings of the Act. Of great concern was trying to find ways for implementation of NEPA to be made more efficient; promote the integration of social, environmental and economic factors; and ensure openness in government--- as called for under the Act (Council on Environmental Quality, 1997). For the purpose of this investigation one of the CEQ's reports main findings held particular interest. It is a summary of what, many agree, can be the most frustrating components of NEPA implementation.

The Study finds that agencies sometimes engage in consultation only after a decision has - for all practical purposes - been made. In such instances, other agencies and the public at large believe that their concerns have not been heard. As a result, they may find themselves opposing even worthy proposed actions. This may in turn lead to agencies seeking "litigation-proof" documents, increasing costs and time but not necessarily quality. In such cases, potential cost savings are also lost because a full range of alternatives has not adequately been examined. Other matters of concern to participants in the Study were the length of NEPA processes, the extensive detail of NEPA analyses, and the sometimes-confusing overlay of other laws and regulations (Council on Environmental Quality, 1997, p. iii).

The actual presence of the above shortcomings versus only the perception that they are present is important in any evaluation of a NEPA. This is especially true because perception seems to play a major role in the NEPA process. The same concerns the CEQ listed were explored in numerous studies pertaining to NEPA.

Several of these studies were important in framing an understanding of the challenges faced by agencies in implementing NEPA with regard to the NorthMet project. Each of these explores a concern that was listed in the CEQ excerpt included above. However the studies concerning NIMBY were the most central as far as influencing the hypothesis about the efficacy of citizen participation as well as the methods used to test it. The NIMBY studies responded to past research findings from Aberbach and Rockman (1978) and Cupps (1977) such as those quoted below.



“Skeptics of the participation norm expressed concern over the public’s lack of expertise and the additional administrative complexities and inefficiencies brought to decision-making. They also questioned whether participants would be representative of the public and act in a responsible manner” (Kraft & Clary, 1991, pp. 299-300)

Pertinent to this research was developing an understanding of how agency officials themselves feel about NEPA and its application. The study titled: NEPA in the Agencies: A Critique of Current Practices by Robert Smythe and Caroline Isber (2003) itemized common complaints such as budget cuts, not enough training and lack of standardization or cooperation between offices and other agencies in managing environmental reviews. The authors gathered the data used in this study through interviews with and surveys sent out to agency employees. The author’s conclude that the biggest obstacles affecting the implementation of NEPA can potentially be overcome by educating legislators who are responsible for regulating the agencies, especially the agencies’ budget and how they coordinate with each other. These are relevant and interesting findings considering the large amount of interest the NorthMet project has received from both friends and critics within the Minnesota Legislature.

Additional analysis on the subject of how NEPA is handled within the agencies and subsequently governments’ role, is available within a critique of current rules affecting the quality of environmental evaluation required by NEPA. Circumventing the National Environmental Policy Act: Agency Abuse of the Categorical Exclusion by Kevin H. Moriarty (2004) exposes one common abuse. As the title implies the main point of the article is to discuss the overuse of the categorical exclusion. However, although the categorical exclusion doesn’t seem to be being applied in the NorthMet case, there have been attempts at circumventing full public review. For example in 2008, controversial legislation (H.R.4292, the Superior National Forest Land Adjustment Act of 2007) was proposed in the Minnesota Legislature to allow for a

special exception for NorthMet to purchase US Forest Service land and avoid the usual process that includes lengthy review (Way, 2008).

Moving closer to the NorthMet study, the following studies deal closely with specific characteristics of NEPA and citizen participation. Each one illuminates potential concerns relating to the specifics of the NorthMet project. The study; *Characterizing EIS for Road Projects in North Carolina, USA (2006)* by Luis E. Carrasco, Gary Blank and Erin O Sills points out evidence that projects near larger more populated communities get more thorough review than rural projects. This common concern is briefly mentioned in other studies however this study offered empirical evidence of the practice's existence. The roads study alerted me to the seemingly high density of concerned sophisticated participants in the NorthMet project's EIS process. Despite NorthMet's rural nature and the relatively low number of participants the influence these participants are having on the review demonstrates a high degree of competency.

