

Evaluating the Effectiveness of the Environmental Review Process along the Great Lakes Shoreline: Phase III Final Report



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The statements, findings, conclusions and recommendations in this report are those of the Grantee and do not necessarily reflect the views of the MDNR and the NOAA.

Cover Photos:

Left photo: Site assessment near maintained right-of-way along Lake Huron shoreline, Presque Isle County, MI with Dave Schuen, MDOT and Mike Penskar, MNFI. Photo: Daria Hyde

Left photo inset: Houghton's goldenrod, state and federally threatened found growing in a interdunal swale along Lake Huron, Presque Isle County, MI. Photo: Daria Hyde

Right photo: Site assessment of Lake Huron coastal fen site, Presque Isle County, MI with Mike Penskar, MNFI, John Arevelo, Roxanne Merrick, and Marcy Knol, LWMD. Photo: Daria Hyde

Right photo inset: Dwarf lake iris, a state and federally threatened plant, often found growing in forest shoreline margins. Photo: Thomas Arter.

Executive Summary

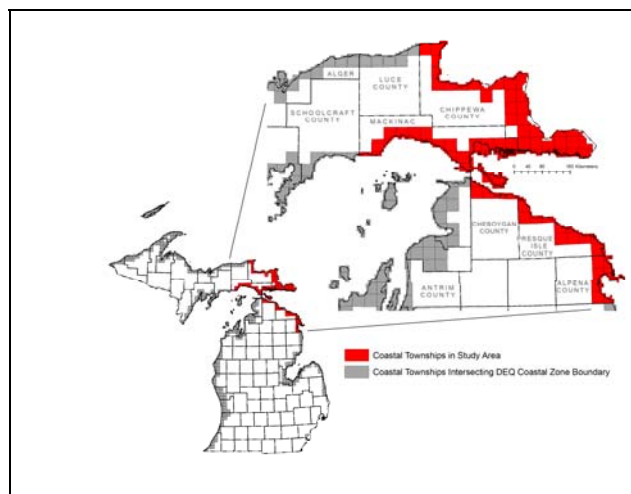
The Michigan Department of Natural Resources (DNR) is authorized to protect endangered and threatened plant and animal species Under Part 365 of the Natural Resources and Environmental Protection Act (Act 451 of 1994). The Wildlife Division maintains compliance with Part 365 through the environmental review process. The environmental review process involves evaluating the impacts of proposed projects on federal and state endangered and threatened species, special concern species, high quality natural communities and other unique natural features. Unfortunately, the ability to follow-up and monitor compliance of rare species protection efforts has not been a part of the environmental review process, and understanding the effectiveness of the DNRE in this area is a challenge. Of the 4,653 environmental review requests responded to in 2008 and 2009, 1,188 (25%) had the potential to impact rare or unique natural features. Unfortunately, it is unknown how well rare species and natural community concerns are being incorporated into LWMD permits or how well applicants are following the provisions stated in each permit. In addition, it is not common practice to follow up with land owners that do not respond to DNR “clearance needed” letters.

Because of the aforementioned issues and other identified information needs, Michigan Natural Features Inventory (MNFI) with support from the Michigan Department of Natural Resources Wildlife Division (MDNR-WLD) and the Department of Environmental Quality Land and Water Management Division (DEQ-LWMD), initiated the first year (Phase I) of a three-year project in 2008 to evaluate the effectiveness of the environmental review process. Phase I and II focused on evaluating the review process by assessing application files and conducting targeted field visits in the eastern portion of the Upper Peninsula and northeast Lower Michigan, where the potential for impacts to rare and high quality elements is known to be high. Phase III included a statewide survey of WRD staff to evaluate their opinions of the existing environmental review process, as well as an extensive national survey to ascertain the status of other state environmental review programs and provide a broader perspective.

For Phase I, all LWMD applications submitted from townships within the defined coastal zone boundary in Mackinac and Chippewa Counties in 2006 and 2007 were reviewed. The application files were evaluated internally for program and process coordination and externally at the project site to determine regulation and permit compliance. Seven DEQ LWMD files were chosen for on-site compliance visits (of which six sites were ultimately visited), based on a high likelihood of potential impacts to rare species. Despite the small number of sites surveyed, a relatively large number of rare plant occurrences (eight) were collectively observed within or in close proximity to the six project sites assessed, including several occurrences of globally rare species.

For Phase II, we significantly broadened the sample size to include LWMD applications from Alpena, Cheboygan, and Presque Isle counties submitted in 2006 - 2008 as well as 2008 applications from Chippewa and Mackinac counties. This provided an opportunity to analyze the environmental review process in a variety of different situations and settings and make further recommendations. As a result of the 2009 internal file evaluation (phase II), a total of twenty-one LWMD files were chosen for on-site compliance visits based on a high likelihood of potential impacts to rare species. Eighteen project site visits were conducted, resulting in the identification of rare plant species in 14 of the 18 (77%) project sites surveyed and assessed. In addition to the

species flagged and commented on by the DNR, previously unknown rare species and natural communities were identified at 12 of the sites visited in 2009, corroborating the high potential for encountering significant natural features within this region of the state's coastal zone.



Project Study Area

The file evaluation of the environmental review program revealed that although the process is working fairly well in flagging rare species at potential project sites in Great Lakes wetlands and screening out “no impact” projects from review, there is duplication of effort and inefficiencies that hinder the process. Improving coordination and implementing innovative technology is needed to expedite the review process. The results of the external evaluation at project sites indicated that although adequate screening and/or surveys are being conducted for rare species in the coastal zone, project compliance is not being assessed effectively and there is no system for flagging rare species that occur in upland habitats. For the most part, potential impacts to rare species from projects occurring in wetlands are being mitigated with minimal burden to applicants; however, there is insufficient coordination between WRD and WLD to ensure that projects do not proceed without both wetland permits and the required endangered species clearances. Compliance is critical for preventing cumulative impacts to listed species found along the Great Lakes coastal zone and protecting rare species in adjacent upland habitats.

Phase III of the project was concluded in 2010 by conducting a statewide internal survey for WRD staff as well as an extensive national survey to ascertain the status of other state environmental review programs and to provide a broad perspective. The information obtained from all three phases (reviewing file applications, conducting field visits, WRD staff survey, and national survey of state environmental review programs) was analyzed and used to compile a set of 24 specific recommendations for improving the environmental review process. The results from the internal and national surveys yielded particularly valuable information that can assist WLD and WRD in improving the environmental review program by reviewing innovative approaches that have been implemented in states experiencing similar financial constraints and challenges. The 24 recommendations were organized into five main categories, consisting of: 1) training 2) procedures 3) staffing 4) information resources/tools and 5) public outreach, education and community planning.

Full Set of Scored Recommendations

Recommendation	Cost	Potential Benefit: Review Process	Potential Benefit: Natural Resources	Time Frame
Training				
1- Conduct Biannual Overview of ER Process and Procedures for Staff	Low	Moderate	Low	Short-term
2- Conduct Annual Cross-Training Workshops in Different Regions	Moderate	High	Moderate	Short-term
3- Increase Collaboration/Assistance on Large Projects	Moderate	Moderate	Moderate	Short-term
4- Provide Certification Training to all DNRE staff on T&E screening	Low	Moderate	Moderate	Moderate-term
Procedures				
5- Revise the MOU (MOA) Between WLD and WRD	Low	Moderate	Low	Short-term
6- Provide Access to "Biot P" to WRD so they can do reviews for MP/GP	Low	Moderate	Low	Moderate-term
7- Provide Full Access to CIWPIS to WD and MNFI for Reviews	Low	Moderate	Low	Short-term
8- Develop Checklist of Documents Required of Applicants	Low	High	Unknown	Short-term
9- Implement Standardized DNRE Survey Reporting Form	Low	High	Unknown	Short-term
10- Advise Applicants of Potential for T&E Species and Need to Survey	Low	Low	High	Short-term
11- Educate Applicants of Value of Coastal Communities/Rare Species	Low	Low	High	Short-term
12- Develop Programmatic Agreements with Partners	Low	Moderate	Low	Moderate-term
13- Do not Issue Permit if No Response to "Clearance Needed" Letter	Low	Unknown	Moderate	Short-term
14- Include Specific Language About Potential T&E Species in Permits	Low	Low	Unknown	Short-term
15- Conduct Annual Visits to a Sample of Sites to Evaluate Compliance	Moderate	High	High	Long-term
Staffing				
16- Increase Number of Staff That Conduct Environmental Review	High	High	High	Moderate-term
Information Resources/Tools				
17- Update the ESA Web Application	Moderate	High	Low	Moderate-term
18- Improve/Update MNFI Database	High	High	High	Long-term
19- Develop/Use Common ER Database	Unknown	High	Low	Moderate-term
20- Develop Database to Track Cumulative Impacts	High	Unknown	Unknown	Long-term
21- Develop Resources to Assist WRD in the Field with Info on T&E Species	Moderate	Low	Moderate	Moderate-term
22- Create Field Guide to Assist Staff with T&E Species Identification	High	Low	Moderate	Long-term
23- Provide Overview of ER Process on Website with Links to Resources	Low	Moderate	Moderate	Moderate-term
24- Help communities use natural heritage data in planning process	High	Low	High	Long-term

The full set of recommendations were further evaluated and scored by applying cost, benefit, and time-frame criteria to identify 10 priority recommendations stratified by short-, moderate- or long-term implementation. Priority recommendations ranged from developing a checklist of documents required by project applicants to improving the accessibility and overview of the environmental review process on the DNR Web site with links to useful resources to improving the MNFI database by eliminating the data backlog to keep it updated. Although priority recommendations were highlighted, several of the other recommendations have merit for immediate attention, such as implementing a new MOU between WLD and WRD, which may now be a critical task owing to the imminent splitting of the DNR once again into two separate departments, and providing access to the “Biot P” GIS layer that would enable WRD staff to review general and minor projects and collaborate with WLD staff in order to expedite the clearance of applications determined to have no impact.

Top Ten Priority Recommendations

Recommendation	Cost	Potential Benefit: Review Process	Potential Benefit: Natural Resources
Short-term			
2- Conduct Annual Cross-Training Workshops in Different Regions	Moderate	High	Moderate
8- Develop Checklist of Documents Required of Applicants	Low	High	Unknown
9- Implement Standardized DNRE Survey Reporting Form	Low	High	Unknown
3- Increase Collaboration/Assistance on Large Projects	Moderate	Moderate	Moderate
Moderate-term			
16- Increase Number of Staff That Conduct Environmental Review	High	High	High
4- Provide Certification Training to all DNRE staff on T&E screening	Low	Moderate	Moderate
17- Update the ESA Web Application	Moderate	High	Low
23- Provide Overview of ER Process on Website with Links to Resources	Low	Moderate	Moderate
Long-term			
15- Conduct Annual Visits to a Sample Of Sites to Evaluate Compliance	Moderate	High	High
18- Improve/Update MNFI Database	High	High	High

In addition to the research conducted through this three year project, there are two reports that provide additional perspectives on redesigning environmental regulatory programs. A key recommendation from the DEQ Environmental Advisory Council’s draft report on its evaluation of environmental permitting programs was that these programs would be more effective if they focused on agreed upon outcomes rather than perpetually reacting to individual, isolated human activities. Identifying a set of clear outcomes for Michigan’s environmental review process might provide the paradigm shift needed to build a stronger, more sustainable program that evaluates the effectiveness of the environmental review process in a more meaningful way over

time. In addition, a careful review of the white paper (Wilkinson et al. 2009), developed by the Environmental Law Institute and The Nature Conservancy which addresses the need and means to develop a more pro-active approach to mitigation, may provide important guidance to the WLD and WRD for improving Michigan's existing environmental review process.

We believe that careful consideration of the full set of recommendations included in this report as well as the additional resources mentioned above, and implementation of priority recommendations, will assist the department in its mission to protect natural resources while maintaining compliance with environmental regulations and facilitating an efficient environmental review process for Michigan's citizens.

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Introduction

In 2008, Michigan Natural Features Inventory (MNFI) initiated the first year of a three-year project to evaluate the effectiveness of the environmental review process conducted by the Michigan Department of Natural Resources (DNR). The 2008 results were subsequently compiled and presented in the report submitted by Olson et al. (2009), which focused on Land and Water Management Division (LWMD) applications for Chippewa and Mackinac counties. Although a relatively small pool of sites (seven) ultimately qualified for review, field inspections were subsequently conducted on six sites to determine any impacts to rare plant species and permit compliance. Despite the limited number of sites available for field reviews, a total of eight rare plant occurrences were documented within or in close proximity to project sites, of which six occurrences (two each from three sites) were previously unknown. In addition to conducting field reviews, the first-year report details the procedures used for methodically evaluating the LWMD application files, selecting project sites, and conducting project site assessments. Insights gained from analyzing the process as well as the site assessments were synthesized into a list of recommendations that could improve the effectiveness and efficiency of the environmental review process.

Using the same methodologies in 2009, we focused on a much larger set of sites based on LWMD applications from Alpena, Cheboygan, and Presque Isle counties. This greatly increased the sample size for site visits and provided an opportunity to analyze the environmental review process in a variety of different situations and settings. These results are summarized and presented in a report submitted by Hyde et al. (2010).

In the final year of this project we turned our attention to surveying LWMD staff to gather their input on the current environmental review program and gain a better understanding of what they believe is working well and what needs improvement. We provided ample opportunity for staff to provide constructive feedback on how the process can be improved. A summary of this effort is presented in this report.

In addition to the internal survey, we conducted a national survey of state environmental review programs so that we could gain a broad perspective on how programs in different states address the protection of rare species and natural communities. We specifically asked these programs whether their state was implementing innovative approaches aimed at improving the environmental review process so that Michigan could consider various options for increasing the efficacy of its program. This information is highlighted in the second part of this report.

Project Purpose

The DNR, Wildlife Division (WLD), is authorized to protect endangered and threatened plant and animal species Under Part 365 of the Natural Resources and Environmental Protection Act (Act 451 of 1994). The WLD maintains compliance with Part 365 through the environmental review process. This process involves evaluating the impacts of proposed projects on federal and state threatened and endangered species, special concern species, high quality natural communities, and other unique natural features. Projects are evaluated on public and private land statewide. The process of evaluating projects has progressed from providing brief comments via Post-it® notes, memos, and e-mails, to formal project clearance letters, and an on-line web application where the public can have their project evaluated for rare species in minutes.

The former LWMD, now the Water Resources Division (WRD), is responsible for resources along the land and water interface. They have statutory authority over wetlands, inland lakes and streams, floodplains, submerged lands, and critical dune areas on public and private land. Under a cooperative agreement with the WLD, WRD screens their permit applications using the Michigan Natural Features Inventory (MNFI) database. Applicants are not allowed to violate any state environmental regulations. Project activities occurring near known occurrences of rare species or high quality natural communities are sent to the WLD for review and they become involved if or when rare species may be impacted by land altering activities. The current environmental review process can be summarized in 6 steps:

- 1) **Receive** request with proposed project description and location information provided.
- 2) **Compare** project location with the MNFI database of rare and unique natural features.
- 3) **Determine** the potential for rare and unique natural features to occur be impacted by land altering activities. This may involve consulting MNFI biologists and/or outside experts.
- 4) **Respond** to the applicant, consultants, or other agencies involved. The response will either be no element occurrences nearby and no impacts expected or potential impacts may occur and restrictions are provided or a “clearance needed” letter is sent.
- 5) **Provide** formal project clearance if suitable information is received and direct impacts can be avoided.
- 6) **Identify** additional project clearance requirements and/or provide an application for an Endangered Species Permit if direct impacts can not be avoided.

Statement of Problem

Unfortunately, the ability to follow-up and monitor compliance of rare species protection has not been a part of the environmental review process, and understanding the effectiveness of the DNR in this area is a challenge. For example, of the 2,431 environmental review requests responded to in **2008, 23%** (549) had the potential to impact rare or unique natural features. In **2009, 24%** (539) of the 2,222 environmental review requests had the potential to impact rare or unique natural features. It is not clear how concerns regarding rare species and natural community are being incorporated into the WRD permits, and how well applicants are following the provisions stated in each permit. In addition, land owners that do not respond to DNRE potential impact “clearance needed” letters are not pursued and the resulting impact of these projects on rare species is unknown. In order to improve the effectiveness and efficiency of rare species protection efforts, this project was initiated at the request of the WLD to evaluate the DNRE WLD and WRD environmental review process along the Great Lakes shoreline.

Part 1: Internal Survey of Michigan DNRE Water Resources Division Staff

Internal Survey: Methods

Development, Review and Distribution of Internal Survey

On April 22, 2010, staff from MNFI (Daria Hyde, John Paskus and Mike Penskar) and WLD (Jennifer Olson and Lori Sargent) met to discuss the goals and objectives of this project and to begin to develop an internal survey for WRD staff as well as a nationwide survey for environmental review programs. The purpose of the internal survey was to obtain feedback from staff on what is currently working well and what is not working well, and to obtain constructive suggestions to improve the environmental review process. The goal of the national survey was to gain a broad perspective on the operation of environmental programs in other states and learn how different states are addressing the protection of rare species and natural communities. In addition we wanted to identify innovative approaches that states have implemented to help them increase the effectiveness and efficiency of their programs. During this meeting it was decided to use an anonymous on-line survey format through “Survey Monkey” to distribute and collect responses.

MNFI staff wrote and developed a list of draft survey questions for the internal survey. This list was distributed to Todd Losee, WRD, and Alisa Gonzales-Pennington, Coastal Management Program, to obtain their input and feedback. Daria Hyde met with Todd Losee, on July 22, 2010 to review, edit, and improve the wording of the questions so that they were focused and clear. Edits were incorporated and provided to Lori Sargent and Jennifer Olson for review. Their feedback was used to make further edits to the survey, which was then sent for final review by Todd Losee and Alisa Gonzales-Pennington.

An introductory letter to former LWMD staff was written by MNFI staff and revised by Todd Losee and Michael Masterson, the field supervisor of the Lakes Michigan and Superior Field Operations Section. An email communication including this letter and a link to the on-line survey was sent out by Michael Masterson, on August 2nd to WRD staff. A copy of this communication can be found in Appendix I. Staff were asked to complete the survey by August 16th, and all survey responses were submitted within one week of the deadline. A copy of the complete survey is provided in Appendix II

Summary and Analysis of Survey Results

Survey responses were sorted and analyzed by the software program in “Survey Monkey” (SurveyMonkey.com. 2010). A response count and a response percent was provided for each possible answer. Graphs were included in the results section for those questions that required a response on a rating scale; the rating average and graph of the range of responses is provided. Qualitative comments were grouped by theme and summarized to capture the content in the most concise manner. A full list of the original comments is provided in Appendix III. The survey responses provided by WRD staff were discussed by MNFI and WLD staff familiar with the environmental review process and recommendations were crafted for consideration by DNRE managers responsible for implementing the review process for the protection of rare species and natural resources.

Internal Survey: Results

Forty out of a possible 50, or 80% of WRD staff responded to the internal survey. Responses for each of the questions in 7 different categories are summarized and graphs are provided to present the results of more complex questions. These categories include: Compliance in Regulated Habitats, Compliance in Non-Regulated Habitats, Communication, Procedures, Potential for Cumulative Impacts, Training and Additional Comments. The full set of survey responses are provided in Appendix II.

Compliance: Regulated Habitats

Overall, respondents reported that compliance for individual permits/public notices in regulated habitats is very good and the review process is working well. Nearly one-fifth of respondents were aware of permits/public notices that should have gone through review process but did not. Four of the 7 people that responded indicated that this happened rarely in the past 5 years, 2 respondents commented it happened occasionally, and 1 person thought it happened frequently.

Question # 1

For projects that received a LWMD permit, are you aware of any individual permits/public notices that should have gone through a CIWPIS review for T&E species but did not?		
Answer Options	Response Percent	Response Count
Yes	17.5%	7
No	82.5%	33
If yes, how often has this happened in the past 5 years? Rarely (<5 projects), Occasionally (5-10 projects) and Frequently (>10 projects)		7
	<i>answered question</i>	40
	<i>skipped question</i>	0

Compliance: Regulated Habitats

Over two-thirds of survey respondents reported that compliance for minor projects/general permits is good. This is not as high as the response for individual permits/public notices. Nearly one-third of respondents were aware of minor projects/general permits that should have gone through a CIWPIS review but did not. Of the 13 people who provided follow up responses, 8 felt this occurred rarely in the past 5 years, 3 mentioned it happened occasionally and 2 thought it occurred frequently.

Question # 2

For projects that received a LWMD permit, are you aware of any minor projects/general permits that should have gone through a CIWPIS review for T&E species but did not?		
Answer Options	Response Percent	Response Count
Yes	30.0%	12
No	70.0%	28
If yes, how often has this happened in the past 5 years? Rarely (<5 projects), Occasionally (5-10 projects) and Frequently (>10 projects).		13
	<i>answered question</i>	40
	<i>skipped question</i>	0

Compliance: Regulated Habitats

Nearly two-thirds of respondents were not aware of projects that received clearance that negatively impacted T&E species. Close to one-third of respondents were unsure whether T&E species were impacted by permit activities that received a “no impact” clearance. This likely reflects the inability of staff to conduct follow up site visits to determine whether impacts are occurring in these situations. Only 5% of those who responded to the survey were aware of situations where known impacts occurred.

Question # 3

For LWMD permits that received a T&E clearance of “No Impact”, are you aware of projects where a T & E species was negatively impacted by project activities?

Answer Options	Response Percent	Response Count
Yes	5.0%	2
No	62.5%	25
Unsure	32.5%	13
<i>answered question</i>		40
<i>skipped question</i>		0

Compliance: Regulated Habitats

Question # 4

If you answered yes to Question #3, how often has this happened?

The two people that were aware of projects that negatively impacted rare species responded that this occurred either rarely or occasionally.

Compliance: Regulated Habitats

Question # 5

If you answered yes to Question #3, how many projects resulting in negative impacts occurred in each category below?

There were no responses to this question which asked for the number of projects that negatively impacted rare species that were either reviewed or not reviewed by the Wildlife Division.