Another concern mentioned in the literature is that the ultimate outcome of many public scoping processes is determined prior to public input. The study, *Federal Environmental Impact Statements: Overly Inflated Needs Result in Needless Environmental Harm (2006)* by Gordon Steinhoff, pertains to the expectation that industry, which for the most part contracts- out and pays for the EIS research and analysis, have too much influence on the way the content is presented. Often alternatives that might be more environmentally safe, but are also considerably more expensive are not thoroughly explored for the public to look at and comment on. An example of this initially held up the final draft of NorthMet's EIS. The activist group Minnesota Center for Environmental Advocacy (MCEA) made it clear that they were prepared to sue the Minnesota DNR if it did not insist on the alternative of underground mining being fully explored. Currently this option has been dismissed as not viable (Minnesota DNR, 2005). NorthMet,

supported by experts, claim that due to the shallow depth of the ore deposit, underground mining would not work. Requiring a full report on why an underground mine is not a possible alternative would be very expensive, time consuming and could delay or even kill this project (MCEA, 2008)(MinnPost, 2008) (Minnesota DNR, 2005) (Way, 2008). The results section of this analysis shows that many of the changes to subsequent drafts originate in the Alternatives issue type category, which supports Steinhoff's claim that alternatives are not sufficiently investigated prior to beginning the EIS process.

The methods for this analysis were heavily influenced by past work that tried to analyze citizen participation in the scoping process of locally unpopular projects that were perceived as being too high risk. Two studies in particular influenced the shape of this NorthMet study; each empirically evaluated evidence regarding the prevalence and cause of the Not In My Back Yard (NIMBY) syndrome (Kraft & Clary, 1991) (McAvoy, 1999). NIMBY is accused of thwarting worthy projects because of the public refusal to consider the needs of a larger community as more important than their personal desire to avoid risk (McAvoy, 1999). Both the McAvoy (1999) and the Kraft & Clary (1991) studies on citizen rationality conclude that the public might not necessarily be given enough credit by the agencies. However, in each case study the public were able to block development of the facilities.

Particularly important about these studies is that each described methods for coding and analyzing overwhelming amounts of data regarding who participated in the scoping process and what the participants had to contribute. From this concept, the NorthMet study developed as a way to take this type of analysis a step further. The questions left unanswered by the NIMBY studies were: Who ends up influencing the process the most and how does numbers contribute to the equation?

The study by Michael E. Kraft and Bruce B. Clary (1991), on the difficulty of siting Radioactive Waste Disposal Facilities sought to explore whether or not skeptics of citizen participation had legitimate basis for their accusation. Their accusation was summarized as: an argument that the public should not have so vital a role in decision making due to the risk that the public would not act rationally and would instead resort to opposition based on selfishness and lack of trust (Kraft & Clary, 1991). After extensive coding and categorizing of thousands of public comments submitted at scoping meetings, the authors used this information to empirically challenge the belief that NIMBY was the dominant motivation for participants' concerns. This study also pointed out that public participation is not limited to concerned "non-experts" but may also include concerned experts such as other agency officials as well as informed locals. It also discussed the factor of legitimate distrust of an agency (Dept. of Energy in this case) based upon previous track records.

A related study pertaining to NIMBY provided a more in depth look at citizen participation. This analysis was on the siting of a Hazardous Waste Facility in Minnesota. The author of this study, Gregory E. McAvoy (1999), points out the varying motivations for agency officials to try to get a project approved and completed juxtaposed to local citizen's desire to avoid unnecessary risk. In addition to providing evidence to the greater complexity of public opposition to potentially dangerous technologies in their communities the author does a nice job of explaining the important oversight the public can provide (McAvoy, 1999). In the case of the Hazardous Waste Facility in Minnesota, Minnesota was unsuccessful in finding a willing host, and as a result implemented a number of measures aimed at reducing and recycling more of the hazardous waste produced in Minnesota.

All of the literature mentioned informed my analysis of NorthMet's NEPA process; albeit the studies by Kraft, Clary (1991) and McAvoy (1999) were particularly influential in determining the methods used to evaluate the participation and influence of citizens in the NorthMet case.