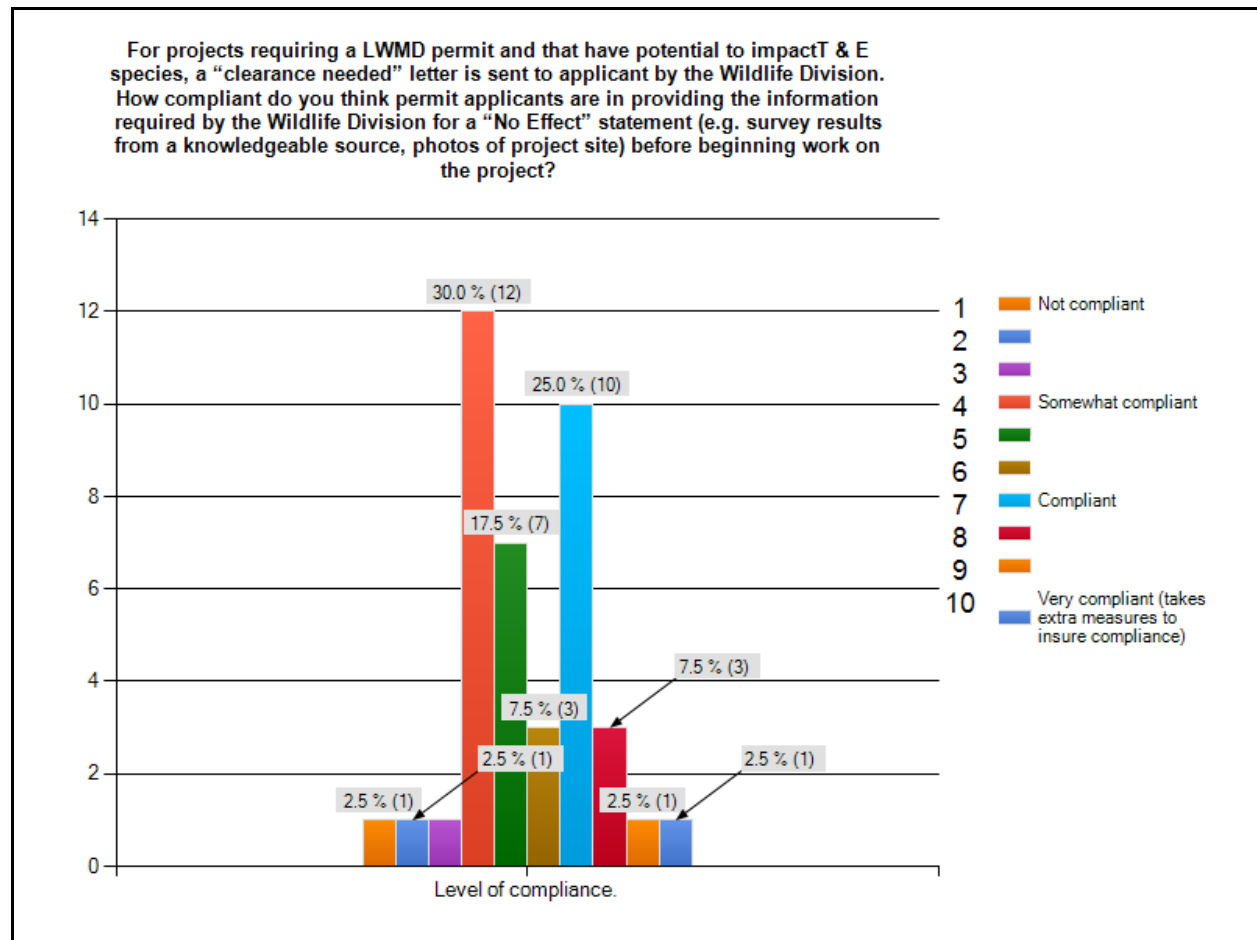
Compliance: Regulated Habitats

The average rating that respondents provided for the level of compliance by permit applicants in providing information required by the Wildlife Division for a “no effect” statement is 5.5, just slightly better than the rank of “somewhat compliant”.

Question # 6

For projects requiring a LWMD permit and that have potential to impact T & E species, a “clearance needed” letter is sent to applicant by the Wildlife Division. How compliant do you think permit applicants are in providing the information required by the Wildlife Division for a “No Effect” statement (e.g. survey results from a knowledgeable source, photos of project site) before beginning work on the project?

Answer Options	Not compliant		Somewhat compliant		Compliant		Very compliant (takes extra measures to insure compliance)		Rating Average	Response Count		
Level of compliance.	1	1	1	12	7	3	10	3	1	1	5.50	40
											<i>answered question</i>	40
											<i>skipped question</i>	0



Compliance: Non-regulated Habitats

Nearly one-third of respondents were aware of activities taking place outside of WRD (former LWMD) jurisdictions that have impacted rare species and natural communities.

Question # 1

Are you aware of projects that have taken place outside of LWMD jurisdiction that have impacted rare species or natural communities?		
Answer Options	Response Percent	Response Count
Yes	30.0%	12
No (skip to next section)	70.0%	28
<i>answered question</i>		40
<i>skipped question</i>		0

Compliance: Non-regulated Habitats

The most frequently cited (non-wetland) natural communities in which these impacts were thought to occur include: forested, other habitats (Great Lakes shorelines, dunes) and grasslands.

Question # 2

If yes, in which types of non-wetlands habitats did these projects occur? Please check all that apply.		
Answer Options	Response Percent	Response Count
a) Forested	57.1%	8
b) Grassland	28.6%	4
c) Prairie	21.4%	3
d) Savanna	7.1%	1
e) Other (please specify)	42.9%	6
<i>answered question</i>		14
<i>skipped question</i>		26

Compliance: Non-regulated Habitats

Three-quarters of respondents felt that plants have the potential to be impacted by projects occurring in non-regulated habitats. In addition, over one-third of those that responded felt that birds and reptiles could be impacted in these habitats while one-quarter of respondents noted that insects were vulnerable to impacts in non-regulated habitats.

Question #3

If yes, what flora or fauna were potentially impacted? Please check all that apply.		
Answer Options	Response Percent	Response Count
a) Plants	75.0%	9
b) Birds	41.7%	5
c) Amphibians	16.7%	2
d) Reptiles	33.3%	4
d) Insects	25.0%	3
e) Mammals	8.3%	1
	<i>answered question</i>	12
	<i>skipped question</i>	28

Compliance: Non-regulated Habitats

One-half of respondents thought these impacts occurred only rarely (<5 projects), one-third thought they occurred occasionally (5-10 projects), and 17% thought they occurred, frequently (>10 projects).

Question #4

If yes how often has this happened in the past 5 yrs?		
Answer Options	Response Percent	Response Count
a) Rarely (<5 projects)	50.0%	6
b) Occasionally (5-10 projects)	33.3%	4
c) Frequently (>10 projects)	16.7%	2
	<i>answered question</i>	12
	<i>skipped question</i>	28

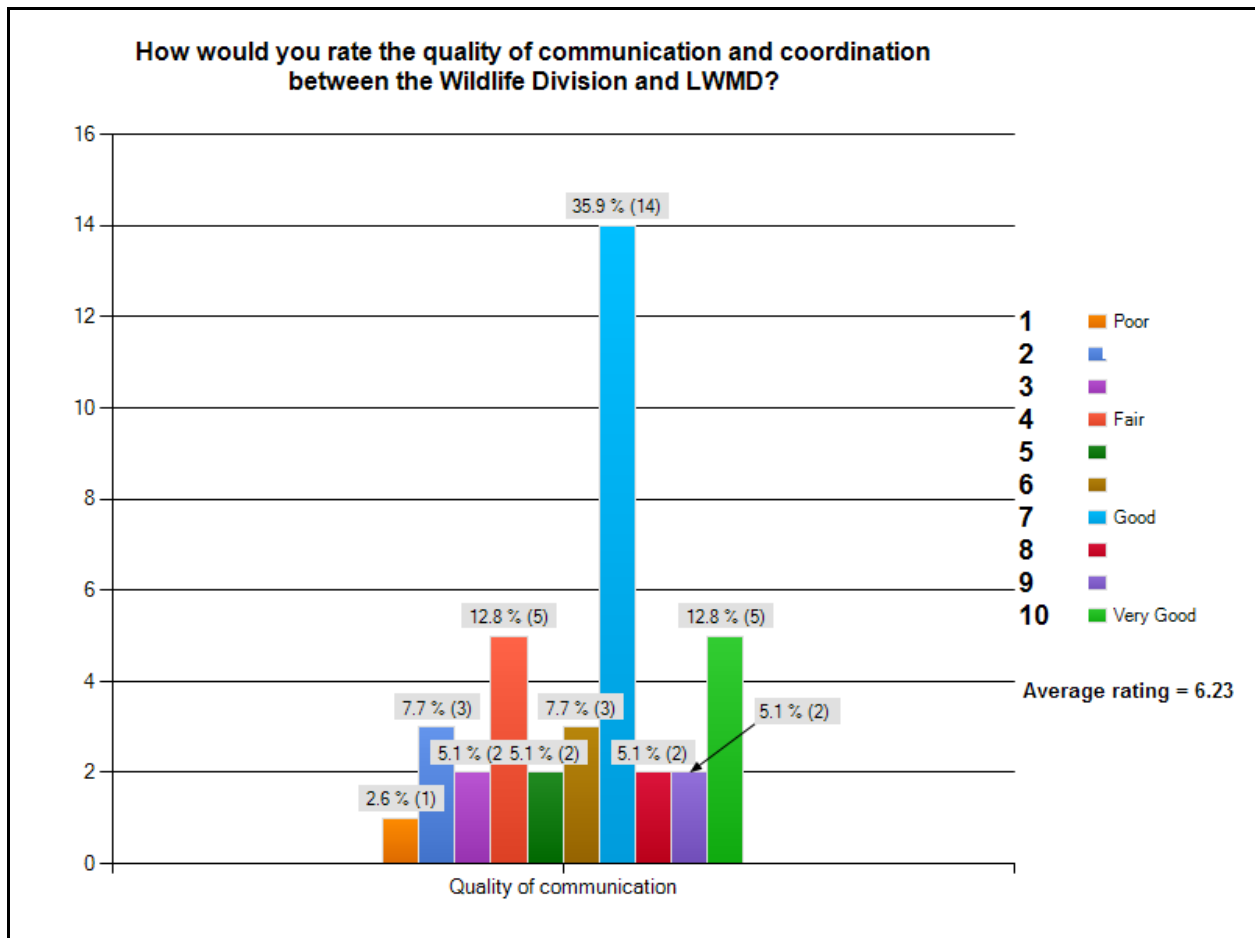
Communication:

The quality of communication and coordination between the WLD and WRD (former LWMD) was ranked 6.23 (just below the rank for “good” (rating of 7)). Respondents are stating that although the quality of communication could be improved it is adequate.

Question #1

How would you rate the quality of communication and coordination between the Wildlife Division and LWMD?

Answer Options	Poor		Fair		Good		Very Good		Rating Average	Response Count		
Quality of communication	1	3	2	5	2	3	14	2	2	5	6.23	39
<i>answered question</i>											39	
<i>skipped question</i>											1	



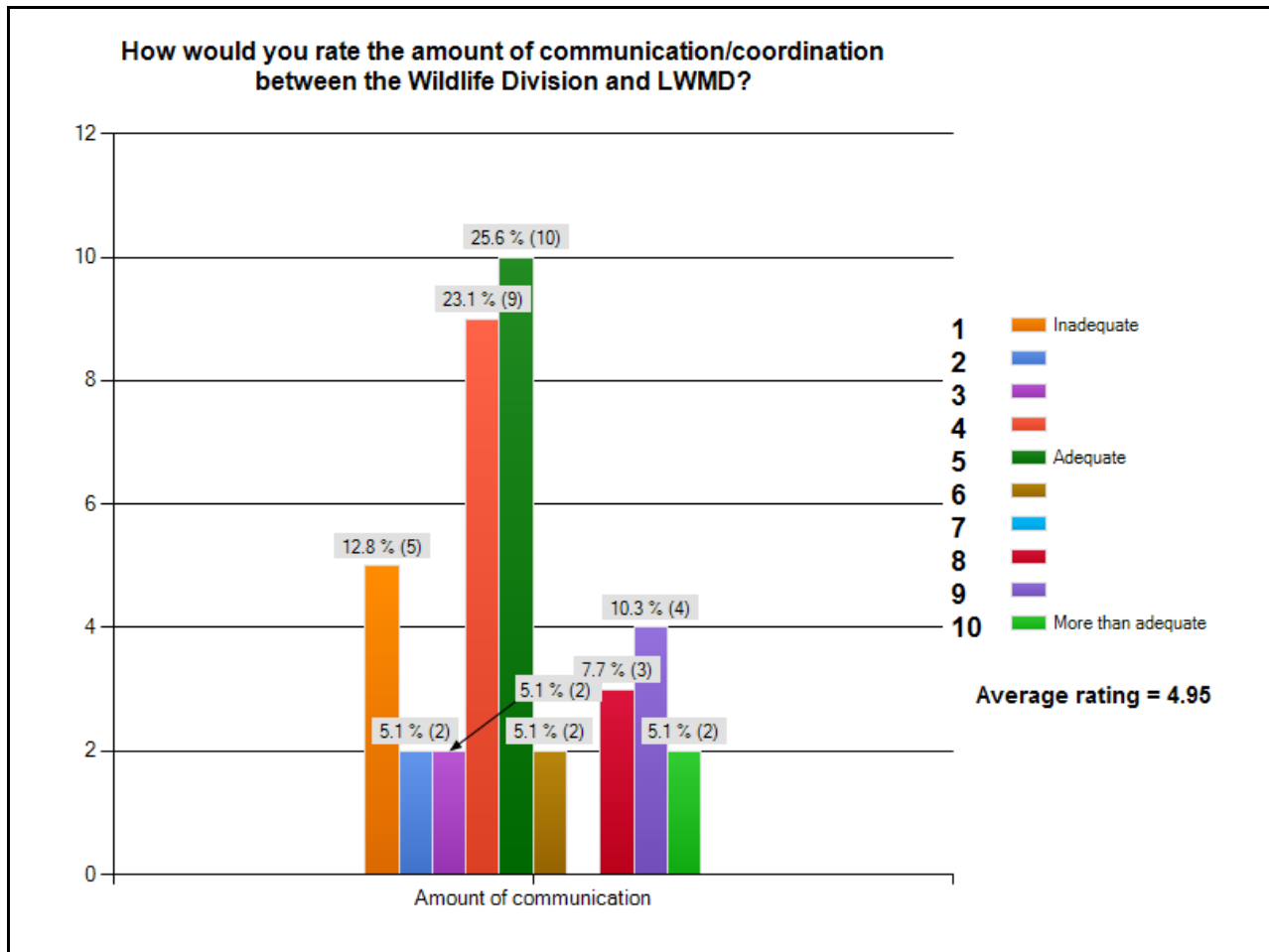
Communication:

The average rating of the quantity of communication and coordination between the WLD and WRD (former LWMD) was 4.95, just above the rank for “fair” (rating of 4). Respondents are stating that the amount of communication and coordination is not adequate.

Question #2

How would you rate the amount of communication/coordination between the Wildlife Division and LWMD?

Answer Options	Inadequate		Adequate				More than adequate		Rating Average	Response Count		
Amount of communication	5	2	2	9	10	2	0	3	4	2	4.95	39
<i>answered question</i>											39	
<i>skipped question</i>											1	



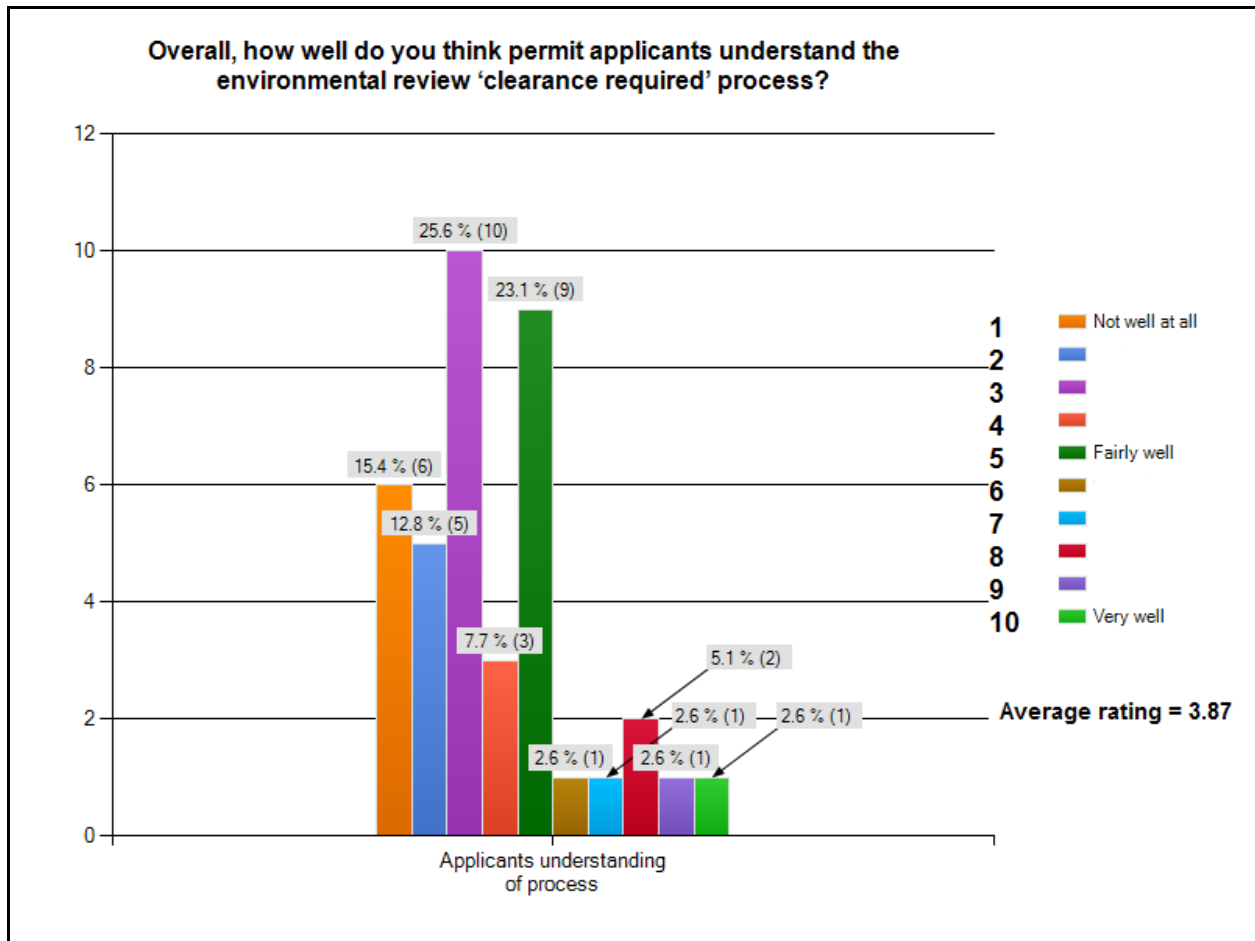
Communication:

Survey respondents do not feel that permit applicants understand the environmental review process very well. The average rating on a scale of 1 (not well at all) to 10 (very well) of how well permit applicants understand the environmental review ‘clearance required’ process was 3.87 (between “not well at all (1) and ‘fairly well (5). This is an area that respondents identified as needing improvement.

Question # 3

Overall, how well do you think permit applicants understand the environmental review ‘clearance required’ process?

Answer Options	Not well at all		Fairly well		Very well		Rating Average	Response Count				
Applicants understanding of process	6	5	10	3	9	1	1	2	1	1	3.87	39
<i>answered question</i>											39	
<i>skipped question</i>											1	



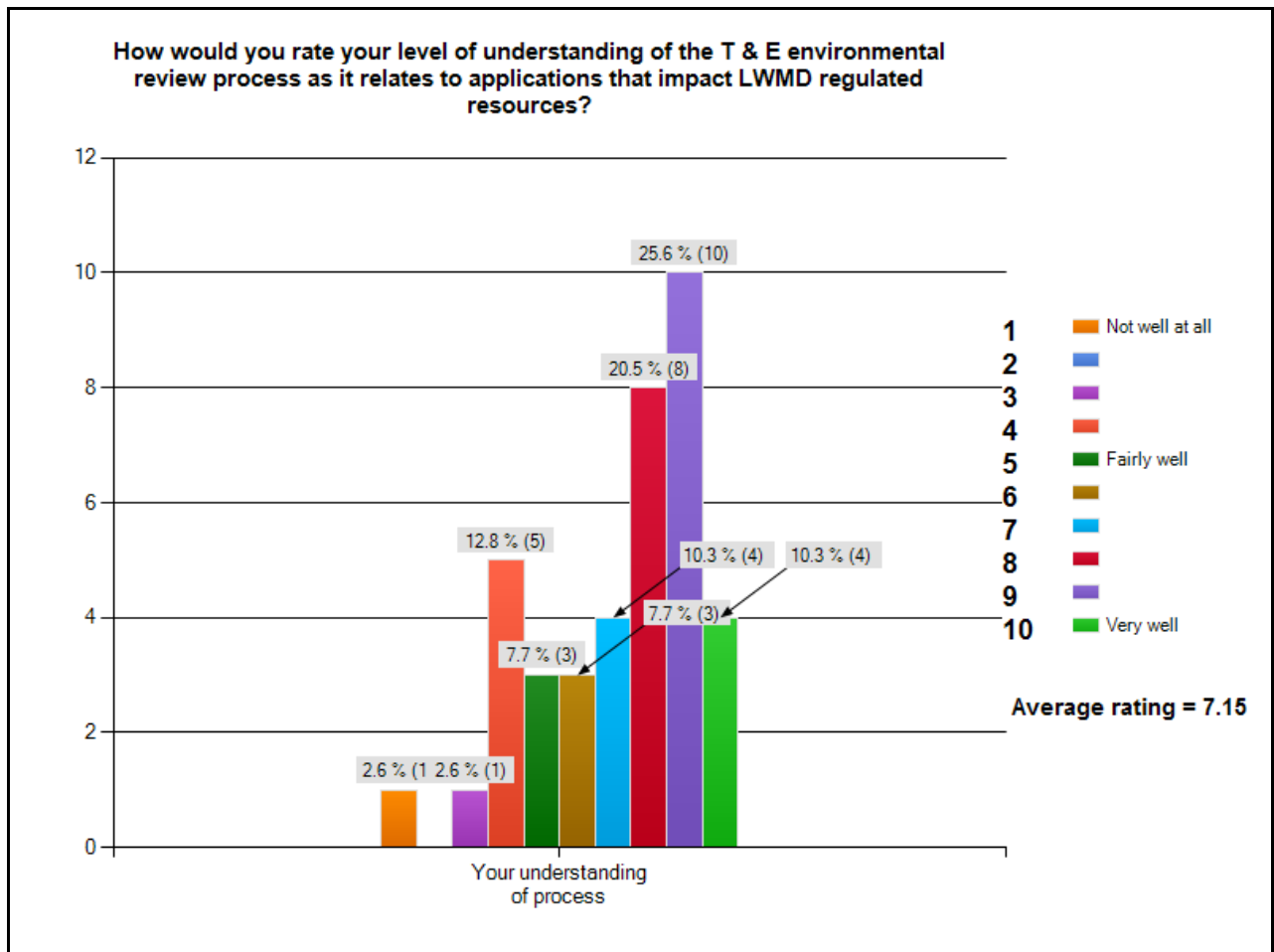
Communication:

Survey respondents believe that their understanding of the environmental review process is pretty good. The average rating on a scale of 1 (not well at all) to 10 (very well) of how well the respondent understands the T&E environmental review process as it relates to applications that impact regulated resources was 7.15 (between fairly well (5) and Very well (10)).

Question #4

How would you rate your level of understanding of the T & E environmental review process as it relates to applications that impact LWMD regulated resources?

Answer Options	Not well at all		Fairly well				Very well		Rating Average	Response Count		
Your understanding of process	1	0	1	5	3	3	4	8	10	4	7.15	39
<i>answered question</i>											39	
<i>skipped question</i>											1	



Communication:

Question #5

What specific improvements would you suggest to improve the communication and coordination between Wildlife Division and LWMD?

Twenty-one respondents out of forty took the time to provide comments and suggestions regarding the communication and coordination between the Wildlife Division and the Water Resource Division. The complete list of comments is provided in Appendix III. Specific recurring themes emerged including:

- Coordination and Procedures
- Consistency and Timeliness of Reviews
- Quality and Quantity of Communication between Divisions/Bureaus
- Staff Resources and Training
- Database Issues

Coordination and Procedures (13 comments)

The responses provided on this topic reflect some confusion and frustration regarding current procedures and lack of coordination, as well as some concrete suggestions to improve the process. Examples provided include not knowing about “clearance letters” issued to applicants, occasionally having applications disappear, uncertainty of whether to refer clients to WLD or MNFI staff once a determination has been made, and frustration towards a perceived “hands off” attitude from Wildlife biologists in the districts when more input is desired. Finally one person noted the importance of considering cumulative impacts from projects. Suggestions to address these issues include; informing clients on the application form that a permit may be held for review if there is a T&E species on site, providing instructions on the clearance letter that tell the applicant to include this letter with their permit application, establishing a procedure, similar to what is currently done with Fisheries staff, to provide Wildlife staff with copies of permit applications where WRD staff would like to receive their comments, and more commitment from Wildlife staff to visit sites with WRD staff to discuss the issues and consider alternatives to reduce or eliminate impacts to natural resources.

Four individuals commented that they believe that those who review permit applications should be authorized to do reviews for T&E species for at least for simple reviews, i.e. the review of minor and general permit applications. The comments suggest that some WRD staff feel that they should be able to make the determination regarding the potential for impacts to these species and decide whether the permit can be issued or whether a more detailed review is needed from MNFI. In addition, one person felt that there should be accountability to insure that staff are not ignoring T&E concerns when issuing permits.

Consistency and Timeliness of Reviews (13 comments)

Many individuals commented on the need for receiving comments from the WLD in a timely manner, especially the initial review, since waiting on comments regarding the potential for T&E impacts that could require clearance is sometimes the only thing holding up a permit decision. The need for consistency in reviews for potential impact to T&E species and the need for a consistent specified review period was also a recurring theme. There was a concern that Wildlife staff was difficult to reach at times and not always able to respond in a timely manner. Finally

one respondent expressed frustration and confusion about situations when there is a “hit” for a rare species in a location that did not have a record for a rare species in previous years.

Quality and Quantity of Communication between Divisions/Bureaus (8 comments)

Eight respondents provided comments which reflect a desire for increased “quality” communication between WLD and the WRD. Some individuals believe that more involvement from Wildlife District staff would be beneficial; others would like to see WLD staff make more of an effort to increase communication and help alleviate the confusion that results when the lines of communication get crossed. One person responded that more face to face discussions such as cross training would improve their confidence in working with Wildlife staff and help them learn more about Natural Heritage’s focus on T&E species and improve their ability to do their job well. Suggestions to improve communication ranged from simple reminders and emails from WLD staff to WRD staff (i.e. species of concern, especially in the spring and fall) to meetings between district field staff and Wildlife staff to review coordination and responsibilities.

Staff Resources and Training (5 comments)

The need for increased training, especially for new staff was expressed. One suggestion was that training be provided in each district to learn the specific T& E species that staff may encounter. Another person suggested that a two-hour cross training might be sufficient and recommended that each division should be provided with a checklist (and contact information) of what the other division does in a review as a take home mention. Finally one individual asked that training be provided so that staff can conduct T& E review of most files and another commented that more staff are needed to review/comment on permit applications.

Database Issues (2 comments)

Two individuals commented that they feel that the MNFI database is very old and would like to see it updated on a regular basis.

Procedures:

Just over half of the respondents wanted more input from WLD or Natural Heritage Program staff when reviewing the potential for impacts to T&E species while 47% did not want more input. Twenty-four individuals provided follow-up responses as to why they felt this way.

Question #1

Would you like more input from Wildlife Division field staff or natural heritage program staff in reviewing the potential for impacts to T & E species on permit applications?		
Answer Options	Response Percent	Response Count
Yes	52.6%	20
No	47.4%	18
Why?		24
	<i>answered question</i>	38
	<i>skipped question</i>	2

Would like more input (13 comments)

Most people who noted that they would like more input expressed a desire to learn from staff with expertise in the area of rare species. Many individuals articulated that they wanted to insure that they had the appropriate information on which to base and back up their permitting decisions, especially when denying a permit and in the contested case process. Several people noted that they want to learn from those with more experience in identifying potential suitable, to assess cumulative impacts in areas they are familiar with, to gain tips on what to look for during site inspections and to increase their understanding of the process, especially in learning how a determination of “no impact” is made. One person felt that more input could improve the timeliness of the permitting process.

Do Not Want More Input (9 comments)

Most respondents who answered “no” felt that current levels of input were adequate and provided enough information so that they could conduct their review and understand potential impacts to T&E species. A couple of people noted that T&E species review interferes with the efficiency of the review process. They felt that it takes too long, is not always relevant, and conditions may not be enforceable by WRD permits. One individual expressed the desire to let WRD staff conduct reviews for minor projects in order to speed up processing. Finally, one respondent noted that if more on-site inspections were required then, more interaction would be necessary.

Procedures:

Nearly two-thirds of respondents felt that WLD or natural heritage program staff should have more interaction with permit applicants while 37% did not feel that this interaction was needed. Comments were provided by 26 people regarding why they felt this way.

Question #2

Do you think that the Wildlife Division field staff or natural heritage program staff should have more interaction with permit applicants and/or consultants?		
Answer Options	Response Percent	Response Count
Yes	63.2%	24
No	36.8%	14
Why?		26
	<i>answered question</i>	38
	<i>skipped question</i>	2

More Interaction Needed to Improve Applicants Understanding (15 comments)

Although several individuals were unclear about the current level of involvement of the WLD with applicants, most felt that WLD or natural heritage program staff were better equipped to help educate applicants and consultants about the importance of rare species, why surveys are required and how this usually results in longer review times. Several people expressed that WLD and Natural Heritage staff are more knowledgeable about the program and reasons for requiring clearance for a specific project and can often convey the message more clearly and accurately than WRD staff. Some expressed that Wildlife staff could better assist community development planners with bringing wildlife habitat/corridors into consideration early on in the planning process and help developers plan their projects better. Some thought that this input could help educate the regulated community and improve compliance and better protection of resources.

Do not think more interaction is needed (7 comments)

Many individuals felt that the current level of interaction and written correspondence with applicants was adequate, especially given the current workload. Some felt that it is more appropriate and efficient for the WRD staff to perform as the liaison with the applicants.

Procedures:

Close to **60%** of respondents felt that the statutory requirements resulted in inadequate review of the potential for T&E species and caused some negative impacts, **8%** felt that this resulted in great negative impacts while **34%** of respondents believed there were no negative impacts resulting from the statutory requirements.

Question #3

Do you think that the statutory requirements associated with the environmental review process (avg. ~30 days to respond and < 90 days to issue permit) has resulted in inadequate review of the potential for T&E species/habitat and caused negative impacts to T&E species?		
Answer Options	Response Percent	Response Count
No negative impacts	34.2%	13
Some negative impacts	57.9%	22
Great negative impacts	7.9%	3
Please explain.		16
	<i>answered question</i>	38
	<i>skipped question</i>	2

Statutory requirements can result in inadequate review and negative impacts (13 comments)

Many commented that a thorough review is sometimes not possible in such a short time frame and that there is too much of a rush to meet deadlines from the public and management, resulting in an improper review for T&E species, the fragmentation of habitat and occasionally the issuing of permits prior to completion of T&E review. Some brought up the fact that current deadlines restrict the time of year for a survey to be conducted, which is problematic in the winter. The inability to track compliance when an applicant is instructed to obtain a letter of “no impact” was also mentioned as a concern. One person suggested that one way to address this issue would be to require that the T&E sign off for projects be completed prior to the application being submitted to the WRD.

Review usually adequate and no negative impacts due to statutory requirements (3 comments)

One person expressed that the counties that they work in support relatively few T&E species/habitats. Another commented that since minor permits/general permits can typically be issued in a few weeks, postponing the permit while waiting for comments from the WLD could create more compliance issues. One individual suggested that if time is running out that Wildlife Staff could issue permit with a condition that work cannot proceed until a "no effect" statement is obtained.

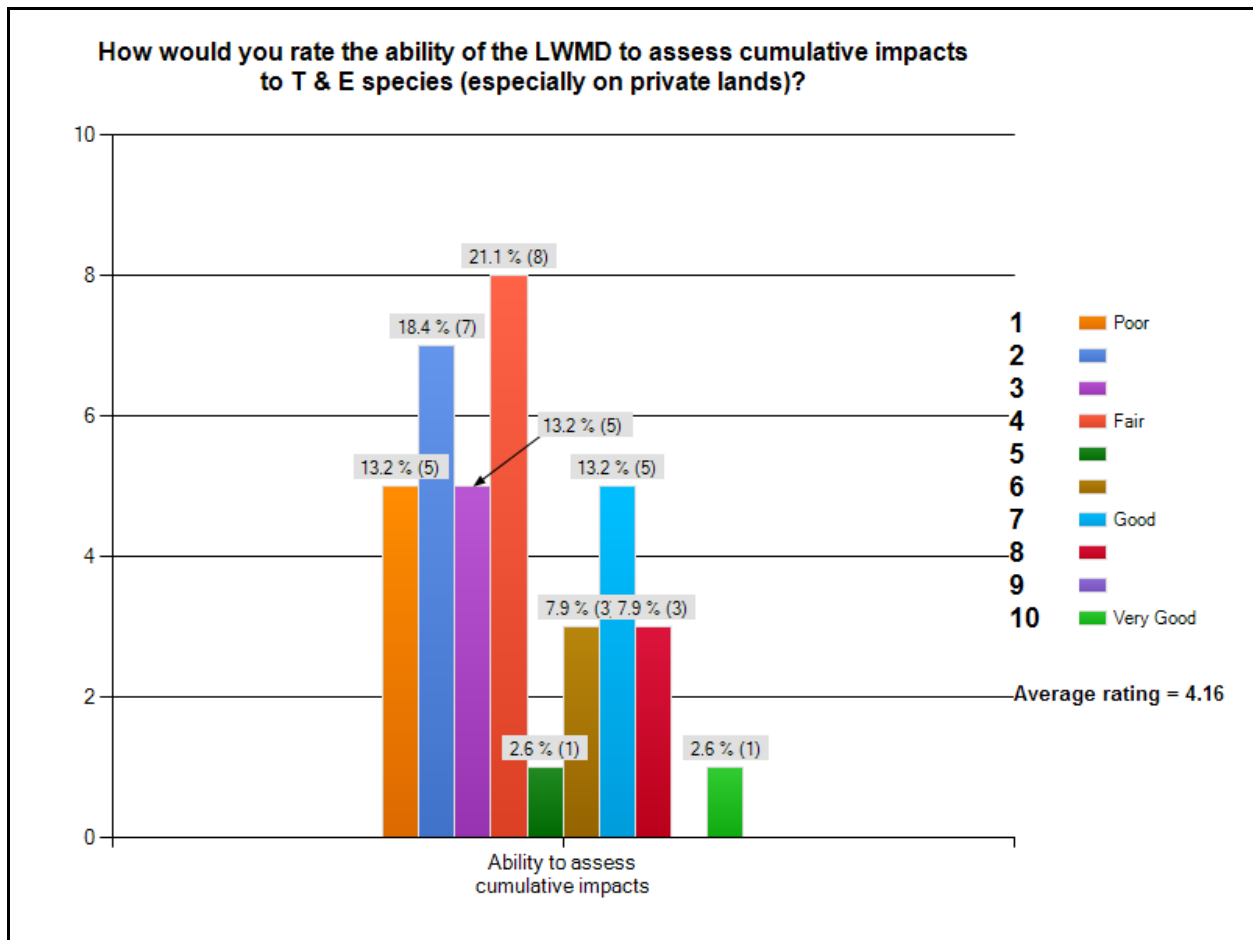
Potential for Cumulative Impacts

Overall survey respondents do not believe that the WRD (former LWMD) has the ability to assess cumulative impacts to T&E species. The average rating on a scale of 1 (poor) to 10 (Very good) of the WRD's ability in this area was 4.16 (Fair).

Question #1

How would you rate the LWMD's ability to assess cumulative impacts to T & E species (especially on private lands)?

Answer Options	Poor		Fair			Good			Very Good	Rating Average	Response Count	
Ability to assess cumulative impacts	5	7	5	8	1	3	5	3	0	1	4.16	38
<i>answered question</i>											38	
<i>skipped question</i>											2	



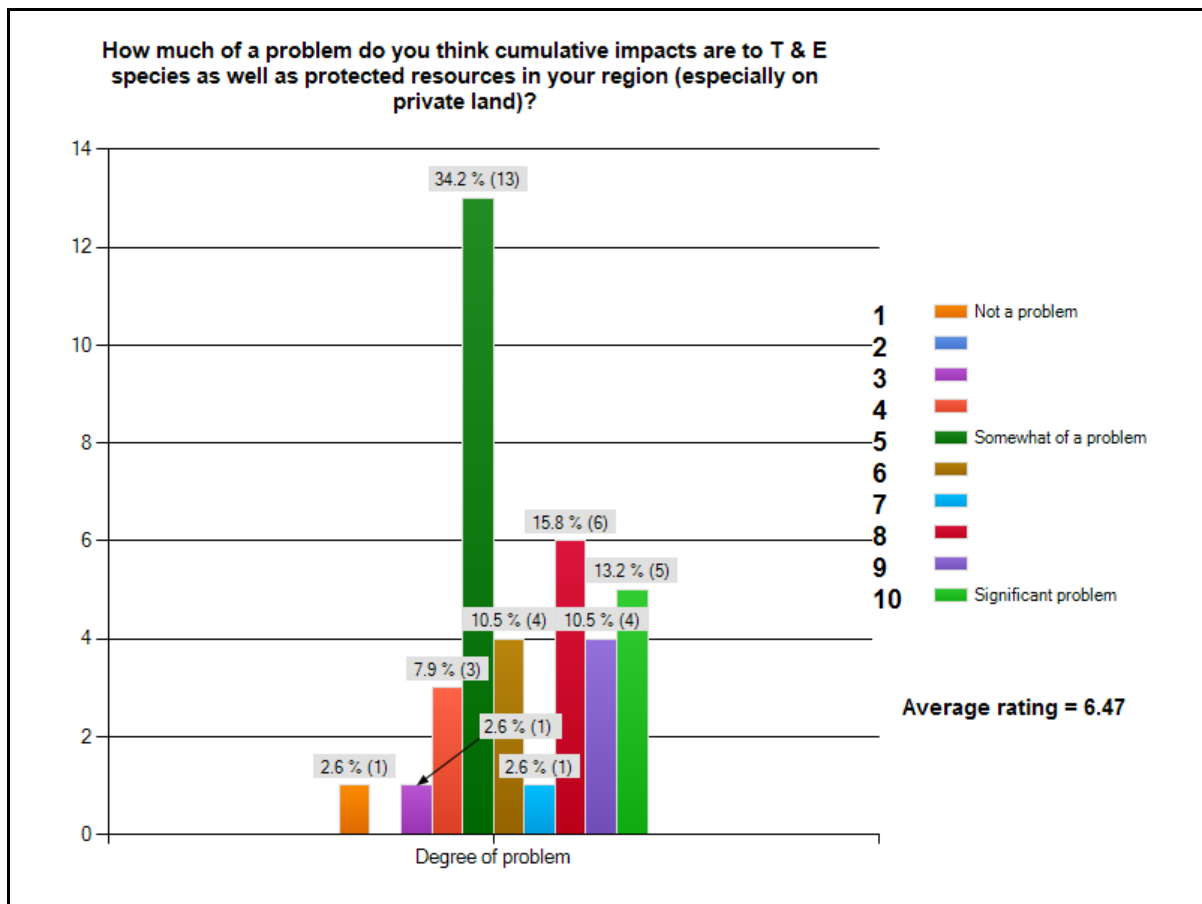
Potential for Cumulative Impacts

Most survey respondents believe that cumulative impacts to T&E species are a problem. The average rating on a scale of 1 (not a problem) to 10 (Significant problem) of how much of a problem cumulative impacts are to T&E species and protected resources was 6.47 (between somewhat of a problem (5) and a significant problem (10)).

Question #2

How much of a problem do you think cumulative impacts are to T & E species and protected resources in your region (especially on private land)?

Answer Options	Not a problem		Somewhat of a problem				Significant problem				Rating Average	Response Count
Degree of problem	1	0	1	3	13	4	1	6	4	5	6.47	38
Please explain												21
											<i>answered question</i>	38
											<i>skipped question</i>	2



Twenty-one individuals out of thirty-eight provided follow up responses explaining how they felt about cumulative impacts.

Difficult to tract cumulative impacts (10 comments)

Most comments reflect the inability of WRD to tract cumulative impacts due to lack of time, inability to do compliance checks for permits issued or to review for T&E species at violation sites, lack of expertise, little funding for research, limited technology resources (i.e. no consolidated database), little or no information on activities that don't require a permit or those that occur in non-regulated habitats, and limited regulations due to poorly written statutes (i.e. Critical Dune Area program) and the need to look more closely at relocation permits to move T&E species.

Cumulative Impacts Likely (6 comments)

Many commented on the lack of oversight regarding T&E species in unregulated areas. In addition, various individuals noted the difficulty in assessing cumulative impacts to species since projects are reviewed one at a time and not all rare species have been documented at sites where they occur. Several respondents reported instances where upland development and farming practices have resulted in conversion and fragmentation of habitat, changes in hydrology, and adverse impacts to natural communities, (including rare upland habitats and areas associated with the land and water interface) and T& E species, and non-listed species. Some mentioned that runoff from irresponsible farming was polluting water bodies and degrading many natural habitats and species which could lead to the eventual listing of special concern species. One individual reported that until recently significant acreages of fallow land were being converted to development too quickly for the WRD and WLD to track and regulate. They commented that the most endangered are those species on private uplands and expressed concern that mesic sites, like lakeplain prairie areas in SE Michigan are easily converted and no one notices. Finally, one person commented that setting aside a specific habitat for T&E species, but not requiring buffers, corridors/connections between habitats, or a stable hydrologic regime may not be enough to maintain the species and/or habitat.

Not sure if cumulative impacts are a problem (3 comments)

Some individuals expressed that they did not have enough information about past and present conditions of flora and fauna and predicted impacts to answer the question. One person pointed out that there is a lack of understanding by the public regarding why a project should be delayed due to the presence of an endangered mussel. One person noted that it is important to provide training on this subject and summed up the complexity of this issue with the following questions and comment: "When is a rip-rapped shoreline on an inland lake, one too many?" "When is one more residential home on a river the one that pushes a species "over the edge?" "The question of cumulative impact is a dilemma that if we cannot state with certainty, will be the reason we will never prevail in a contested case if we issue permit after permit after permit then say "NO MORE" without proof to back it up."

Cumulative impacts not a problem (2 comments)

Those that felt that cumulative impacts were not a problem expressed that the areas that they covered were not rich in T&E species/habitats or that rarely does the presence of T&E species change the outcome of a permit.

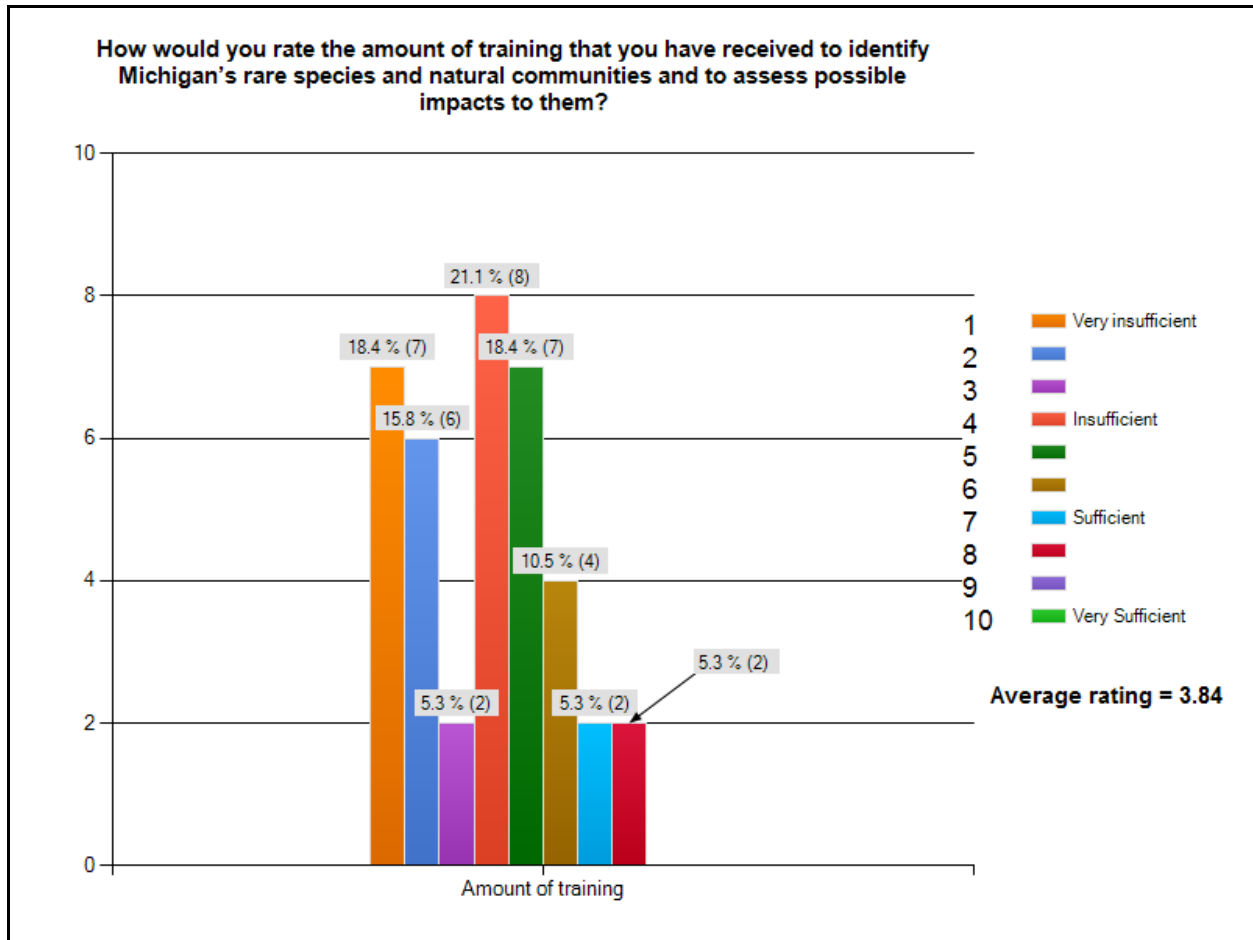
Training

Respondents communicated that the amount of training that they receive to identify MI's rare species and natural communities to assess potential impacts is insufficient. The average rating on a scale of 1 (very insufficient) to 10 (Very sufficient) was 3.84 (insufficient).