However before continuing it is important to point out certain significant differences between the NorthMet project and the waste facilities siting studies. First of all, the NorthMet project is site specific. Another location is not a viable alternative. The environmental review will decide whether or not the project can proceed and if it can, what measures will have to be taken to mitigate risk. It is reasonable to assume that the expenditures undertaken by NorthMet, thus far would not have occurred unless the company understood that they had a very high probability of being permitted. At last report, NorthMet expenditures totaled more than eighteen million dollars for the review process alone. (PolyMet Mining, 2008) Lastly, because of the more isolated nature of this project it has not generated anywhere near the amount of public participation or opposition the waste sites did. This research includes around 132 comments, (only one of which was in support of the project commencing as-is), from around thirty participants, whereas the other studies had many more comments to evaluate (Minnesota DNR, 2005).

## Methods

The data was copied from a summary of the comments contributed during the first scoping period of NorthMet's EIS along with the lead agencies responses to each comment, including whether or not the comment led to changes in subsequent drafts or a broadening of the environmental review (Minnesota DNR, 2005). There were no obvious patterns immediately

evident. The hypothesis is that agency concerns would take precedent over non agency concerns, and therefore be represented proportionately more often as changes of the scope in subsequent drafts.

The null hypothesis is every comment and testifier has an equal chance of changing the scope of the EIS and therefore the success rates for each category of testifiers would be equal.

Therefore in most of the tables below the dependant variable is: Whether or not the scope of the EIS was changed. The independent variables are: Agency Officials, Interest Groups, Individuals, Number of Testifiers, and Issues that had a Single Respondent.

In order to quickly, and in the least complicated manner, decipher the various comments that were contributed data was entered into an SPSS table set. All of the comments, the respective contributors, and any other relevant information such as number of testifiers and whether or not the comment changed the scope of the EIS, were included. Then the SPSS program was used to cross-tabulated specific variables with each other to look for information. The results were surprising. The hypothesis was not supported by the evidence. At least in the NorthMet case, interest groups were most effective at contributing comments that led to changes in the scope of the EIS. Additionally the influence of interest groups continues to be evident in their success at slowing down the permitting process and having bills introduced in the state legislature that call for a reevaluation of Minnesota's current mining laws.

It is important to state that the results assume that every contribution to the scoping process was intended to create change. Each change to subsequent draft of the EIS is therefore treated as a success on the testifiers' part. It is possible that not all comments were intended to expand the scope of the EIS, however that possibility is not factored into the results.

## Results

There is an excellent cross section of comment sources represented in changes to subsequent drafts of NorthMet's EIS. A lot of overlap exists between the various types of participants and their concerns, resulting in many of the successful comments stemming from multiple sources. Subsequently the most influential participants are those who have the same concern as three or more fellow participants and those who belong to interest -groups; not agency "experts".

Tables 1-3 show cross tabulations between the various categories of citizen participants and their comments on the issues and whether or not the scope of the EIS was changed by their comments. The goal of this analysis was to determine whether or not a particular category of participants enjoyed greater success than the others. My hypothesis was that the Agency Officials category which included representatives from the: EPA, U.S Fish and Wildlife, the U.S. Forest Service and others would be disproportionately successful compared to the interest groups and the individual (non-affiliated) testifier. I believed this would be the case based upon previous research such as the studies done by: Kraft and Clary (1991), McAvoy (1999), and Steinhoff (2006). Each of these studies specifically notes an inherent bias toward "expert" testimony in the review process.

(Table 1 about here)

Table 1 analyzes the various rates of success based on who testified on the particular issue. This cross tabulation includes all of the 132 comments the testifiers are grouped based on what categories were represented on the comments. The results show that comments from

agency officials alone were successful 21.2% of the time whereas interest groups alone were successful 35.6% of the time. The comments that were most successful came from comments with multiple categories of commentators attached to them such as the success rate for comments where representatives from both the agency officials and individuals together had a success rate of 36.4% and comments that came from all three categories had an 87.5% success rate. This latter group can potentially be the result of high numbers rather than a positive reaction to diversification of testifiers.

(Table 2 about here)

Table 2 analyzes the relationship between the various categories and their individual success rates on the 93 issues that only had comments from testifier. The purpose of this was to analyze the different categories without the possible bias of increased numbers included. The results from this were very similar to the results from Table 1. The interest group category was most successful at 38.5% with the agency category far behind at 21.2% and the individual category even further behind at 9.5%. This might be an indication of quality of review by experienced interest groups, many of whom have great experience and resources to apply to an EIS review process. However there is also the possibility that lead agencies, in cooperation with NorthMet are trying to avoid future lawsuits from legal savvy interest groups on the grounds of insufficient review. Whereas there is less perceived risk of this from individuals or agency officials (Schubbe, 2008).