Question #1

How would you rate the amount of training that you have received to identify Michigan's rare species and natural communities and to assess possible impacts to them?

Answer Options	Very insufficient		Insufficient		Sufficient			Very Sufficient		Rating Average	Response Count	
Amount of training	7	6	2	8	7	4	2	2	0	0	3.84	38
<i>answered question</i>											38	
<i>skipped question</i>											2	



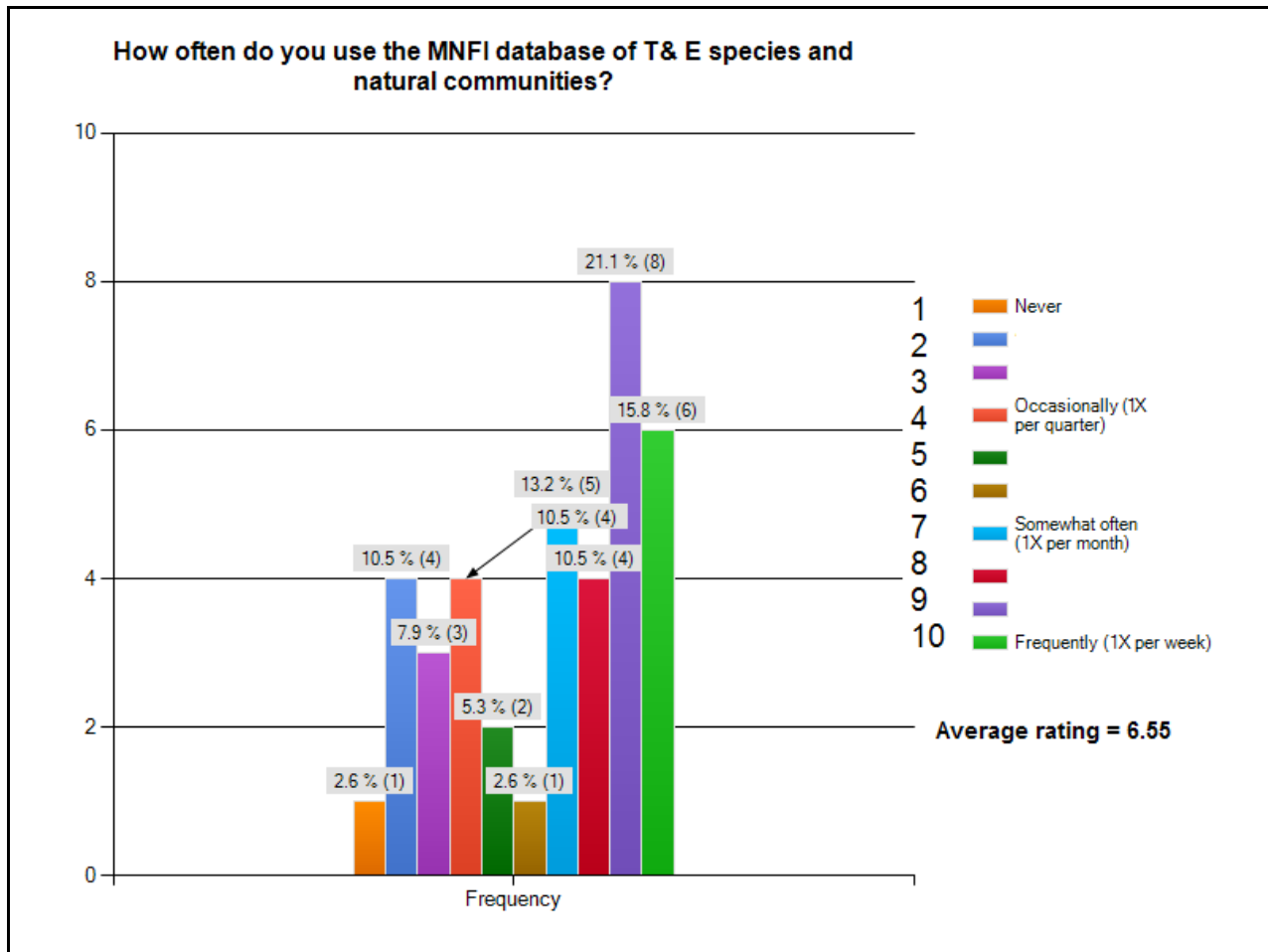
Training

Most respondents use the MNFI database of T&E species somewhat often. The average rating on a scale of 1 (Never) to 10 (Frequently 1X/week) was 6.55 (somewhat often, 1X per month).

Question #2

How often do you use the MNFI database of T& E species and natural communities?

Answer Options	Never			Occasionally (1X per quarter)		Somewhat often (1X per month)			Frequently (1X per week)		Rating Average	Response Count
Frequency	1	4	3	4	2	1	5	4	8	6	6.55	38
	<i>answered question</i>											38
	<i>skipped question</i>											2



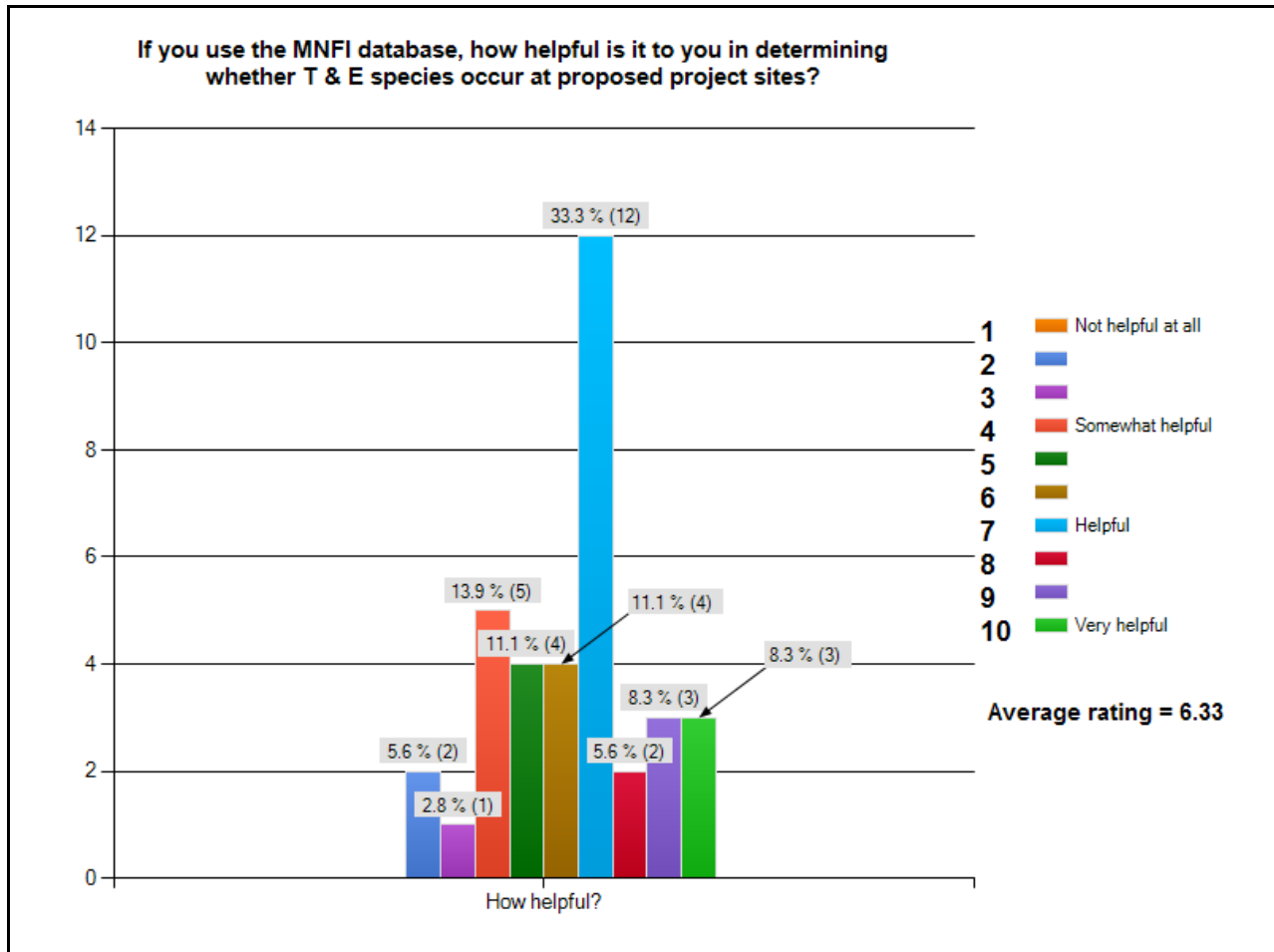
Training

The average rating on a scale of 1 (not helpful at all) to 10 (Very helpful) that respondents gave for the helpfulness of the MNFI database in determining whether T&E species occur at proposed project sites was 6.33 (slightly less than helpful (7)).

Question #3

If you use the MNFI database, how helpful is it to you in determining whether T & E species occur at proposed project sites?

Answer Options	Not helpful at all		Somewhat helpful		Helpful			Very helpful		Rating Average	Response Count	
How helpful?	0	2	1	5	4	4	12	2	3	3	6.33	36
<i>answered question</i>											36	
<i>skipped question</i>											4	



Training

Question #4

Which resources are you aware of to help you identify Michigan's rare species and natural communities?		
Answer Options	Response Percent	Response Count
MNFI Rare Species Abstracts	76.3%	29
MNFI Rare Species Explorer	21.1%	8
Field Guides (books, CD's etc)	65.8%	25
Other references (please describe below in comment box)	34.2%	13
How often do you use these resources? (Please specify the frequency (as defined in #2) that you use each resource).		23
	<i>answered question</i>	38
	<i>skipped question</i>	2

Twenty three people provided follow up comments describing the frequency that they use various resources. Most respondents replied that they use these resources either frequently (1X/wk) or between once a week and once a month. The types of resources that were used in addition to those mentioned in the question include:

- Invasive Species booklet
- MNFI online database is very useful to get an idea of what spp. may be found in or near the project area
- Web searches, USDA database etc
- CIWPIS has a 'Special Interests' tab in the database that may indicate T&E species; however, it is not always accurate, and I always also check the MNFI database to get a full idea of if there may be a 'hit' for a listed species.
- I use internet sites frequently, or send a note to MNFI with photos.
- T/E species list on DNRE website
- "A Guide to Michigan's Endangered Wildlife" Evers
- Personal conversations with knowledgeable individuals with local insight into the occurrence of certain species.

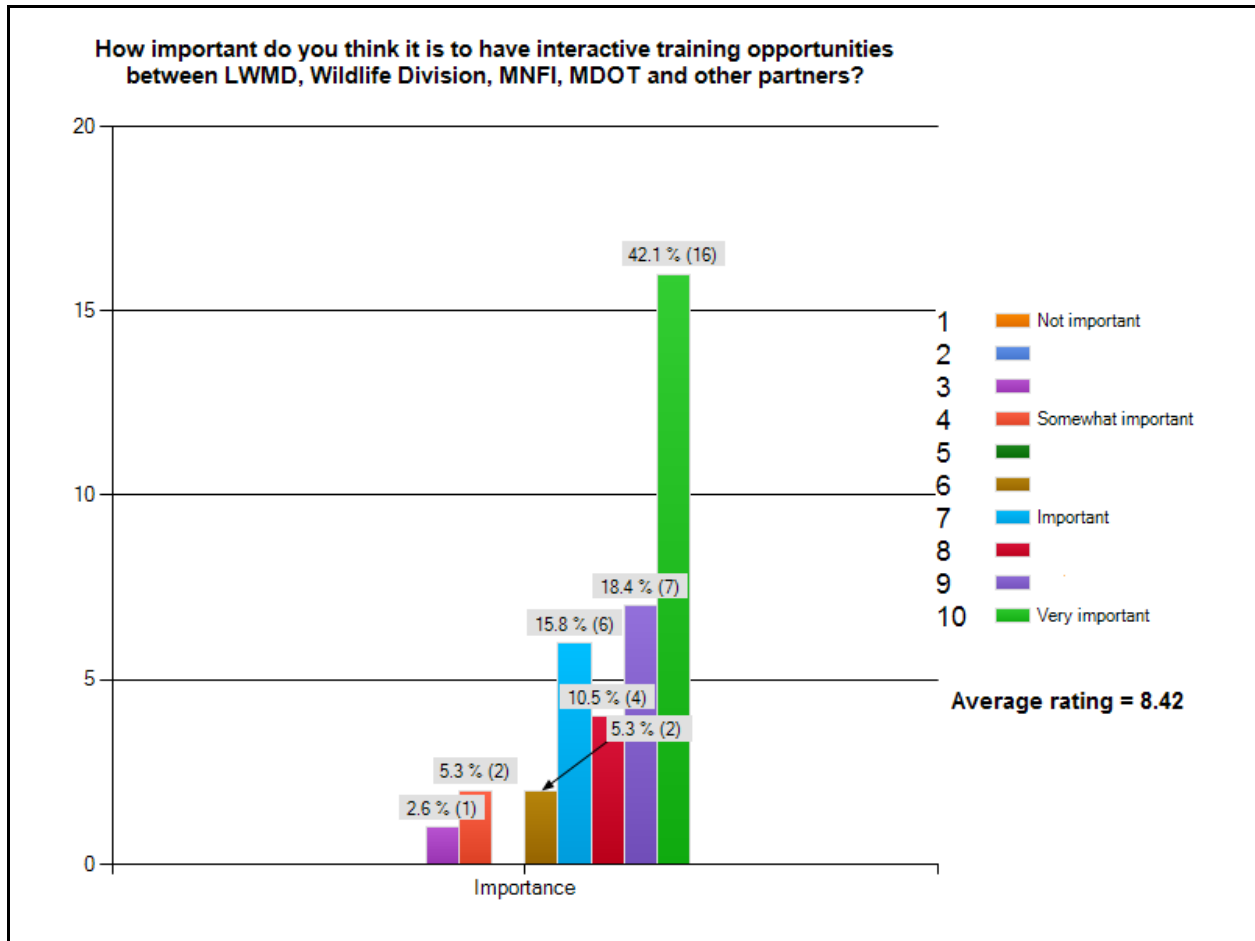
Training

Most respondents felt that it was important to have interactive training opportunities between WRD (former LWMD), WLD, MNFI, MDOT and other partners. The average rating on a scale of 1 (not important) to 10 (Very important) was 8.42 (between important (7) and very important (10)).

Question #5

How important do you think it is to have interactive training opportunities between LWMD, Wildlife Division, MNFI, MDOT and other partners?

Answer Options	Not important		Somewhat important		Important			Very important		Rating Average	Response Count	
Importance	0	0	1	2	0	2	6	4	7	16	8.42	38
<i>answered question</i>											38	
<i>skipped question</i>											2	



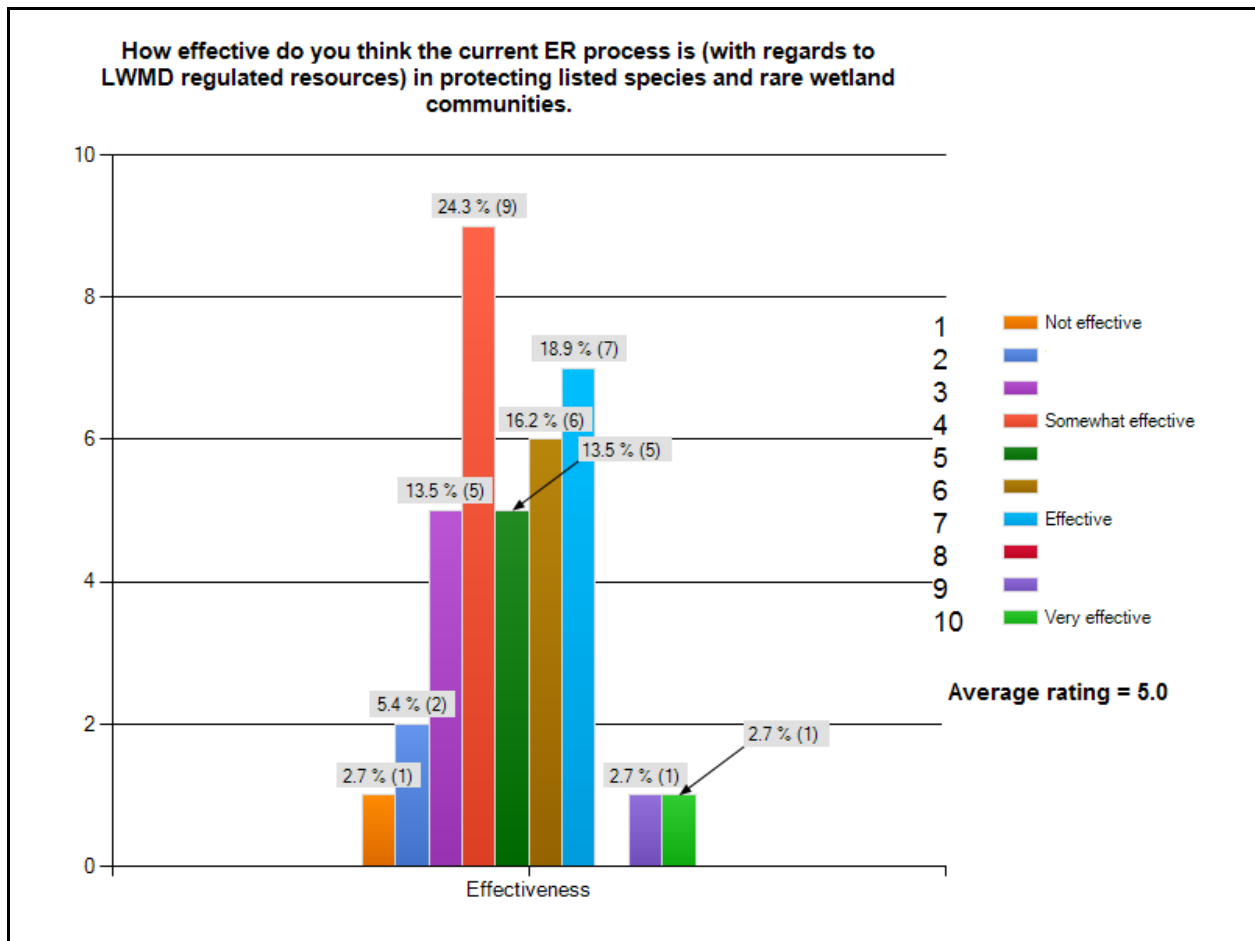
Additional Comments

Overall, most respondents feel that the current environmental review process is only somewhat effective (with regard to WRD regulated resources) in protecting listed species and rare wetland communities. The average rating on a scale of 1 (not effective) to 10 (Very effective) in was 5.00 (between somewhat effective (4) and effective (7)).

Question #1

How effective do you think the current ER process is (with regards to LWMD regulated resources) in protecting listed species and rare wetland communities.

Answer Options	Not effective			Somewhat effective			Effective			Very effective	Rating Average	Response Count
Effectiveness	1	2	5	9	5	6	7	0	1	1	5.00	37
	<i>answered question</i>											37
	<i>skipped question</i>											3



Additional Comments

Question #2

Given the anticipated decline in revenue, what recommendations would you give to improve the ER process in the short term?	
Answer Options	Response Count
	37
<i>answered question</i>	37
<i>skipped question</i>	3

Thirty-seven individuals provided recommendations to improve the ER process in the short term, taking into account the anticipated decline in revenue. The complete list of comments is provided in Appendix III. Specific themes emerged including:

- Increase training and communication (12 comments)
- Adopt procedural changes (8 comments)
- Develop/improve resources and technology (5 comments)
- Secure additional funding and staff (5 comments)

Increase Training and Communication (12 comments)

Nearly one-third of respondents expressed the need for increased training for WRD (former LWMD) field staff and better communication between WRD field staff and ER staff in Lansing. Several individuals suggested that it would be helpful to have WRD staff trained to better recognize T&E species, rare communities, suitable habitat, associated species and secondary impacts, so they can better assist in WLD/Natural Heritage's review. Some individuals felt that the WRD staff should be trained to complete the ER process. Several people expressed that the most effective type of training would be to conduct field-based cross-training between small groups of WRD permitting field agents, WLD biologists and Natural Heritage/T&E dedicated staff. It was noted that these types of regular interactions in the field could be used to inspect/update T&E locations as well as help to build a more interconnected staff. More guidance was requested from MNFI on using the on-line database for reviews of permit applications especially when results from CIWPIS and the MNFI database differ.

Adopt procedural changes (8 comments)

Several comments focused on the desire to improve the timeliness of reviews. Some expressed that they would like to see project applications prioritized and shorter time frames for reviews and comments. It was suggested that more district wildlife biologist and technicians get involved with reviews. In addition, some would like better location descriptions of T&E species, narrowed down from section to Lat and Long or to provide WRD with access to the MNFI database. One respondent suggested giving experienced WRD staff the ability to administer part 315 in minor cases. It was also articulated that applicants don't always understand the relationship between the WRD permit and the requirement for clearance from the WLD. It was suggested that WRD staff should have the ability to put an application "on hold" when there is potential for T&E species, until a site can be reviewed during the appropriate season. This would assist when applications are received in early winter and it is difficult or impossible to complete a comprehensive review of the project until the snow melts and the growing season begins.

Develop and improve resources (5 comments)

Suggestions for improving existing resources include updating the MNFI database, creating better maps of rare wetland communities and listed species ranges and putting records of T&E species into a GIS format easily accessed by WRD staff. Another idea was to create a field guide with photos, descriptions and comments to provide assistance to field staff in the identification of T&E species (like the recently distributed "A Field Identification Guide to Invasive Plants in Michigan's Natural Communities" (Borland et. al 2009)). Field staff could take this guide on site visits as an aid in identifying T & E species. The guide could be in a binder form and could be easily and inexpensively updated by sending staff individual pages as T & E records are updated.

One innovative idea included the development of a database of T&E areas/species and the changes that have resulted over time that could be readily accessible to permit reviewers. This could involve comparing the size of the T&E habitat with land use changes and zoning changes which could be a tremendous asset when reviewing permit applications in the proper context and could result in greater protection of these resources. It was further suggested that this database could be used by all communities to plan sustainable development and would provide recommendations that would benefit remaining sensitive areas in the case of needed mitigation.

Secure additional funding and staff (5 comments)

Increasing staff levels was noted as the best way to improve the protection of listed species since current workloads make it difficult for staff to identify potential impacts to listed species during their review. One person suggested using unpaid interns to update locations and status of T&E species. It was also suggested that short term solutions are not always the best approach and that educating the private sector through established partnerships and soliciting monetary gifts would be helpful in the long term. Securing additional revenue and support through foundations, grants, and universities was recommended to insure meaningful change.

Additional Comments

Question #3

What long-term recommendations would you give (disregarding financial and staffing limitations)to improve the ER process for protecting T&E species and natural communities?	
Answer Options	Response Count
	37
<i>answered question</i>	37
<i>skipped question</i>	3

Thirty-seven individuals provided recommendations to improve the ER process in the long term, disregarding financial and staffing limitations. The complete list of comments is provided in Appendix III. Specific themes emerged including:

- Increase training, communication and coordination (15 comments)
- Increase staffing to improve consistency and response time of reviews (8 comments)
- Adopt procedural changes including more on-site reviews (7comments)
- Update/maintain the MNFI database (5 comments)
- Increase public outreach, education and community planning (4 comments)

Increase Training, Communication and Coordination

Many individuals suggested increased on-site cross training between WRD and Wildlife/natural heritage staff in the identification of T&E species and rare communities specifically tailored to each district or region of the state. This could increase staff expertise, help assess cumulative impacts to rare species/habitats and facilitate a better understanding of the priorities and duties of each division/bureau. It was also recommended that coordinated site inspections be conducted when appropriate to provide more input to staff conducting reviews. Finally, several people suggested bi-annual or annual meetings with WLD and MNFI staff as a way to coordinate activities and gain ideas for streamlining the process.

Increase staffing to improve consistency and staff time of reviews

Several respondents noted the need for additional funding and staff dedicated to environmental review, especially within the WLD. This would assist with improving the response time and consistency of the reviews.

Adopt Procedural Changes

A variety of procedural changes were recommended to improve the environmental review process. These include incorporating impacts due to violations into T&E reviews, removing farming exemptions which can protect irresponsible farmers instead of protecting natural and rare communities and conducting on-site reviews where T&E species have been identified or when there are applications to dig ponds in existing wetlands. In addition it was suggested that known locations of T & E species be accessible as a GIS layer to WRD staff conducting reviews and that there should be an increased focus on cumulative and secondary impacts. Finally it was recommended that a fee-based MDNRE service be considered for T & E searches related to permit applications (similar to the “pre-application meeting request”) to help support time dedicated to this activity.

Update/Improve and Maintain Database

Several respondents suggested that adequate funding be provided to keep the T&E database updated, hire staff to verify older listings and document high quality habitats in Michigan, and get input from the public on the location of rare species on their property. It was also recommended that MNFI’s on-line database and WRD databases be improved to provide WRD staff with better information on the location and/or habitat of T&E species.

Increase public outreach/education and community planning

A number of individuals thought it was important to encourage public outreach and greater public awareness of T & E species and communities so that they understand their value and the need to protect them in both regulated and non-regulated areas. Target audiences suggested for this outreach include private landowners, zoning administrators, building inspectors/departments, planning commissions, and anyone involved with development in general. It was also recommended that liaisons be established with communities to plan development and conservation of resources as part of the permitting process preliminarily so that there are no surprises and so that everyone can make better development decisions. It was suggested that a special section of staff be dedicated to identifying what resources used to occur in a region, what occurs in these areas now and which areas can be developed with minimal impacts to natural resources.

Additional Comments

Question #4

Please share any additional comments or suggestions here.

Seven respondents out of forty provided additional comments and suggestions. The complete list of these comments is provided in Appendix III. Specific themes included:

- Adopt procedural changes (3 comments)
- Increase coordination to improve efficiency (2 comments)
- Increase funding and staff (2 comments)

Adopt procedural changes

Comments provided on this topic focused on the lack of protection afforded rare species since many activities are not regulated (such as the cutting of wetland or aquatic vegetation) or that T&E species that aren't in a wetland, lake or stream are left without any protection. It was noted that if an activity is not regulated (no application/permit needed from WRD then it is unlikely that MNFI would even know about it. It was recommended that there be more oversight of projects that "take" or destroy T & E species and communities in areas that are not currently regulated under other statutes.

Increase coordination to improve efficiency

It was suggested that the various state databases associated with environmental review be combined (using existing staff expertise) to increase the efficiency of the process and to make it easier to use and access the data. It was also recommended that processing times be speeded up.

Increase funding and staff

Finally individuals commented that the WLD does very good job with the expedited request but that they need additional staff resources to assist with returning comments in the 30 day time period. In addition it was noted that MNFI is an invaluable resource and deserves continued and increased funding.

Internal Survey: Summary of Survey Results

The purpose of this section is to provide a concise summary of the survey results provided in the previous section. Survey responses from WRD staff were organized into two main categories: 1) evaluation of the current environmental review process, and 2) recommendations for improving the environmental review process. This summary section is solely based on the survey responses from WRD staff. Information included in this section focuses on responses that were most frequently mentioned as opposed to including all responses. The first category is organized into four subtopics: a) compliance, b) communication, c) procedure, and d) training. The second category is organized into five subtopics: a) improve internal training and communication, b) adopt procedural changes, c) secure additional staff, d) develop and improve additional information resources, and e) increase public outreach, education, and community planning.

I. Evaluation of the Current Environmental Review Process

Compliance

Overall, respondents reported that compliance for individual permits/public notices in regulated habitats is very good, the review process is working fairly well, and compliance for minor projects/general permits is good. However, nearly one-third of respondents were unsure whether T&E species were impacted by permit activities that received a “no impact” clearance. This likely reflects the inability of staff to conduct follow up site visits to determine the level of impacts in these types of situations.

In addition, nearly one-third of respondents were aware of activities taking place outside of WRD (former LWMD) jurisdictions that impacted rare species and natural communities. Approximately half of these respondents thought negative impacts outside of WRD jurisdictions occurred occasionally (5-10 projects/year) to frequently (>10 projects/year).

Despite reporting that compliance is good to very good in regulated habitats, most respondents felt that the current environmental review process is only somewhat effective (with regard to former LWMD regulated resources) in protecting listed species and rare wetland communities. This probably can be interpreted that the existing environmental review process is adequately addressing these issues, but that there is plenty of room for improvement.

Communication

The quality of communication and coordination between the WLD and WRD (former LWMD) was ranked “good”. Respondents stated that the quality of communication and coordination is adequate, however, the amount of communication and coordination needs improvement.

Significantly, survey respondents felt strongly that permit applicants don’t understand the environmental review process very well. On the other hand, survey respondents believe that their understanding of the environmental review process is good.

Procedures

Close to 60% of respondents felt that the existing statutory requirements resulted in inadequate review of the potential for T&E species and caused some negative impacts. Many commented

that a thorough review is sometimes not possible given the short time frame, resulting in an improper review for T&E species, the fragmentation of habitat and occasionally the issuing of permits prior to completion of T&E review.

Most survey respondents believe that cumulative impacts to T&E species are a problem. Unfortunately, survey respondents do not believe that the WRD (former LWMD) can effectively assess cumulative impacts to T&E species at this time. Most comments reflected the inability of WRD (former LWMD) to tract cumulative impacts due to: 1) lack of time, 2) inability to run compliance checks for permits issued, 3) inability to review for T&E species at violation sites, 4) lack of expertise, 5) lack of funding for research on cumulative impacts, 6) limited technological resources, 7) little or no information on activities that don't require a permit or those that occur in non-regulated habitats, and 8) poorly written statutes (e.g., Critical Dune Area program).

Training

Respondents overwhelmingly communicated that the amount of training that they receive to identify Michigan's rare species and natural communities to assess potential impacts is insufficient.

II. Recommendations from Survey Respondents for Improving the Environmental Review Process

Recommendations:

1. Improve internal training and communication (27 comments)
2. Adopt procedural changes (15 comments)
3. Secure additional staff (13 comments)
4. Develop and improve information resources (7 comments)
5. Increase public outreach, education and community planning (5 comments)

Improve Internal Training and Communication

Many individuals suggest an increase in on-site cross training between WRD and Wildlife Division, and Michigan Natural Features Inventory staff in the identification of T&E species and rare communities. The onsite trainings should specifically be tailored to each district or region of the state. These trainings should also include a thorough overview of the existing environmental review process. In addition, more could be done to improve people's awareness of existing MNFI information resources and to develop new resources, especially those that could be taken into the field on site visits.

Another example is training WRD staff so that they can conduct reviews for T&E species for minor projects and general permits, and to forward permit applications to WLD and MNFI for a more detailed review if the proposed projects have a high potential for impacts to rare species.

Another popular suggestion was increased commitment from Wildlife staff to visit sites with WRD staff, discuss the issues and consider alternatives to reduce or eliminate impacts to natural resources. Nearly two-thirds of respondents felt that Wildlife Division and/or Michigan Natural Features Inventory should have more interaction with permit applicants This topic should be explored further in future discussions between the WLD and the WRD.

Adopt Procedural Changes

Several procedural changes were highlighted in the survey. These include: 1) incorporating impacts due to violations into T&E reviews, 2) removing farming exemptions, and 3) conducting on-site reviews where T&E species have been identified or when there are applications to dig ponds in existing wetlands, 4) making known locations of T & E species accessible as a GIS layer to all WRD staff conducting reviews, and 5) evaluating cumulative and secondary impacts.

Secure Additional Staff

Increasing staff levels was noted as the best way to improve the protection of listed species. Current workloads make it extremely difficult for existing staff to identify potential impacts to listed species given the short turn around time (as determined by existing policy).

Develop and Improve Information Resources

Suggestions for improving existing resources include creating better maps of rare wetland communities and listed species ranges and making spatially based information of T&E species accessible to WRD staff involved in the review process. Another idea was to create a field guide with photos, descriptions and comments to provide assistance to field staff in the identification of T&E species in their region.

One innovative idea to address cumulative impacts, is the development of a database of T&E species and important ecological areas combined with the land based changes that have resulted over time, as well as the proposed land or water alteration.

Several respondents suggested that the existing natural heritage database needs to be improved. Suggestions included addressing the backlog of occurrences, hiring staff to verify older listings and document high quality habitats in Michigan, and getting input from the public on the location of rare species on their property. It was also recommended that MNFI's on-line database and WRD databases provide WRD staff with better information on the location and/or habitat of T&E species.

Increase Public Outreach, Education and Community Planning

A number of individuals thought it was important to increase public outreach and greater public awareness of T & E species and communities so that they understand their value and the need to protect them in both regulated and non-regulated areas.

It was also recommended that liaisons be established with communities to create land use plans that take into account both future development patterns and the conservation of an areas natural resources. This could be treated as a preliminary or proactive step of the permitting process to decrease the number of regulatory surprises, and improve the land development decision making process. It was suggested that a special section of staff be dedicated to identifying what natural resources used to occur in a region, what occurs in these areas now and which areas can be developed with minimal impacts to natural resources.

Part 2: National Survey of State Environmental Review Programs

National Survey: Methods

Development, Review and Distribution of National Survey for State Environmental Review Programs

On April 22, 2010, staff from Michigan Natural Features Inventory (MNFI) and the DNRE Wildlife Division (WLD) (Jennifer Olson and Lori Sargent) met to discuss the goals and objectives of this project and to begin developing both the internal survey for former LWMD staff as well as a national survey for environmental review programs in the 50 states. The goal of the national survey was to gain a broad perspective on the operation of environmental programs in other states, learn how they are addressing the protection of rare species and natural communities and identify innovative approaches that states have created and adopted to help increase the effectiveness and efficiency of their programs. During this meeting it was decided to use an on-line survey format through “Survey Monkey” (Surveymonkey.com 2010) to distribute and collect responses. MNFI staff wrote and developed a list of draft survey questions for the national survey. This list was distributed to Lori Sargent and Jennifer Olson, WLD, to obtain their input and feedback. Edits were incorporated and the survey was created in Survey Monkey.

Identification of Environmental Review Programs and Survey Recipients

The contact names, phone numbers and email addresses for individuals in each state associated with environmental review were gathered primarily by conducting a search of local programs highlighted on the NatureServe Website (<http://www.natureserve.org/visitLocal/index.jsp>). Additional queries were then made within each state’s website, to find the appropriate agency and contact person responsible for regulatory review. Emails were sent and phone calls were made to individuals within each state when it was difficult to identify the correct staff person to send the survey.

Distribution of National Survey

An introductory letter to environmental review staff in all of the states was written by MNFI staff. An email communication including this letter and a link to the on-line survey was sent on August 19, 2010 to 98 individuals in all 50 states, the Navajo Natural Heritage program, and the Tennessee Valley Authority Natural Heritage Program. In many cases this email was sent to more than one staff person in each state when it was unclear who the most appropriate survey recipient should be. A copy of this communication is included in Appendix IV. It was asked that staff complete the survey by Sept 3. Follow-up communication was sent to individuals in several states when it was discovered that some of the staff identified were not the most appropriate individuals to complete the survey. The follow up letter to these individuals requested that the survey be completed by Sept 16. A copy of the complete survey can be found in Appendix V.

Analysis of Survey Results

Survey responses were sorted and analyzed by the software program in “Survey Monkey”. Duplicate responses from states were eliminated from the analysis, but qualitative comments were recorded and summarized. Responses that were incomplete, especially where the name of the state was not provided in any of the answers, were eliminated from the analysis, although these responses were briefly summarized. A response count and response percent were provided

for each possible answer. Graphs were included in the results section for those questions that required a response on a rating scale, and the rating average and graph of the range of responses were provided. Qualitative comments were grouped by theme and summarized to capture the content in the most concise manner. A full list of the original comments is provided in Appendix VI. The survey responses provided by representatives for the state programs were discussed by MNFI and WLD staff familiar with the environmental review process. Following the analyses, recommendations were crafted for consideration by DNRE managers responsible for implementing the review process for the protection of rare species and natural resources.

Follow-up Phone Interviews

Phone interviews were scheduled with 8 of the 14 individuals who indicated on the survey that they would be available for a short phone interview. The interviews were conducted between September 21 and September 29, 2010. The length of the interviews ranged from 20-40 minutes and included follow-up questions to the individual's survey responses as well as questions about program funding, staffing, agency coordination, data sharing, innovative approaches to environmental review, and "wish lists" for program improvement.

National Survey: Results

Survey responses were received from 42 of the 50 states and from the Tennessee Valley Authority (TVA) constituting an 83% response rate. In addition, multiple responses were received from individuals in six states. In these cases, qualitative comments were summarized but multiple responses for yes/no questions were deleted to prevent skewing of the results. The response received from the TVA Natural Heritage Program was summarized with the qualitative comments, but was not included in the analysis, as they are a regional program and defer to programs they work with in southeastern states. Finally, six individuals provided incomplete answers on the survey and did not include the name of their state. These responses were not included in the analysis but are summarized separately. In total, responses were received from 57 individuals but only those from staff in 42 states were included in the analysis. No response was received from staff in 8 states (Hawaii, Indiana, New Jersey, New York, North Carolina, North Dakota, Rhode Island and W. Virginia) and from the Navajo Natural Heritage Program. It is possible that either the correct person was not identified, that they filled out the survey but did not include their state's name, or staff were unable to complete the survey for other reasons.

Responses for each of the questions in the following three categories are summarized including: Endangered Species Legislation, Environmental Review Program, and Program Evaluation. The full set of survey responses are provided in Appendix VI. Follow-up interviews were conducted with staff from Arizona, Illinois, Massachusetts, Nebraska, New Hampshire, Pennsylvania, and Wisconsin. Information gleaned from these interviews is highlighted in the results section and summarized in Appendix VII.

Endangered Species Legislation

Just over 76% of survey respondents (32 states) have a state endangered species law, while approximately 26% of respondents (10 states) do not provide protection to threatened and endangered species at the state level, as shown in Table 1.

Question #1

Does your state have an endangered species law?		
Answer Options	Response Percent	Response Count
Yes	76.2%	32
No	26.2%	11
Please provide the name of your state.	100.0%	42
<i>answered question</i>		42
<i>skipped question</i>		0

Table 1. State Responses to Question 1. Does Your State Have an Endangered Species Law?			
Alabama - No	Illinois - Yes	Missouri - Yes	South Dakota - Yes
Alaska - Yes	Iowa - Yes	Montana - No	Tennessee - Yes
Arizona - Yes	Louisiana - Yes	Nebraska - Yes	Texas - Yes
Arkansas - No	Kansas - Yes	Nevada - No	Utah - No
California - Yes	Kentucky - No	New Hampshire - Yes	Vermont - Yes
Colorado - Yes	Maine - Yes	New Mexico - Yes	Virginia - Yes
Connecticut - Yes	Maryland - Yes	Ohio - Yes	Washington - No
Delaware - No	Massachusetts - Yes	Oklahoma - Yes	Wisconsin - Yes
Florida - Yes	Michigan - Yes	Oregon - Yes	Wyoming - No
Georgia - Yes	Minnesota - Yes	Pennsylvania - Yes	
Idaho - No	Mississippi - Yes	South Carolina - Yes	

Endangered Species Legislation

The endangered species law in nearly 58% of the states (19 responses) provides protection to both threatened and endangered plants and animals, while in just over 42% of the states; the law does not protect both threatened and endangered plants and animals. (Table 2).

Question #2

If so, does this law protect both threatened and endangered plants and animals?		
Answer Options	Response Percent	Response Count
Yes	57.6%	19
No	42.4%	14
Please explain		25
<i>answered question</i>		33
<i>skipped question</i>		9

Endangered Species Legislation

Protection is provided by state legislation for threatened and endangered species on private land in 28 states (nearly 67% of responses) while protection on private lands is not included in endangered species laws in 14 states (over 33% of responses). If protection is provided on private lands it is often limited in scope. (Table 2).

Question #3

If you have an endangered species law in your state, does it provide protection for T& E species on private land?		
Answer Options	Response Percent	Response Count
Yes	66.7%	28
No	33.3%	14
Please explain		23
<i>answered question</i>		42
<i>skipped question</i>		18

Table 2. Summary of Responses from the States with Endangered Species Laws

State	Plants and Animals Protected	Only Plants Protected	Only Animals Protected	Protection on Private Land
Alabama *			X	X
Alaska *			X	X
Arizona		X		
California	X			X
Colorado			X	X
Connecticut *	X			X
Florida *			X	
Georgia *	X			
Illinois	X			X
Iowa	X			X
Kansas			X	X
Louisiana			X	X
Maine			X	X – only animals
Maryland	X			X
Massachusetts	X			X
Michigan	X			X
Minnesota	X			
Mississippi			X	X
Missouri *	X			X – only animals
Nebraska	X			X
Nevada *	X –limited			
New Hampshire	X			X – only animals
New Mexico *			X	X
Ohio	X			X- only animals
Oklahoma			X	
Oregon *	X			X – only animals
Pennsylvania	X			X
South Carolina			X	X
South Dakota			X	X
Tennessee *			X	X – only animals
Texas	X			X- only animals
Vermont	X			X
Virginia	X			X- not insects/plants
Wisconsin	X			X – only animals

- * **Alabama** - No regulations for rare plants. Some animal species are state protected but no provision to address incidental take.
- * **Alaska** - Only cover fish and wildlife species that have decreased to the degree that their continued existence is threatened.
- * **Connecticut** - Protection is for T&E species from "public" actions. Private landowners may not "sell" listed species but each town has local authority to authorize actions on private land. Also important to note: we consider state permits to be "state actions" so we often get protection that way
- * **Florida** - There are endangered/threatened lists for both plants and animals, but no regulatory protection for plants.
- * **Georgia** - No protection on private land except: you cannot directly kill native animals (excluding game species) on private lands with a few exceptions, including pest species. You cannot sell plants from private lands without a permit.
- * **Missouri** - Only endangered, no threatened status
- * **Nevada** - There are some species that are protected under State Statute but it's not a specific endangered species law
- * **New Mexico** – Limited protection on private land
- * **Oregon** - As with the federal ESA, plant protection on private lands is limited. Invertebrates are NOT included in the act.
- * **Tennessee** – Most insects not protected. The Rare Plant Protection Act does not protect plants from take.

Environmental Review Program

Nearly 90% of respondents (35 states) indicated that their state has an environmental review program while just over 10% of respondents (4 states) do not have this type of program.

Question #1

Does your state have an environmental review program (in addition to the federal review by the USFWS) to review proposed projects for potential impacts to T&E species?		
Answer Options	Response Percent	Response Count
Yes	89.7%	35
No	10.3%	4
If so, please provide the name of your organization and the URL to your webpage that describes your program as well as links to other appropriate documents.	74.4%	29
<i>answered question</i>		39
<i>skipped question</i>		3

Twenty-nine respondents provided the name of their organization along with the URL to their state's website which provides information about their program as well as links to other appropriate documents. This list is provided in Appendix VIII.

Environmental Review Program

Close to 30% of respondents in 11 states have some type of online program which provides applicants with some type of information about the locations of T&E species prior to submitting their application. Nearly 57% of individuals (21 states) indicated that their program responds to permit applications that have the potential to impact T&E species.