(Table 3 about here)

Table 3 depicts the cross-section of number of testifiers on the 132 issues. It shows the disproportionately high level of change occurring to issues that garnered three or more testifiers



on the same issue. This is evidence that numbers hold sway over lead agency reviewers' decisions to broaden the review of a particular area. It also shows that when there is apparent error or vagary in the EIS document, multiple citizen participants are likely to catch it.

## Conclusions

In conclusion, let's go back to the question of whether or not NEPA provides a good opportunity for lay participants to affect policy? Much of the previous work by past authors and many of the current complaints by concerned participants argue that the process is too accommodating of development, with the consequence of not listening to the participants who are working on behalf of the environment. This doesn't seem to be the case with NorthMet. As shown in the tables above experience and numbers are very influential, however it's not agency "experts" or fellow insiders who have the most influence. A very vocal opposition, composed of active individuals and interest groups, has continued to be involved throughout the entire review process and like the waste siting studies (Kraft & Clary 1991, and McAvoy 1999) these participants have had significant success. Although it's not known yet if they'll block the mine; it is apparent that NorthMet and the permitting agencies have not rammed this project through over the objections of a majority. If this study is anything it is a testimony to the power of a few people who are willing to work within the system to make a big difference. It exemplifies the wisdom of the quote,

"The person who has nothing for which he is willing to fight, nothing which is more important than his own personal safety, is a miserable creature and has no chance of being free unless made and kept so by the exertions of better men than himself." John Stuart Mills.

## Where is NorthMet right now?

The data from the initial scoping phase of NorthMet's EIS came from 2005 and in late 2008 when this study began NorthMet still did not have a final EIS, despite optimism from the company that there would be a relatively swift permit process due to extensive previous research (Engineering and Mining Journal, 2005). Even now in early 2009, NorthMet's final draft EIS, which was released for internal review in December 2008, has not completed the scoping period. In the interim, copper prices have fallen from four dollars a pound to around a dollar fifty cents a pound. This price drop might seriously affect the future viability of the mine (Housman, 1995). A similar mine in Michigan is currently on hold, despite permitting, due to low market prices (Melzer, 2009). Advocates for stricter review point out that the fluctuation in the market is another good reason to make sure all safe-guards are determined before the mine gets permitted because the company's promises aren't a guarantee of future action.

The "Safe Mines to Protect Our Waters" legislation recently introduced by Rep. Alice Housman, DFL- St. Paul, and Sen. Jim Carlson, DFL-Eagan, is meant to address many of NorthMet's opponents fears regarding NorthMet possibly not following through on all of its' current promises to protect the environment (Arneson, 2009). The bill is being strongly opposed by legislators who represent the region that NorthMet resides in. Local Rep. Tom Ruckavina DFL-Virginia, which is near the NorthMet site, had this to say about the "Safe Mines to Protect Our Waters" legislation before the bills were introduced.

"This is a policy issue and not something for citizens to decide. "

He was referring to the view opponents of the legislation share; that if the bills are passed they could kill the project, and current laws, such as MEPA, are sufficient to protect the

environment. Proponents of the bills insist that if the project is as safe as NorthMet is claims it is and is also going to be as profitable as NorthMet says, then the project could still precede, it would just have to improve both the preventative measures and the financial assurance in place in order to better protect the environment (friends-bwca.com, 2009).

This is a preliminary study, the findings of this research are not meant to be a conclusive analysis of the NEPA process itself. The intention is ultimately to experiment on a single sample case in the hope of finding methods that are applicable to analyzing additional scoping processes. The NorthMet case presented an opportunity to try this on a manageable scale.