Question #2

Please describe the environmental review process for T & E species in your state.		
Answer Options	Response Percent	Response Count
Permit applicants have access to locations of T & E species online prior to submitting their application	29.7%	11
Our program responds to permit applications which have the potential to impact T & E species	56.8%	21
Please provide additional information or please provide the URL to information on your website.	86.5%	32
<i>answered question</i>		37
<i>skipped question</i>		5

Thirty-two individuals provided additional information about their programs and websites (Table 3).

Table 3. Summary of the Environmental Review Process in Various States.

State	Responds to permit applications with the potential to impact T & E species	Applicants have access to locations of T & E species online prior to submitting their application	Non-regulatory Provides Data, Comments and Recommendations	Additional Comments about Program
Alabama	X			Reviews permit applications, coordinates response when there are potential impacts to fed. and state protected spp.
California	X			
Arizona		X		Have an online system for Phase I Env. Compliance. The applicant can't see the EOs - they get list of species in area (they draw the project area).
Arkansas			X	Charges for some services. Part of the state's technical review committee, reviews public notices for projects including COE 404 applications, Highway projects.
California	X			Applicants submit permit applications when a project will "take" a listed species. "
Colorado			X	
Connecticut				Permit applicants can see generalized maps and potential conflicts, must submit environmental review forms to get more details about listed species that may be in the area.
Delaware	X			Provides input for projects not permit driven but undergoing state/county approval, also NEPA projects.
Florida			X	
Georgia	X	X		Limited information online. GIS file provides species locations at the quarter quad level, can also search county and watershed lists. Site specific requests reviewed individually.
Illinois		X		Applicants submit their project on-line, if resources could be in the area (EcoCAT applies a buffer around species, a "hit" doesn't mean project will impact species) they receive a report listing the resources (we don't show where the resource is) and are told that staff will review the project.
Idaho	X			Idaho Department of Fish and Game (IDFG) reviews projects The Idaho Fish and Wildlife Information System (IFWIS), resides within IDFG, and provides info on special status spp. assoc with projects but can't act as the voice of the Dept.
Iowa		X		
Kansas			X	The Dept of Wildlife and Parks is the state regulatory agency.
Kentucky		X		
Louisiana	X			
Maine	X	X		Beginning with Habitat provides fairly detailed spp.data on .pdf maps. Launching ArcServer mapservice application soon
Maryland	X			
Massachusetts		X		Applicants working within mapped habitat (published rare species habitat must file formally with our office. Our maps do not provide species specific information.
Michigan	X			
Mississippi	X		X	
Missouri	X			Replies to all requests for Natural Heritage Review, whether or not a record identified during the query.
Montana	X	X		
Nebraska	X			State agencies required to consult with us on projects they conduct, permit, or fund. Programmatic agreements with some agencies so reviews not required for all projects. Work closely with USFWS on federal/state projects.
Nevada			X	State Clearinghouse routes proposed permits to agencies NHP provides comments on T&E species. Charge fee.
New Hampshire		X		
Ohio	X			
New Mexico			X	
Oregon				Dept of F&W reviews state & federal projects, not private
Pennsylvania	X	X		Environmental review is only required for state projects or private projects that require a PA DEP permit.
South Dakota	X			
Tennessee	X		X	Wildlife Resource Agency (TWRA) one FTE env. reviewer legally require projects to consider rare animals. Many projects, esp. on private property that don't require aquatic permits, get constructed "under the radar."
Texas	X			A separate program provides T&E information (records) to requestors prior to the review of the project in some cases
Vermont	X	X		Vermont F&W reviews projects for T&E impacts
Virginia	X	X		
Washington	X			
Wisconsin	X	X		Applicants can access general info on T&E spp, specific info available for proposed projects from Review Program
Wyoming		X		

Environmental Review Program

Question #3

What is working well with your environmental review program?

Thirty individuals provided comments describing what was working well in their programs. The complete list of responses is provided in Appendix IV. The most common themes include:

- Good working relationships and internal coordination between agencies (14 comments)
- Environmental review programs are valued and the process is understood (8 comments)
- An online system or web tools decrease the number of projects that require review (5 comments)

Good working relationships and internal coordination between agencies (14 comments)

Nearly half of survey respondents replied that good working relationships and internal coordination between state and federal agencies and natural heritage programs was working well for them. Staff expressed that they were in a good position to provide input on projects and/or policies and were able to help find solutions that benefit wildlife and the project, including mitigation bank reviews. In Louisiana, private consultants send requests directly to the heritage program for review of any species of concern that occur within a mile of the project area. The heritage program also has a MOU with the Louisiana DNR which provides them with an abridged version of the heritage database to facilitate project review by the DNR. The DNR sends projects with potential impacts to species of conservation concern back to the heritage program for review for comments which are incorporated into the DNR's response letter to the applicant. Tennessee shares their data as shapefiles with various state/federal agencies and many of these agencies are using these data as intended for their own environmental reviews of permit applications. Michigan and many other states coordinate with state agencies in a similar manner. An individual from Massachusetts replied that they review a wide range of projects and outcomes including project revisions, protection plans during construction, long-term monitoring of species and/or habitat, surveys, habitat protection, research funding and off-site land banking. Finally, a respondent from Delaware mentioned that their staff was able to improve communication with regulators so that they could provide conditions in permits that resulted in the protection of threatened and endangered species.

Environmental review programs are valued and the process is understood. (8 comments)

Many respondents expressed that most entities know who to contact and how the environmental review process works. Others commented that the people they work with value the natural heritage data. One individual articulated that knowledgeable and committed staff in their program provides technical expertise and quality responses to applicants in custom letters. Another mentioned that the neutral non-biased information about the potential for threatened and endangered species in proposed project areas along with recommendations regarding what to do to avoid impacts was also valued. Finally one respondent commented that their program staff provides additional contact information to the appropriate regulatory agencies and laws, i.e. Clean Water Act, and Endangered Species Act.

Online System or web tools decrease the number of projects that need review (5 comments)

Respondents from states with either an online system or simple web tools for environmental review expressed that these applications have decreased the number of projects that need to be reviewed and increased the efficiencies of their program. A staff person in Illinois expressed that

“with EcoCAT reviews for projects that are not in the vicinity of a resource can be quickly 'terminated'. This leaves staff time for projects that could have an adverse effect on species.” Arizona staff commented that the automated system not only generates occurrences of T&E species and other special status species but also wildlife corridors and critical habitats and it provides some general project recommendations. Vermont consultants and planners can view data through an Arcims application or download the shapefiles of interest from the distributor of GIS information. The names of the species are not given, but the rank and status are. They recently have consolidated reviews so they are done by District Wildlife Staff and include critical wildlife habitat, significant natural communities, and rare, threatened, and endangered species.

Other reasons that staff felt their programs were working well included:

- The ability to review projects early in the planning process
- The ability to review and respond to requests with a short turn-around time
- A robust Oracle database that allows for some ‘heavy lifting’ fairly quickly via reporting software and queries
- A well documented distribution for species improves the effectiveness of the process
- The ability to conduct surveys for threatened and endangered species, using GIS analyses to refine the state’s known habitat locations
- The ability to protect habitat deemed critical by Executive Director of Fish and Game by requiring agencies that fund or permit activities to take “reasonable and prudent” actions to avoid impacts.

Environmental Review Program

Question #4

What is a challenge in your environmental review program?

Thirty-one respondents provided comments regarding what was a challenging in their programs. The complete list of responses is provided in Appendix IV. The most common themes include:

- Lack of adequate funding and staff (17 comments)
- Lack of regulatory authority or procedures for review of T&E species (12 comments)
- Inability to monitor compliance or evaluate how information is used (9 comments)
- Lack of online review system or appropriate way to provide data to public (3 comments)

Lack of adequate funding and staff (17 comments)

More than half of respondents cited lack of adequate funding and staff as a big challenge in their environmental review programs. Many commented that there were just too many reviews and that they lacked the capacity to do a very thorough job. Some complained that the volume of work has steadily grown while staff resources remain inadequate. In particular, one respondent cited that commercial wind farms have been consuming a lot of time. An individual from Arkansas commented “since the data management section handles both getting the data into the database and getting the data out of the database for environmental review, we are often stretched to our limits.” One person indicated that they handle 500-600 review per year with only one part-time staff person coordinating all but the transportation reviews. It was also mentioned that getting comments out on projects in a reasonable time was very difficult. A respondent from New Hampshire bemoaned the lack of funding for staff to be able to get out on the ground and work with consultants and developers to modify project design early on in application process.

Ironically, those programs attempting to implement new technology to improve the efficiency of their programs lacked the staff to develop these tools.

Lack of regulatory authority or procedures for review or T&E species (12 comments)

More than one-third of respondents expressed that they were challenged by a variety of issues related to current state regulations and environmental review procedures. Challenges cited include: a lack of state regulations requiring protection of rare species and/or critical habitats and compliance of environmental review recommendations, the inability to require local or county entities to implement measures to reduce impacts to rare species, or the non-regulatory status of the programs providing rare species information and their inability to require agencies requesting data to implement recommendations. A staff person in Kentucky expressed frustration that they have no authority over “state listed” species since their list is not officially recognized by the state legislature. Others bemoaned the lack of habitat protection measures in state laws or protection for travel corridors. Pennsylvania staff expressed their concern this way. “Ecological Communities of Concern are a part of the PNDI process, but are not technically protected by law. Often we are able to afford some protection to these areas, but at times, there really isn’t much we can do, even if they are being impacted directly. The only exception is if a T/E plant or animal species is located in that particular community.”

Staff in several states mentioned that most private development does not include a review of rare species as part of the project design phase, unless requested by an agency that requires consideration of these species. They commented that often, despite efforts to provide local townships with data, it is difficult to get these entities to implement or even consider measures to reduce impacts to rare species and permits are regularly issued that conflict with natural resources. Staff in Mississippi and Virginia mentioned that due to their program’s non-regulatory status, the recommendations they make are voluntary and it is difficult to determine whether the requesting agency incorporated these into permit conditions or whether they are ultimately implemented into the project.

Inability to monitor compliance or evaluate how information is used (9 comments)

Staff in nine states expressed that they are challenged by their inability to follow up on how the information on rare species that they provide is used and interpreted, and don’t have the resources to conduct site visits to evaluate whether the recommendations were implemented. Some respondents expressed concern that they do not know whether consultants and agencies are using the natural heritage data and whether they are using it correctly, since they provide data on the front-end and do not get follow-up information in return. Finally one respondent commented that they would like to improve their program’s ability to regulate avoidance and mitigation efforts when conflicts do occur.

Lack of online review system or appropriate way to provide data to public (3 comments)

Several people mentioned that they would like to get an online project review system in place to help filter out some of the very simple projects that are unlikely to have negative impacts. A Tennessee staff person commented “A final challenge is finding a way, given our limited resources, to furnish rare species data to the public in a way that does not divulge exact locations and that encourages proper interpretation of habitats rather than yes/no presence of rare species.”

Other challenges that respondents mentioned include:

- Too much development
- Inability to assess cumulative impacts
- Lack of information to conduct an adequate review
- Poorly understood distributions of many terrestrial species
- Need better communication between area biologists and headquarters
- Fees are a barrier for some people who might otherwise use our ER service
- Difficult to work with a variety of different-scales and types of projects with one program
- Disconnect in our heritage program, one agency reviews for plants, one for mammals and one conducts reviews for reptiles, amphibians, fish and mussels.

Environmental Review Program

Only 15 % of respondents in 5 states indicated that their program has a process for monitoring compliance on permitted projects with the potential to impact T&E species. Just over 85 % of respondents (29 states) replied that they do not have a process for monitoring permit compliance with respect to T&E species.

Question #5

Do you have a process for monitoring compliance on permitted projects with the potential to impact T & E species?		
Answer Options	Response Percent	Response Count
Yes	14.7%	5
No	85.3%	29
Please explain		16
<i>answered question</i>		34
<i>skipped question</i>		8

Sixteen individuals provided a follow-up explanation to this question. Staff from programs in three states commented that they have a process for monitoring compliance on permitted projects with the potential to impact T&E species. In Iowa permits typically require coordination with the local biologist or conservation officer prior to and sometimes during construction. Projects are inspected when complete. Massachusetts also has a process but it is understaffed and the regulations do not allow their program to charge fines for violations. Individuals from programs in four states mentioned that at times they have the ability to monitor compliance but that they lack capacity to do this on a regular basis. In Minnesota compliance is monitored with larger projects (pipelines, transmission lines), in Maryland, wetland permits sometimes have conditions for monitoring and in New Mexico compliance is monitored to some degree with specific projects involving wildlife corridors and safe passage, as this was identified within their agency as an important goal. Program staff in seven states mentioned that they do not have the ability to monitor compliance due to limited staff, funding, lack of data from surveys conducted for project clearance or the non regulatory status of the program.

Environmental Review Program

Individuals in only 4 states (11.8% of respondents) indicated that they have a process for assessing cumulative impacts to T&E species from multiple projects over multiple years. Thirty respondents (88.2%) replied that they are not able to assess cumulative impacts for T&E species.

Question #6

Do you have a process for assessing cumulative impacts to T&E species from multiple projects over multiple years?		
Answer Options	Response Percent	Response Count
Yes	11.8%	4
No	88.2%	30
Please explain		13
<i>answered question</i>		34
<i>skipped question</i>		8

Thirteen individuals provided follow up comments to this question. Staff from Arizona, Massachusetts, New Mexico and Wyoming responded that they have a process for monitoring cumulative impacts. This process is still in the development stage in New Mexico and staff from Massachusetts expressed that it is difficult to monitor when land is subdivided or after many years have passed. Arizona’s online system captures all project footprints as well as project type. Staff can then view an area or the entire state to see where the majority of projects are or they can look just at certain project types as well. In Wyoming the process is informal cooperation and some funded field work by Wyoming Natural Diversity Database (WYNDD), Wyoming Game and Fish (WGF) and private consultants, with status assessment by WYNDD and WGF biologists.

Staff from states that do not monitor compliance mentioned that this is a perpetual challenge and that due to limited staff and time this cannot be accomplished. This limits their ability to track incremental impacts and to get beyond site specific project review. Some mention that they have data that can be queried for cumulative impact information (i.e. wetland acreage, forest clearing acres, and local species extirpations) but there is lack of time to quantify impacts to rare species.

Program Evaluation

Only 6 people (17.6% of respondents) indicated that their state tracks and reports on the effectiveness of their environmental review process. Twenty-eight individuals (82.4%) indicated that their state does not track and report the effectiveness of their environmental review process.

Question #1

Does your state track and report on the effectiveness of your environmental review process?		
Answer Options	Response Percent	Response Count
Yes	17.6%	6
No	82.4%	28
Please explain		13
<i>answered question</i>		34
<i>skipped question</i>		8

Thirteen respondents provided a follow up explanation to this question. Staff from states that do not currently track and report on the effectiveness of their programs mentioned that they do not have a program in place for processing information and evaluating whether recommendations they make are carried out and assessing which species benefit. As one individual stated, “most of the environmental review is on the front-end, with no monitoring or compliance.” Some states are discussing how to implement a mechanism to help with tracking the effectiveness of their programs, although it was also mentioned by one respondent that there is no time, no money and fewer staff to accomplish this as time goes on.

Methods employed by states which track and report on their environmental review programs include reporting on the number of reviews each year, annual technical assistance reports to the USFWS, and use of an internal database that allows the program to track and summarize projects. Delaware keeps a list of projects that were changed due to their program’s comments and that entailed protection of rare species due to their review. They are able to query the database to provide specific information as requested (such as number of cell tower projects, number of projects that could impact rare species, number of projects in proximity to Bald Eagle nests etc.) Even among states that are using these methods, most comment that it is difficult to quantify the effectiveness of their programs given the lack of follow up on most projects, due to lack of funding, the many agencies involved, and the many years that some projects span. Illinois completed a seven-year study on trends in consultation but it is focused on the consultation process and not on the assessing the effectiveness of the recommendations.

Program Evaluation

Approximately 38% of respondents in 13 states indicated that their program provides an annual report that tracks the results of their environmental review activities while nearly 62% of respondents in 21 states do not provide this type of report.

Question #2

Do you produce an annual report which tracks the results of your environmental review activities?		
Answer Options	Response Percent	Response Count
Yes	38.2%	13
No	61.8%	21
Please explain		14
<i>answered question</i>		34
<i>skipped question</i>		8

Fourteen individuals provided follow up comments to this question. Respondents from many states explained that they submit progress and/or annual reports to various entities (i.e. Federal Aid, State Wildlife Grants and the state legislature) on the number and type of projects reviewed but nothing on the results of how many projects move forward, what impact there may be to rare species, how these impacts are mitigated, and the effectiveness of their program’s recommendations. Virginia also tracks the use of their Natural Heritage Data Explorer website and the number of late projects in addition to the number of projects reviewed.

Program Evaluation

Staff from fourteen states (~41% of respondents) indicated that they are implementing innovative approaches to improve their environmental review process while respondents in 20 states (~60%) replied that their state is not currently implementing innovations in their programs.

Question #3

Is your state implementing innovative approaches to improve the effectiveness and/or efficiency of the environmental review process?		
Answer Options	Response Percent	Response Count
Yes	41.2%	14
No	58.8%	20
Please explain		23
	<i>answered question</i>	34
	<i>skipped question</i>	8

Twenty-three individuals provided additional comments as a follow up to this question. Innovative approaches to improve the environmental review process include:

- Online environmental review tools
- Data sharing and increased communication with partners and consultants
- Programmatic agreements, consolidation of reviews
- Decision support system and planning tools

Innovative online environmental tools

Based upon information from this survey, programs in Arizona, California, Florida, Illinois, Massachusetts, Michigan, Montana, New Hampshire, Pennsylvania and Wisconsin all provide an online environmental screening tool for use by applicants which has improved their efficiency and effectiveness. The online tools used in these states vary from very simple web applications to more comprehensive automated processes. Web applications in many states provide applicants with online maps where they can check proposed project areas for occurrences of rare species prior to submitting their applications. Other tools, such as those used in Arizona provide individuals an online tool for checking their projects for potential impacts, submitting their applications online and receiving a determination and response letter as well as guidelines for reducing impacts of certain types of projects. Arizona, estimates that their response time has been reduced from 30 days to less than 20 minutes as a result of their online application. A complete summary of the development and implementation of their environmental review on-line tool can be found in Appendix IX.

Arizona's staff continue to add new features to their online tool and collect feedback from users. They plan to implement "free map services" to their application which will reduce the amount of memory needed and speed up the delivery of the base maps. Pennsylvania staff also commented that they are consistently trying to improve their online tool and review processes and that their heritage program continues to improve the validity and accuracy of their occurrence data. Recently they have improved the mapping system and receipts (which now give the names of species which cause hits, except for species sensitive to collection or disturbance) for users. They are also working on a more proactive version of their online application meant to help agencies

avoid impacts during the planning process rather than reacting to them. Massachusetts has designated and mapped Priority Habitats (known geographical extent of habitat for all state listed rare plants and animals) and Estimated Habitats (subset of priority habitats, based on the geographical extent of habitat of state listed rare wetlands wildlife (not plants)) within the entire state. Applicants can determine if their proposed project falls within either priority or estimated habitat by checking with their local Conservation Commission which has a large scale map for viewing, or checking the Natural Heritage Atlas book or CD or viewing maps online. The Massachusetts program is in the process of moving to online submission of applications.

Data sharing and increased communication with partners and consultants

Wisconsin's will begin offering Introductory Natural Heritage Inventory (NHI) Screening and Methodology Training to DNR staff and to external individuals and organizations with whom the program has an NHI license agreement. This training will provide information on the WI NHI Program and the WI Endangered Species Law, detail the endangered resource screening process and how to access NHI data via the web-based NHI Portal, and outline resources for additional information about protected species and habitats. The training has been divided into several sessions and will typically take 4-5 hours to complete. Consultants and staff who complete the training will be certified to do "pre-review" letters and thereby expedite the review process. All of the pre-review letters would still need to come to state staff to review and sign-off, since only the Wisconsin DNR has the authority to address T&E species. Vermont is also providing some consultants with access to their application with a fully attributed dataset of rare species and significant natural communities and with shapefiles that provide the location, rank and status of these occurrences but not the name. New Mexico has begun to change the nature of how they respond to requests for review including more face to face meetings, more team members on technical committees, etc, vs. a review/letter sent (with little or no contact with the applicant). Massachusetts is involved in off-site land banking, and designing protection plans to protect species during construction.

Programmatic agreements, consolidation of reviews, improving the application of GIS tools

Nebraska has had success in developing programmatic agreements with agencies (i.e. NRCS, NE Game and Parks Comm. and the NE Dept of Roads) that expedite the review process. They also have developed an on-line checklist for developers who are seeking a National Pollution Discharge Elimination System (NPDES) permit to determine if they need to send the project in for review. Connecticut is now asking applicants to provide more details about potential projects (i.e. habitat descriptions, photographs, etc.) so that staff biologists spend less time guessing about potential impacts. They are also planning to document a management system within their agency to help with sharing documents with permit analysts and those involved in writing permits. Vermont has reorganized its environmental review program and has consolidated initial reviews (natural communities, T&E species and critical wildlife habitat) to avoid duplication and increase efficiency. The goal of Maine's "Beginning with Habitat" program is to get the information out proactively so that issues are identified early in the process. They are currently making strides in consolidating environmental review functions and improving the efficiency with which initial project screening is completed at a central location, then regional field offices are brought in when an obvious resource impact is likely to occur. Staff in Maryland commented that they have come a long way in their ability to screen for impacts using GIS and advance mapping platforms internally. Mississippi is also revising its GIS data for habitat locations across

the state to speed up the review process. In addition to the online tool provided by the Illinois program they also employ additional automated forms to increase their program’s efficiency.

Decision support system and Planning tools

Minnesota currently utilizes Alternative Urban Areawide Reviews (AUAR) to assess cumulative impacts of anticipated development scenarios within a specific geographic area. It is a planning tool that local governments can use to understand the impacts of different types of development in their communities and as a way of performing environmental analysis in advance before major development occurs in the area. Arizona’s Heritage Data Management System is currently working with the Western Governors Association to pilot a web application which is a decision support system and geospatial planning tool (similar to NatureServe’s Vista tool “Model Builder”) which can be used to view predicted range maps of over 260 SGCN associated with the State Wildlife Action Plan when planning projects such as state transportation corridors. It also will include unfragmented habitat blocks, corridors, and big game range maps as well as a “diversity index” of SGCN.