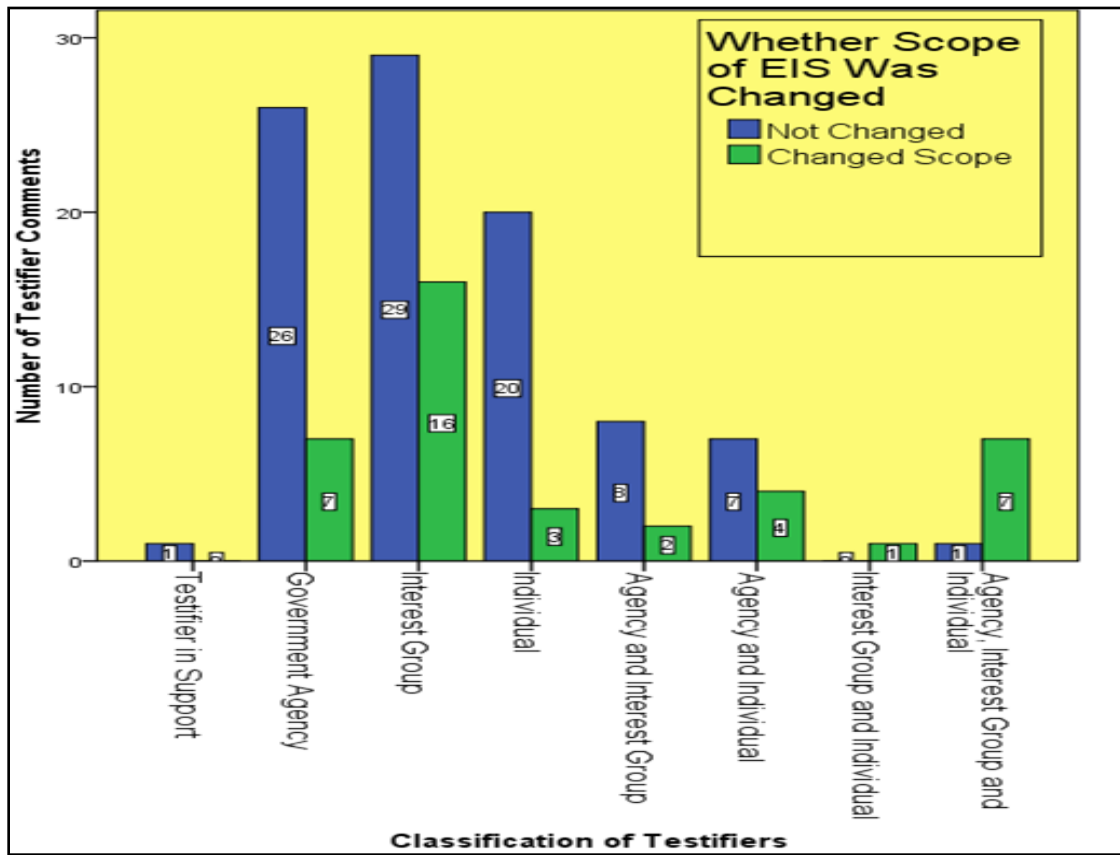
## Tables and Figures

**Table 1: Rates of Successful Comments by Testifier Type.** Cross-tabulation demonstrates some of the relationship between who submitted the comment and whether or not it resulted in

Whether Scope of EIS Changed Cross Tabulated with Type of Testifier.		Government Agency	Interest Group	Individual	Agency and Interest Group	Agency and Individual	Interest Group and Individual	Agency, Interest Group and Individual	Total
Didn't Change	Count	26	29	20	8	7	0	1	92
	% Un-Successful	78.8%	64.4%	87.0%	80.0%	63.6%	.0%	12.5%	69.7%
Changed Scope	Count	7	16	3	2	4	1	7	40
	% Successful	21.2%	35.6%	13.0%	20.0%	36.4%	100.0%	87.5%	30.3%
Total	Count	33	45	23	10	11	1	8	132

change to the EIS.