Not currently implementing innovations but with plans in the works

Staff from six states mentioned that although their programs are not currently implementing innovative approaches to environmental review they are involved in discussions or active planning to implement future innovations. A staff person from one state mentioned that they are continually trying to streamline the review process and improve communication with regulators and entities that approve permits. Tennessee hopes to have an online environmental review application available in next 2-3 years, but there are several technological and security hurdles that their department has to cross before they can offer dynamic websites to the public. The Northeast Association of Fish and Wildlife Agencies is planning the 67th Annual Northeast Fish and Wildlife Conference in the spring of 2011. They plan to convene a symposium on improving environmental review programs so that they can further the goals of the Wildlife Action Plans.

Program Evaluation

Staff from fourteen states indicated that they would be willing to be contacted for a short interview. Phone interviews were conducted with individuals in eight states and a summary of the conversations are provided in Appendix VII.

Question #4

If your state is implementing innovative approaches to the environmental review process, would you be willing to participate in a short phone interview so that you can share more information about what your program is doing?		
Answer Options	Response Percent	Response Count
Yes	65.0%	13
No	35.0%	7
Please provide contact information for those in your organization that review projects for impacts to T&E species and who are willing to be contacted for a short phone interview; including their email and phone number.		19
	<i>answered question</i>	20
	<i>skipped question</i>	22

Phone interviews were conducted with staff from the following states:

- 1) Arizona: Sabra Schwartz, HDMS Program Coordinator
- 2) Illinois: Karen Miller, Manager- Impact Assessment Section
- 3) Massachusetts: Kristen Black, Environmental Review Manager
- 4) Minnesota: Lisa Joyal, Natural Heritage Review Coordinator
- 5) Nebraska: Michelle Koch, Environmental Analyst Supervisor
- 6) New Hampshire: John Kanter, Nongame and End. Wildlife Program Coordinator
- 7) Pennsylvania: Andrew Rohrbaugh, Environmental Review Specialist
- 8) Wisconsin: Lisie Kitchel, Conservation Biologist/Transportation Planner

Staff from Connecticut, Maine, Maryland, Mississippi, Vermont, and Wyoming, indicated that were willing to be contacted for a phone interview but there was not sufficient time to conduct these interviews and summarize the information.

Program Evaluation

Question #5

Please include any additional comments that you would like to share.

Fifteen respondents provided additional thoughts about their programs and this survey. Staff from several numerous states indicated that they are interested in a summary of the results of the survey and would like to learn from the experiences of other states. In particular some would like ideas for monitoring compliance of recommendations made for protection of natural heritage resources and others are interested in learning what the staffing numbers and budgets are for environmental review in other states. Unfortunately, the question of staffing and budgets was not addressed in the survey. This information could be gathered from individual state programs through the contact list provided in Appendix VIII. Staff from Mississippi's program did indicate that a large number of their staff members are funded through State Wildlife Grant funds to protect species of greatest conservation need in Mississippi. Georgia's program staff requested information from any states have created web based environmental review programs on their own as they are only familiar with the programs that paid for these sites to be developed. They would love to see how these programs work and see if they can "borrow" any of their products.

Staff from several state heritage programs commented that they are not regulatory agencies but rather serve as information providers. They expressed that many of the survey questions seemed more geared toward regulatory agencies. A respondent from Delaware commented that a general lack of regulations protecting rare species or their habitat makes the environmental review process less effective. They indicated that there are not many cases where voluntary actions by a project applicant result in protection. They felt that it is important to use scientific research to support recommendations to protect rare species when providing input for a project. Finally, staff from New Hampshire indicated that they are hoping to plan a session on this topic at the Northeast State's Fish and Wildlife Conference in April and invite participation from programs that would like to explore this topic in more detail.

National Survey: Summary of Survey Results

The purpose of this section is to provide a concise summary of the survey results provided in the previous section. Survey responses from environmental review program staff in forty-two states were organized into two main categories: 1) summary of current environmental review programs, and 2) innovative approaches implemented to improve the environmental review process. This summary section is solely based on the survey responses from staff in state programs that responded to the national survey. Information included in this section focuses on responses that were most frequently mentioned as opposed to including all responses. The first category is organized into five subtopics: a) state endangered species legislation, b) environmental review process c) program strengths d) program challenges, and e) program evaluation. The second category is organized into four subtopics: a) online environmental screening tools, b) data sharing and increased communication, c) programmatic agreements and consolidation of the review process, and d) planning tools.

I. Summary of Current Environmental Review Programs

Endangered Species Legislation

- 32 states (based on survey responses) have an endangered species law.
- Only 19 states have endangered species legislation that protects both threatened and endangered plants and animals,
- Only 10 states (including Michigan) protect both listed plants and animals on private land.

Environmental Review Process

- 35 states have an environmental review program.
- 21 states respond to permit applications that have the potential to impact threatened and endangered species (T&E species).
- 11 states have an online web application which provides applicants with some type of information about the locations of T&E species prior to submitting their application. Most of the time a list of species which may occur in the area or T&E locations with large buffers are provided.
- 8 programs are non-regulatory; they provide data, comments and recommendations regarding T&E species to the regulatory agencies.

Program Strengths

- Good working relationships and internal coordination between agencies was most often cited as what was working well within their environmental review programs.
- Many staff expressed that they were in a good position to provide input on projects and were able to help find solutions that could benefit both wildlife and the project.
- Many states share heritage data with partner agencies to facilitate project review.
- Technical expertise provided by environmental review programs is highly valued.
- Neutral non-biased information about the potential for threatened and endangered species in proposed project areas along with recommendations regarding how to avoid impacts was also valued.
- Online systems or simple web tools for environmental review have increased efficiency.

Program Challenges

- Lack of adequate funding and staff was the most frequently mentioned challenge by environmental review program staff.
- Volume of reviews has grown steadily (especially alternative energy development) while staff resources remain inadequate.
- Lack the resources to develop online tools.
- Lack of regulatory authority to protect rare species and critical habitats and the inability to require and/or monitor compliance of environmental review recommendations.
- Inability to assess cumulative impacts of projects to T&E species.

Program Evaluation

- 13 states provide an annual report to track environmental review activities. Although the number and type of projects reviewed are reported by states, there usually is little or no information on how many projects move forward, what impact there may be to rare species, how these impacts are mitigated and the effectiveness of the program's recommendations.
- 6 states track and report on the effectiveness of their environmental review process. Methods employed for tracking and reporting include: reporting on the number of environmental reviews completed each year, annual technical assistance reports to the United States Fish and Wildlife Service (USFWS) and other agencies and use of an internal database to track and summarize project information.
- Only 5 states indicated that their program has a process for monitoring compliance on permitted projects that have the potential to impact T&E species. If states do have a process in place they often lack the capacity to monitor compliance on a regular basis.
- Only 4 states have a process for assessing cumulative impacts to T&E species from multiple projects over multiple years.

II. Innovative Approaches Implemented to Improve the ER Process

Online Environmental Screening Tools

Based upon information gathered from this survey, currently 10 programs in Arizona, California, Florida, Illinois, Massachusetts, Michigan, Montana, New Hampshire, Pennsylvania and Wisconsin provide an online environmental screening tool for applicants. The online tools vary from simple web applications to more comprehensive automated online processes. Web applications in many states provide applicants with online maps where they can check proposed project areas for occurrences of rare species prior to submitting their applications. Other tools such as those used in Arizona also provide a means for applicants to submit their applications online and receive a determination and response letter as well as guidelines for reducing impacts from certain types of projects. Arizona estimates that their response time has been reduced from 30 days to less than 20 minutes as a result of their online process (See Appendix IX). Arizona clearly has the most innovative online environmental review tool to date.

Data Sharing and Increased Communication

- Wisconsin will begin offering certification training to DNR staff and external individuals and organizations that have a Natural Heritage Inventory (NHI) agreement. The training provides information on the T&E screening process and use of NHI data. Consultants and staff that complete the training will be certified to do “pre-review” letters to expedite the review process.
- Vermont is providing some consultants with access to a fully attributed online database of rare species and natural community information.
- New Mexico has made an effort to increase their face to face communication with applicants and partners.
- Massachusetts has increased their involvement with off-site land banking and designing protection plans to protect species during construction.

Programmatic Agreements and Consolidation of the Review Process

- Nebraska has had success in developing programmatic agreements with other state agencies to expedite the review process.
- Connecticut is in the process of developing an electronic document sharing system to improve information flow between different state agencies/departments during the review process.
- Vermont has consolidated all initial reviews within the environmental program.
- Maine is consolidating environmental review functions, using their central office for initial screening and then forwarding only projects with likely impacts to their regional offices.
- Illinois employs automated forms to increase their program’s efficiency.

Decision Support Systems and Planning Tools

- Minnesota currently utilizes Alternative Urban Areawide Reviews (AUAR), which is a planning tool that local governments can use to assess the impacts of different types of development in their communities.
- Arizona is currently piloting a decision support system and geospatial planning tool which can be used to view predicted range maps of species of greatest conservation need (SGCN) associated with the State Wildlife Action Plan, especially when planning large projects such as state transportation corridors.
- Maine has employed the “Beginning with Habitat” program since 2002.
- Massachusetts developed a statewide biodiversity priority map called BioMap in 2004.

Recommendations

The several components of this environmental review evaluation project, consisting of field evaluations conducted in 2008 and 2009 (Phase I and Phase II) followed by a comprehensive internal survey of State of Michigan WRD staff and an extensive, external national survey of staff in environmental review programs (Phase III) provided a number of insights, from which a clear and well defined set of recommendations emerged. These recommendations could form the foundation for markedly improving the efficiency and effectiveness of the environmental review process while maintaining and enhancing the protection of Michigan's biodiversity. The results from the internal and national surveys yielded particularly valuable information that can assist WLD and WRD in improving the environmental review program by reviewing innovative approaches that have been implemented in states experiencing similar financial constraints and challenges. The following 24 recommendations provided below fall into five main categories, consisting of: 1) training 2) procedures 3) staffing 4) information resources/tools and 5) public outreach, education and community planning. Where applicable, the main categories are organized into thematic sub-categories as appropriate.

Training

1. Present a thorough overview of the environmental review process biennially to all DNRE staff involved in conducting reviews.
2. Conduct at least two cross-training workshops annually within each DNRE region (UP, NLP, SELP, and SWLP) involving staff from the WLD, WRD, and MNFI. Topics should include: identification of T&E species and natural communities, wetland regulations activities which pose a threat to T&E species, mitigation strategies, etc.
3. Increase WLD/MNFI assistance on large and/or complicated WRD consultations to discuss the issues, participate in field visits if appropriate and consider alternatives.
4. Develop and provide a certification program for all DNRE staff involved with environmental review to provide training in the methodology of the threatened and endangered species screening process and the appropriate interpretation and use of BIOTICS data.

Procedures

File Evaluation and Coordination

5. Revise the 1999 Memorandum of Understanding between the DEQ and DNR and incorporate suggestions to improve and streamline the environmental review process, especially in light of the unification of the departments into the DNRE.
6. Provide "read only" access to the BIOTICS polygon data layer ("Biot P") and enable WRD staff to conduct reviews for minor projects and general permits (MP/GP) to help expedite the process.

7. Provide “read-only: access to the full CIWPIS database for WLD/MNFI staff involved with reviewing WRD applications.

Applications and Survey Reporting

8. Develop a checklist of documents required of applicants as part of a technically complete application including photographs and high quality maps (with north arrow, road names, water bodies, major landforms, general habitat, and other pertinent features, etc.) for the proposed project site.
9. Design and implement a standardized DNRE survey report form (with online submission available) and distribute with the “clearance needed” letters. The report form should include information that is required including habitat description, photographs, survey methodology, and plant list, including any invasive species. Surveys submitted without the required information should be sent back to the applicant/consultant.
10. Advise the applicant/landowner/consultant of the potential presence of threatened and endangered shoreline plants (if suitable habitat exists on the property) and inform them of their responsibility to survey for rare species in proximity to the impact zone.
11. Educate landowners/applicants using multiple communication styles (letters, publications, web, telephone, face-to-face, etc.) about the value and function of the Great Lakes coastal community and its associated rare species. Include links to color abstracts, suggested references for additional information, and agency contact information.
12. Develop programmatic agreements with MDOT, USDA, etc. to help expedite the environmental review process (similar to those developed by Nebraska’s natural heritage program with its partners).

Permits

13. Adopt appropriate procedures to insure that permits are NOT issued to applicants that do not respond to “clearance needed” letters.
14. Include specific language in permits regarding the rare plants and animals that occur or have potential to occur at project sites.

Compliance

15. Conduct site visits annually at a small sample of sites to evaluate compliance for projects that have potential to negatively impact T&E species and track this compliance information in a database. This would require several years of data to establish trends.

Staffing

16. Increase staffing involved in the environmental review process. Current workloads make it extremely difficult for existing staff to identify potential impacts to listed species during their review process given the short turn around time. Explore various sources to support additional staff, including charging fees to applicants for conducting reviews,

requesting financial support from public service commissions (utilities), transportation and agriculture agencies, and assessing fees to alternative energy corporations for scoping of large projects.

Information Resources/Tools

17. Update and improve the DNRE Endangered Species Assessment web application. The current software is outdated and due to expire soon. The updated application should provide users the ability to digitize their entire project boundary. In addition the map application needs improvement to improve the viewing experience and increase the speed at which base maps are loaded. The application should also include guidelines for applicants regarding specific types of projects. This will improve the screening of WRD applications and reduce the number of “no impact” projects which need to be reviewed.
18. Improve the MNFI database and develop a set of indicators to measure the quality of the data. Suggestions include addressing the backlog of occurrences, hiring staff to verify older listings and document high quality habitats in Michigan, and getting input from the public on the location of rare species on their property.
19. Eliminate redundant screening efforts by using database software that can be accessed by WLD (including MNFI) and WRD staff. This software would allow two separate customized applications of the environmental review project files to be used by each Division, but the software would provide the ability to communicate and transfer information between each application.
20. Track cumulative environmental impacts by developing a database of T&E species and important ecological areas combined with the land use changes that have resulted over time, as well as the proposed land or water alteration. There is currently no process in place to address cumulative impacts and inform large-scale planning projects.
21. Develop additional information resources needed by WRD staff in the field such as species and community abstracts, updating of the rare species explorer, and the development of best management practices for targeted species.
22. Create field guides with photos, descriptions and comments to provide assistance to field staff in the identification of T&E species in their region.
23. Provide a detailed overview of the environmental review process via the DNRE website, including a flow chart of the process, information about the agencies involved in the process, links to the Endangered Species Assessment online tool, species abstracts, and other resources on how to plan pro-actively to avoid impacts to natural resources.

Public Outreach, Education and Community Planning

24. Work proactively with communities across the state to integrate information about rare species and high quality natural communities into their planning processes.

Priority Actions

Development of Criteria and Scoring

The final step of this investigation of the environmental review process consisted of carefully considering the relatively large set of 24 recommendations in order to identify priority tasks. Because it is difficult to evaluate and compare all the recommendations over their diverse set of categories, we developed a set of evaluation criteria based on the same considerations that policy and decision makers would employ in response to suggested programmatic changes. We then identified and developed four key sets of criteria with which to assess each recommendation, consisting of: 1) Cost, 2) Potential Benefit to the Environmental Review Process, 3) Potential Benefit to the Natural Resource, and 4) Time Frame (Table 4).

Definitions for scoring the criteria are provided in the right hand column in Table 4. Cost was scored as low, moderate, or high and Time Frame was ranked as short,- moderate,- and long-term. Both the Potential Benefit to the Environmental Review Process and the Potential Benefit to the Natural Resource were defined as low, moderate, and high. We also included a category of “unknown” where we felt we did not have the ability to reliably assign an answer.

Using the four criteria and their categories shown in Table 4, we then methodically reviewed and scored each recommendation, as summarized in Table 5.

Table 4. Criteria for Ranking Recommendations

Criteria	Definition of Classes
Cost	(quantitative)
low	< \$10,000
moderate	\$10,000 - 100,000
high	> \$100,000
Potential Benefit – Review Process	(qualitative)
low	negligible to minor improvements
moderate	neither minor or significant
high	remove significant obstacles, and/or significant improvement in efficiency or effectiveness
unknown	unsure about impacts
Potential Benefit – Natural Resources	(qualitative)
low	negligible to minor improvements
moderate	neither minor or significant
high	broad spatial impact (statewide)
unknown	unsure about impacts
Time Frame	(quantitative)
short-term	0-6 months
moderate-term	6 months to 2 years
long-term	> 2 years

Table 5. Scored Recommendations

Recommendation	Cost	Potential Benefit: Review Process	Potential Benefit: Natural Resources	Time Frame
Training				
1- Conduct Biannual Overview of ER Process and Procedures for Staff	Low	Moderate	Low	Short-term
2- Conduct Annual Cross-Training Workshops in Different Regions	Moderate	High	Moderate	Short-term
3- Increase Collaboration/Assistance on Large Projects	Moderate	Moderate	Moderate	Short-term
4- Provide Certification Training to all DNRE staff on T&E screening	Low	Moderate	Moderate	Moderate-term
Procedures				
5- Revise the MOU (MOA) Between WLD and WRD	Low	Moderate	Low	Short-term
6- Provide Access to "Biot P" to WRD so they can do reviews for MP/GP	Low	Moderate	Low	Moderate-term
7- Provide Full Access to CIWPIS to WD and MNFI for Reviews	Low	Moderate	Low	Short-term
8- Develop Checklist of Documents Required of Applicants	Low	High	Unknown	Short-term
9- Implement Standardized DNRE Survey Reporting Form	Low	High	Unknown	Short-term
10- Advise Applicants of Potential for T&E Species and Need to Survey	Low	Low	High	Short-term
11- Educate Applicants of Value of Coastal Communities/Rare Species	Low	Low	High	Short-term
12- Develop Programmatic Agreements with Partners	Low	Moderate	Low	Moderate-term
13- Do not Issue Permit if No Response to "Clearance Needed" Letter	Low	Unknown	Moderate	Short-term
14- Include Specific Language About Potential T&E Species in Permits	Low	Low	Unknown	Short-term
15- Conduct Annual Visits to a Sample of Sites to Evaluate Compliance	Moderate	High	High	Long-term
Staffing				
16- Increase Number of Staff That Conduct Environmental Review	High	High	High	Moderate-term
Information Resources/Tools				
17- Update the ESA Web Application	Moderate	High	Low	Moderate-term
18- Improve/Update MNFI Database	High	High	High	Long-term
19- Develop/Use Common ER Database	Unknown	High	Low	Moderate-term
20- Develop Database to Track Cumulative Impacts	High	Unknown	Unknown	Long-term
21- Develop Resources to Assist WRD in the Field with Info on T&E Species	Moderate	Low	Moderate	Moderate-term
22- Create Field Guide to Assist Staff with T&E Species Identification	High	Low	Moderate	Long-term
23- Provide Overview of ER Process on Website with Links to Resources	Low	Moderate	Moderate	Moderate-term
24- Help communities use natural heritage data in planning process	High	Low	High	Long-term

Identification of Top Ten Priority Recommendations

Following the scoring of the 24 recommendations provided in Table 5, we then evaluated them and identified the top ten priority recommendations that could have the greatest impact. The recommendations listed below are organized by time frame: short-term, moderate-term, and long-term. The ranking for each recommendation is provided with respect to the cost, the potential benefits to the existing environmental review process and to the natural resources.

Table 6. Top Ten Priority Recommendations Organized by Time Frame.

Recommendation	Cost	Potential Benefit: Review Process	Potential Benefit: Natural Resources
Short-term			
2- Conduct Annual Cross-Training Workshops in Different Regions	Moderate	High	Moderate
8- Develop Checklist of Documents Required of Applicants	Low	High	Unknown
9- Implement Standardized DNRE Survey Reporting Form	Low	High	Unknown
3- Increase Collaboration/Assistance on Large Projects	Moderate	Moderate	Moderate
Moderate-term			
16- Increase Number of Staff That Conduct Environmental Review	High	High	High
4- Provide Certification Training to all DNRE staff on T&E screening	Low	Moderate	Moderate
17- Update the ESA Web Application	Moderate	High	Low
23- Provide Overview of ER Process on Website with Links to Resources	Low	Moderate	Moderate
Long-term			
15- Conduct Annual Visits to a Sample Of Sites to Evaluate Compliance	Moderate	High	High
18- Improve/Update MNFI Database	High	High	High

In addition to the ten priority recommendations listed above in Table 6, we felt that several of the other recommendations deserve attention and should also be considered as essential to the long-term success of the ER process. For example, Recommendation #5, revise the MOU (MOA) between WLD and WRD, is vitally important particularly in light of the recent merger between the Department of Environmental Quality and Department of Natural Resources and the high number of staff retiring at the end of calendar year 2010. The MOA would replace the former (1999) MOU between the former DEQ and DNR, and provide official documentation and much needed guidance to maintain and enhance the environmental review process. In addition, Recommendation #6, providing access to “Biot_P”, an important GIS data layer, would enable WRD staff to review general and minor projects and could result in more knowledgeable and effective staff members, increased collaboration between WRD and WD, quicker turn around times on no impact applications, and more time spent on large and/or complex projects.

Project Summary and Conclusions

Evaluation of the state environmental review process was conducted by focusing on projects within the Michigan coastal zone, a biologically rich region supporting a high percentage of rare plant, animal, and natural community occurrences, many of which are globally rare. To adequately assess the effectiveness of the state environmental review program, we first conducted a methodical file evaluation of projects within the coastal zone in northern Michigan, followed by field assessments with an emphasis on the presence of rare plant occurrences (Olson et al. 2009, Hyde et al. 2010). The project was concluded by designing and distributing a statewide internal survey of WRD staff as well as an extensive national survey to ascertain the status of other state environmental review programs and to provide a broad perspective. The information obtained from these efforts was analyzed and used to compile a set of 24 specific recommendations for improving the environmental review process. These recommendations were further evaluated and scored by applying cost, benefit, and time-frame criteria to identify priority recommendations that were stratified by short-, moderate- or long-term implementation.

Overall, our general findings are that: 1) field site assessments with WRD and MDOT staff indicated that the environmental review program is working well within the Michigan coastal zone but could be significantly improved by implementing relatively minor changes such as providing regular training, 2) the wetland program staff perception is that the environmental review program is adequate when applied to wetlands (though improvements are indicated) but very inadequate in all other habitats, and 3) Michigan's environmental review program probably ranks in the top 25% of all state environmental review programs based on national survey responses, but the program requires considerable improvements.