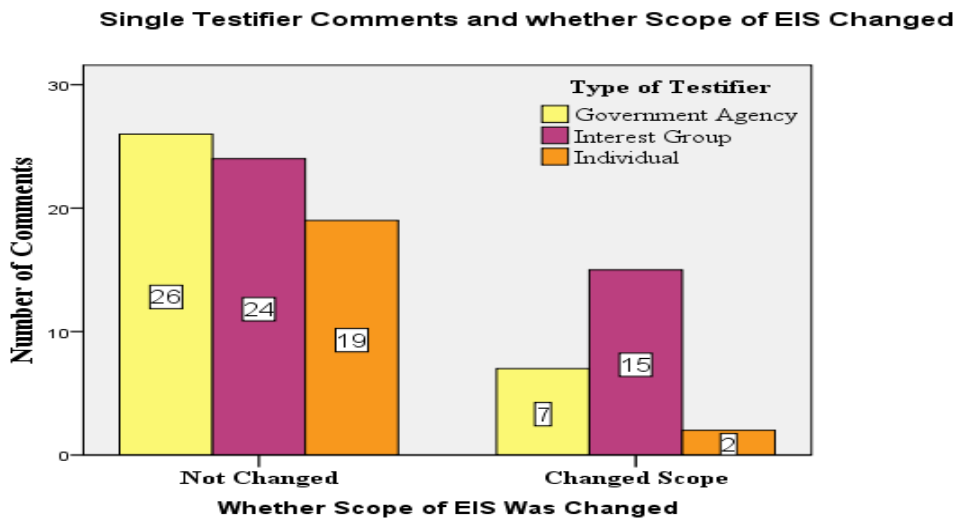
Figure 1: Bar Graph illustrating Table 1.



**Table 2: Success Rate based upon Category of Testifier and Whether or not the EIS was changed regarding Comments originating from a Single Testifier.**

Whether Scope of EIS Was Changed and Type of Single Testifier Cross- tabulation					
Whether Scope of EIS Was Changed		Type of Testifier			
		Government Agency	Interest Group	Individual	Total
Not Changed	Count	26	24	19	69
	% Un- Successful	78.8%	61.5%	90.5%	74.2%
Changed Scope	Count	7	15	2	24
	% Successful	21.2%	38.5%	9.5%	25.8%
Total	Count	33	39	21	93

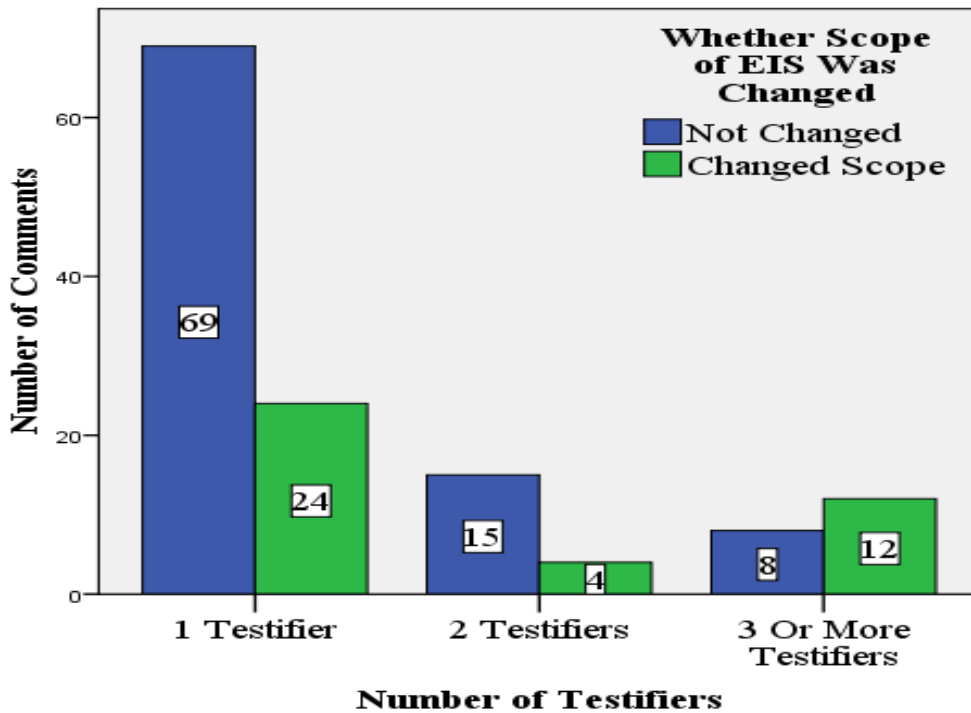
**Figure 2: Bar Graph illustrating Table 2.**



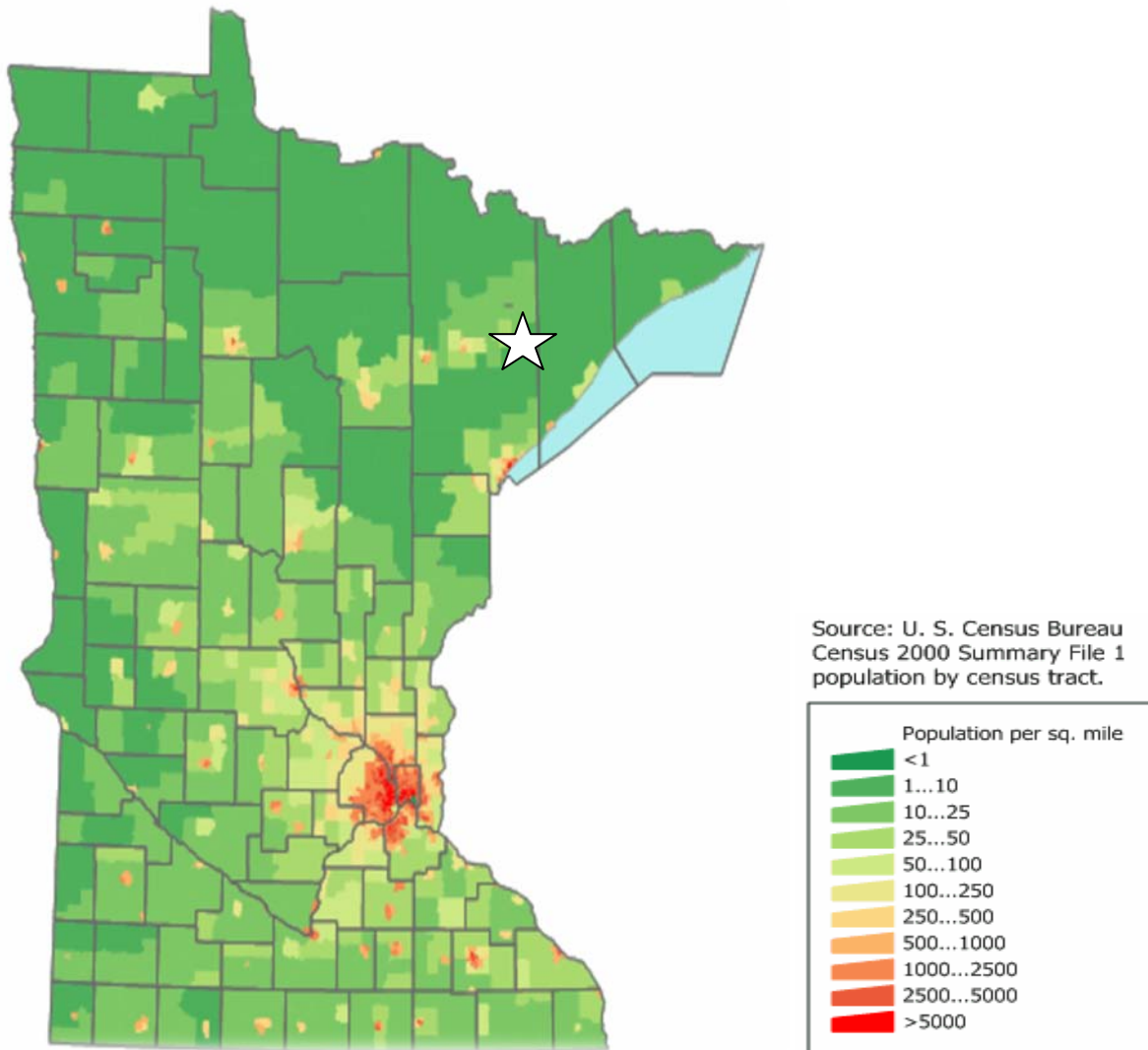
**Table 3: Rates of success Based on Number of Testifiers with Same Comment.** Cross-tabulation showing relationship between the number of testifiers attached to the same or similar comment and whether or not the comment causes change to the EIS.

Whether Scope of EIS Was Changed		Number of Testifiers			
		1 Testifier	2 Testifiers	3 Or More Testifiers	Total
Didn't Change	Count	69	15	8	92
	% Un- Successful	74.2%	78.9%	40.0%	69.7%
Changed Scope	Count	24	4	12	40
	% Successful	25.8%	21.1%	60.0%	30.3%
Total	Count	93	19	20	132

**Figure 3: Bar Graph illustrating Table 3.**



**Figure 4: Map of Minnesota with Hoyt Lakes located.**





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