Through the national survey we learned that relative to other states, Michigan currently has one of the better environmental review programs, however the current condition of programs across the nation is not at the level required to adequately protect our country's biodiversity. Michigan is fortunate to have strong endangered species legislation which provides protection to threatened and endangered species on both public and private land. The current environmental review program provides a process (including a web application) for evaluating projects for impacts to threatened and endangered species and annually reports its efforts. On the other hand, of the eight programs interviewed in other states, Michigan has the smallest number of staff (1.5 FTE's) dedicated to reviewing projects for impacts to legally protected species. Compared with many states, information about the environmental review process is very difficult to find on the state government website and is not clearly presented. The online endangered species assessment application is very outdated and will soon lose its functionality if not updated. Similarly the CIWPIS database is approaching obsolescence and needs to be redesigned. In order for Michigan to develop a more robust environmental review program that thoroughly addresses the protection of Michigan's legally protected species, significant changes are needed.

One example of designing a more robust and pro-active environmental review program is provided by an on-going effort by the Department of Environmental Quality's (DEQ) Environmental Advisory Council. In 2008, they initiated a related but separate evaluation of environmental permitting programs administered by DEQ. The Environmental Advisory Council (EAC) was charged with developing a new approach to addressing regulatory

environmental issues such as wetland protection, environmental contamination, and air quality. One of the key recommendations of the EAC was that these programs would be more effective if they focused on agreed upon outcomes rather than perpetually reacting to individual activities. Outcomes for the environmental review program could thus include the desired condition of a plant or animal population, the condition, landscape context, and size of their associated habitat, and/or the number of viable populations for each species. Identifying a set of clear outcomes for Michigan's environmental review process might provide the paradigm shift needed to build a stronger, more sustainable program that evaluates the effectiveness of the environmental review process in a more meaningful way over time.

Another applicable example of outcome-based management and planning is provided in a recent white paper developed by The Environmental Law Institute and The Nature Conservancy entitled "The Next Generation of Mitigation: Linking Current and Future Mitigation Programs with State Wildlife Action Plans and other State and Regional Plans" (Wilkinson et al. 2009). The authors assert that mitigation can move beyond a piece-meal response to a more integrated, consistent and pro-active approach guided by landscape and watershed planning. This approach, they contend would provide more effective conservation outcomes for wildlife, natural communities and ecosystem services while improving the business climate through better project planning, increased efficiency and the reduction of uncertainty and risks. They assert that what is needed is to "1) Ensure consistent and rigorous application of the mitigation protocol (avoid, minimize, compensate) for addressing impacts to wildlife habitat under existing, expanded and future regulatory programs, 2) Use of State Wildlife Action Plans and other federal and regional plans as the framework for a more comprehensive approach to making mitigation decisions, and 3) Give priority in the investment of compensatory funds to projects and activities identified by State Wildlife Action Plans and other plans and that are sufficient in scale and strategic in their location to support the long term health of whole ecosystems." A careful review of this document could provide valuable guidance to resource managers as they face the challenge of mitigating emerging resource conflicts arising from energy and other infrastructure development to ensure that they have more beneficial conservation outcomes at the same time that financial resources are becoming increasingly constrained.

In conclusion, we believe that careful consideration of the full set of recommendations included in this report and implementation of priority recommendations will assist the department in its mission to protect natural resources while maintaining compliance with environmental regulations and facilitating an efficient environmental review process for Michigan's citizens.

Acknowledgements

Primary funding for this three-year project was provided by the Michigan Coastal Management Program, Michigan Department of Natural Resources and Environment (DNRE) through grants from the National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce. Significant financial assistance that also made this project possible was provided by the DNRE Wildlife Division (WLD), which included funding from the Research Program and the Private Lands Program. We appreciate the support of Patrick Lederle and Mark Sargent for this three-year effort. We are particularly indebted to our Project Officer, Alisa Gonzalez-Pennington, Coastal Management Program, for her knowledgeable oversight and guidance, and Nancy Toben, MNFI Budget Specialist, for her skills in navigating through the often complicated financial straits.

We are especially grateful for the leadership provided by Lori Sargent and Jennifer Olson in WLD and Todd Losee and Amy Lounds in the Water Resources Division (WRD). They provided critical feedback on the survey questions, increased our understanding of the complex environmental review process and helped us to gauge the feasibility of our recommendations. We appreciate the valuable guidance provided by Brian Frawley and Kelly Carter regarding the survey instrument and design.

This effort would not have been possible without the dedication and commitment from the WRD staff that took time to complete the survey and provide honest and comprehensive comments for improving the environmental review process. We are grateful for the assistance of Mike Masterson in distributing the survey and facilitating the return of the responses from his staff. We offer our heartfelt thanks for the kind assistance provided us on the site visits by WRD staff John Arevalo, John Gustafson, Marcy Knol, Roxanne Merrick, Scott Rasmusson and Mike Smolinski. Their expertise and dedication in protecting natural resources is commendable and inspiring. In addition, we appreciate the assistance and guidance provided by Dave Schuen and Ulrika Zay, Michigan Department of Transportation (MDOT), who helped us gain a much better understanding of MDOT environmental review procedures and practices through the several project sites they guided us through and carefully explained.

We appreciate the staff from environmental review programs in 42 states that took the time to respond to the survey to provide insightful information. Their candid comments provided a perspective on the challenges and opportunities facing programs across the country. We are especially grateful to staff from eight states that took time to conduct phone interviews and share details about the innovative approaches their programs have taken to improve the environmental review process. These include: Sabra Schwartz, HDMS Program Coordinator, Arizona; Karen Miller, Manager- Impact Assessment Section, Illinois; Kristen Black, Environmental Review Manager, Illinois; Lisa Joyal, Natural Heritage Review Coordinator, Minnesota; Michelle Koch, Environmental Analyst Supervisor, Nebraska; John Kanter, Nongame and Endangered Wildlife Program Coordinator, New Hampshire; Andrew Rohrbaugh, Environmental Review Specialist, Pennsylvania; and Lisie Kitchel, Conservation Biologist/Transportation Planner, Wisconsin.

Finally we value the expertise and dedication of Sue Ridge, Kraig Korroch and Rebecca Rogers, MNFI. Their support on this project was, as always, invaluable.

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Appendices

Part 1: Internal Survey

- Appendix I- Letter sent to WRD Staff
- Appendix II- Survey Sent to WRD Staff
- Appendix III- Qualitative Survey Responses

Part 2: National Survey

- Appendix IV- Letter sent to State Programs
- Appendix V- Survey sent to State Programs
- Appendix VI- Survey Responses
- Appendix VII- Summary of Phone Interviews
- Appendix VIII- Contact and Web Addresses for state programs
- Appendix IX- Arizona Game and Fish Department Development and Implementation of the Environmental Review On-Line Tool

Internal Survey
Appendix I
Letter Sent to WRD Staff

From: Masterson, Mike (DNRE)
Sent: Monday, August 02, 2010 2:10 PM
To: DEQ-LWM-Field; DEQ-LWM-Transportation-Flood-Hazard
Cc: Losee, Todd (DNRE); Ostlund, Peter (DNRE); Yoon, Hae-Jin (DNRE); Argiroff, Phil (DNRE); Bartley, Cheryl (DNRE); Russell, Jon (DNRE); Worm, Michael (DNRE); Danneffel, Gregory (DNRE); Stifler, Mike (DNRE); Casey, Steve (DNRE)
Subject: MNFI SURVEY - PLEASE COMPLETE ASAP - Survey closes August 16, 2010

This note applies to only former Land and Water Management Division staff.

Michigan Natural Features Inventory (MNFI) has received a 3 year grant through the Coastal Zone Management program to evaluate the effectiveness of the environmental review (Threatened and Endangered Species and Special Natural Communities) program. In the third and final year of this project MNFI is asking the LWMD staff to provide input on what is working well and how the environmental review process could be improved. Your input is essential for improving this process. In addition a survey will be sent to other state natural heritage programs to learn how they address the protection of rare species and natural communities at the state level.

Please go to the link below and fill out the online survey. We ask that you complete this survey within the next two weeks, no later than August 16th. The survey should take less than 15 minutes to complete and all responses are confidential. Results of the survey will be summarized and available in a final report this fall. Todd Losee is coordinating this survey with MNFI, so please feel free to forward any questions directly to him.

Link: <http://www.surveymonkey.com/s/2HCLXBV>

Thank you.

Michael F. Masterson
Lakes Michigan and Superior Field Operations Section
Water Resources Division
Department of Natural Resources
Direct: 517-335-1065 Fax: 517-373-6917
Email: mastersonm@michigan.gov

1. Evaluating the Effectiveness of the Environmental Review Process

Background

Rare plants and natural communities are important barometers of ecological condition and environmental health, and state and federal agencies have the responsibility of protecting these rare resources from direct and unreasonable human impacts. To assist in the management and protection of rare species in Michigan, cooperative agreements have existed between the Land and Water Management Division (LWMD), and the Wildlife Division (WD) within the DNRE and between the DNRE and MNFI. These cooperative agreements, and established and long used protocol, form the foundation of the state's environmental review process.

Unfortunately, the ability to follow-up and monitor compliance of rare species protection efforts has not been a part of the environmental review process, and understanding the effectiveness of the DNRE in protecting Michigan's rare natural resources is a challenge. For two years we have analyzed permits and conducted field studies in coordination with LWMD field staff to evaluate projects for which there have been concerns regarding T&E species. In the third and final year of this project we are asking the LWMD staff to provide input on what is working well and how the environmental review process could be improved. Your input is essential for improving this process. In addition a survey will be sent to other state natural heritage programs to learn how they address the protection of rare species and natural communities at the state level.

The results of the LWMD permit analysis, project site visits, LWMD personnel survey and state natural heritage program survey will be summarized in a final report. The final report will identify specific recommendations and improvements needed to operate a more effective and efficient environmental review program in Michigan.

This survey should take less than 15 minutes to complete. Thanks for your participation. Your input is greatly appreciated!

2. Compliance: Regulated Habitats

- * **1. For projects that received a LWMD permit, are you aware of any individual permits/public notices that should have gone through a CIWPIS review for T&E species but did not?**

Yes

No

If yes, how often has this happened in the past 5 years? Rarely (<5 projects), Occasionally (5-10 projects) and Frequently (>10 projects)

- * **2. For projects that received a LWMD permit, are you aware of any minor projects/general permits that should have gone through a CIWPIS review for T&E species but did not?**

Yes

No

If yes, how often has this happened in the past 5 years? Rarely (<5 projects), Occasionally (5-10 projects) and Frequently (>10 projects).

*** 3. For LWMD permits that received a T&E clearance of “No Impact”, are you aware of projects where a T & E species was negatively impacted by project activities?**

Yes

No

Unsure

4. If you answered yes to Question #3, how often has this happened?

Rarely (<5 projects)

Occasionally (5-10 projects)

Frequently (>10 projects)

Please list the types of activities (i.e. wetland fills, dredging, digging of ponds, other, etc.) AND the species/groups impacted (plants, birds, mammals, insects, reptiles, amphibians, fish, etc).

5. If you answered yes to question #3, How many projects resulting in negative impacts occurred in each category below?

a) Number of projects that were reviewed/approved by Wildlife Division

b) Number of projects not reviewed/approved by Wildlife Division

*** 6. For projects requiring a LWMD permit and that have potential to impact T & E species, a “clearance needed” letter is sent to applicant by the Wildlife Division. How compliant do you think permit applicants are in providing the information required by the Wildlife Division for a “No Effect” statement (e.g. survey results from a knowledgeable source, photos of project site) before beginning work on the project?**

Not compliant

Somewhat compliant

Compliant

Very compliant (takes extra measures to insure compliance)

Level of compliance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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3. Compliance: Non-regulated habitats

The current environmental review process is focused on wetlands, water bodies and Great Lakes shorelines. Some species and communities, especially in upland communities may fall through the cracks (i.e. Kirtland’s warbler, Karner blue butterfly, Ginseng)

*** 1. Are you aware of projects that have taken place outside of LWMD jurisdiction that have impacted rare species or natural communities?**

Yes

No (skip to next section)

2. If yes, in which types of non-wetlands habitats did these projects occur? Please check all that apply.

- a) Forested
- b) Grassland
- c) Prairie
- d) Savanna
- e) Other (please specify)

3. If yes, what flora or fauna were potentially impacted? Please check all that apply.

- a) Plants
- b) Birds
- c) Amphibians
- d) Reptiles
- e) Insects
- f) Mammals

4. If yes how often has this happened in the past 5 yrs?

- a) Rarely (<5 projects)
- b) Occasionally (5-10 projects)
- c) Frequently (>10 projects)

4. Communication

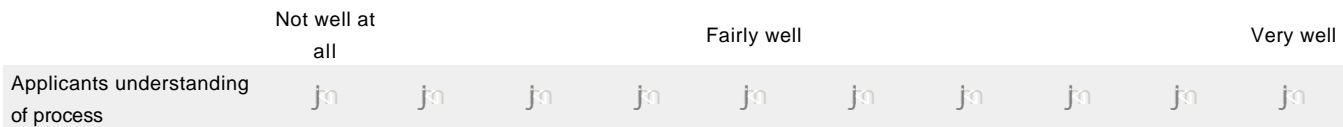
*** 1. How would you rate the quality of communication and coordination between the Wildlife Division and LWMD?**

	Poor		Fair			Good		Very Good	
Quality of communication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*** 2. How would you rate the amount of communication/coordination between the Wildlife Division and LWMD?**

	Inadequate				Adequate			More than adequate	
Amount of communication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

★ **3. Overall, how well do you think permit applicants understand the environmental review 'clearance required' process?**



★ **4. How would you rate your level of understanding of the T & E environmental review process as it relates to applications that impact LWMD regulated resources?**



5. What specific improvements would you suggest to improve the communication and coordination between Wildlife Division and LWMD?

5. Procedural

★ **1. Would you like more input from Wildlife Division field staff or natural heritage program staff in reviewing the potential for impacts to T & E species on permit applications?**

Yes

No

Why?

★ **2. Do you think that the Wildlife Division field staff or natural heritage program staff should have more interaction with permit applicants and/or consultants?**

Yes

No

Why?

* 3. Do you think that the statutory requirements associated with the environmental review process (avg. ~30 days to respond and < 90 days to issue permit) has resulted in inadequate review of the potential for T&E species/habitat and caused negative impacts to T&E species?

- No negative impacts
- Some negative impacts
- Great negative impacts

Please explain.

6. Potential for Cumulative Impacts to Species/Habitats

* 1. How would you rate the LWMD's ability to assess cumulative impacts to T & E species (especially on private lands)?

	Poor			Fair			Good			Very Good
Ability to assess cumulative impacts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 2. How much of a problem do you think cumulative impacts are to T & E species and protected resources in your region (especially on private land)?

	Not a problem			Somewhat of a problem			Significant problem		
Degree of problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain

7. Training

* 1. How would you rate the amount of training that you have received to identify Michigan's rare species and natural communities and to assess possible impacts to them?

	Very insufficient			Insufficient			Sufficient			Very Sufficient
Amount of training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

★ **2. How often do you use the MNFI database of T& E species and natural communities?**

	Never		Occasionally (1X per quarter)			Somewhat often (1X per month)			Frequently (1X per week)	
Frequency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. If you use the MNFI database, how helpful is it to you in determining whether T & E species occur at proposed project sites?

	Not helpful at all			Somewhat helpful			Helpful		Very helpful
How helpful?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

★ **4. Which resources are you aware of to help you identify Michigan’s rare species and natural communities?**

- MNFI Rare Species Abstracts
- MNFI Rare Species Explorer
- Field Guides (books, CD's etc)
- Other references (please describe below in comment box)

How often do you use these resources? (Please specify the frequency (as defined in #2) that you use each resource).

★ **5. How important do you think it is to have interactive training opportunities between LWMD, Wildlife Division, MNFI, MDOT and other partners?**

	Not important		Somewhat important			Important		Very important	
Importance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Final Thoughts

★ **1. How effective do you think the current ER process is (with regards to LWMD regulated resources) in protecting listed species and rare wetland communities.**

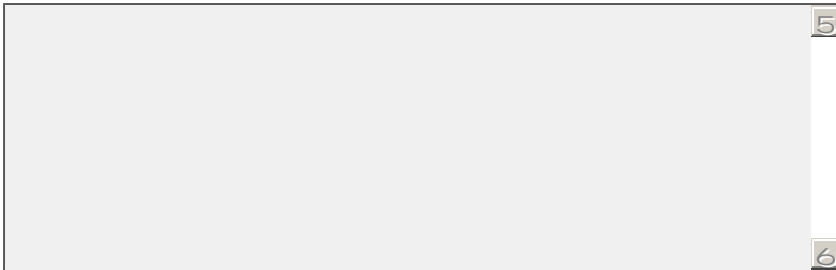
	Not effective		Somewhat effective			Effective		Very effective	
Effectiveness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

★ **2. Given the anticipated decline in revenue, what recommendations would you give to improve the ER process in the short term?**

*** 3. What long-term recommendations would you give (disregarding financial and staffing limitations) to improve the ER process for protecting T&E species and natural communities?**



4. Please share any additional comments or suggestions here.



Appendix III

Qualitative Survey Responses Received from WRD Staff

Communication:

Question #5

What specific improvements would you suggest to improve the communication and coordination between Wildlife Division and LWMD?

Comments were grouped into categories. Similar comments were combined and a number is provided in parentheses to indicate the number of responses of this type.

Consistency and Timeliness

- Need more consistent responses statewide (2)
- Reviews are often inconsistent, i.e. LWMD public notices a dredge project at a marina and a “no effect” determination is made. Two years later the same marina gets a hit for a fish species that is listed and now they need a clearance letter. I do not think that additional species information was gleaned in the 2 years and if so LWMD should be made aware. I keep seeing information that the N. riffleshell may still have some surviving individuals in the Detroit River. We issue a lot of dredging permits here that do not go through the E/T species process. It would be good to have more information on this. This is an example of an opportunity missed.
- Provide comments in timely manner. (4)
- I have occasionally had applications disappear.
- Need initial review in a hurry, even if more study or clearance is required.
- The Wildlife staff person is often difficult to get a hold of and is not able to respond to me in a timely manner.
- There should be a consistent specified review period. (2)

Coordination and Procedures

- There is somewhat of a “hands off attitude from Wildlife staff in the Cadillac District. We work more closely with Fisheries staff on projects. I think Wildlife staff think we issue too many permits and that the scale of our projects is too small (residential lots and properties). One way we interact with Fisheries staff is that they receive copies of permit applications where LWMD staff would like to receive comments. This is an established procedure and it would be a good one to establish with Wildlife staff as well. From the application review, LWMD often visit the site with the Fisheries staff person, discuss the issues and consider alternatives to reduce or eliminate impacts to natural resources. I know wildlife staff would say they are too busy but Fisheries staff are also busy. An attitude change is needed, otherwise LWMD staff attempts to interact with Wildlife staff will be unproductive.
- I don’t think that clients understand that a permit may be held up for review if there is a T&E species on sites. This should appear on the application from somewhere as a potential reason for delays.
- It’s important to consider cumulative impacts from projects.

- Also should we refer clients to the T&E staff once a determination has been made?
- It is important for LWMD to know if there is potential for an impact to T&E species that will require clearance early in the review process. Just a hit in CIWPIS often isn't enough information for LWMD staff to know if the proposed project will impact a species and/or habitat. It is understandable that response time will vary (the project requires more in-depth review, staff workload, etc.), but sometimes waiting on a comment from WD is the only thing holding up a decision on a permit. If there was a timeframe established so we knew when we would receive a response by that would be helpful.
- There have been times where the applicant or their consultant asks for a status on their application for permit, and I tell them I haven't issued a permit yet because I was waiting for a T & E clearance letter. The applicant/consultant then tells me that they already received a clearance letter from Wildlife Division. Obviously this was due to early coordination between the applicant/consultant and Wildlife Division. Had I known about the clearance letter, I could have issued the permit sooner. If the standard clearance letter doesn't already say so, I suggest that it instructs the applicant or their consultant to include the letter along with the permit application.
- Train those who do LWMD permitting in the T&E review of most files. Train LWMD staff on how to obtain T &E comments and include penalties, reprimands for those who ignore T&E concerns and issue permits without reviewing potential concerns.
- LWMD staff should be able to do at least simple reviews.
- Continue to allow Water Div staff to conduct review of minor and general permit applications using the MNFI database and make determination regarding the potential for impacts and whether to copy MNFI for a more detailed review or to issue the permit based on the in-office review.
- When working with transportation agencies, many of their projects are in areas that are regularly mowed or otherwise impacted, in these cases provide automatic approval or have LWMD staff make this call.

Database Issues

- Some of the info on the MNFI website is VERY old. I've noted plants dated 1930! Anyway it would be good to revisit these older sites to verify. I know money is an issue, but a lot of things change in 80 years.
- Keep database updated. In some instances a search in a TRS will turn up a T&E hit and then on subsequent searches there is not hit...this doesn't make sense.
- We don't require surveys or timing restrictions for SC species. Eagles are not considered SC but are protected federally...so how do we/you treat them at the State level currently?

General Comments

- The process works well.

Quality and Amount of Communication (between WD and LWMD)

- I wish that the Wildlife staff were more available and approachable and open to discussion about environmental review issues. It would help if Wildlife staff made more attempts at developing a good rapport with LWMD staff.
- I think that increased communication is all this is necessary. Perhaps a meeting between Wildlife staff and district field staff to review the coordination and review responsibilities would assist. Perhaps an email once in awhile from Wildlife to LWMD regarding certain species that are of particular concern, especially in the spring/fall etc. Just more communication and reminders would help a great deal.
- Occasionally, WD staff has not been sent copies of permit applications for review where one was clearly needed.. Also if a TRS is incorrect or absent, they are occasionally not sent the application for review.
- I get emails of “no impact” on projects that WD indicated they wouldn’t be spending time reviewing per the 5/11/07 memo.
- More involvement from WD district staff would be beneficial. (3)
- Face to face contact and discussions such as cross training, or at least occasional meetings would vastly improve my confidence in working with Wildlife staff. In ten years of doing intake, screening of permits I have not had occasion to meet with Lori Sargent, Mike Sanders or former staff person Jennifer Olson. Working in two different buildings has been the primary reason but working in person rather than always electronically can improve and build working relationships. With the merger and DNRE staff moving into the same building having these conversations and cross training will make us better. Learning more about Natural Heritage’s special focus on T&E focus will make me better in my work.

Staff Resources and Training

- Need more staff available to review/comment on apps.
- Provide training to those in each district to learn the specific T& E species that they may encounter. (1)
- A two-hour cross training might do it. Provide each division with a checklist of what the other division does in a review as a take home message. Definitely provide contact information. (1)
- More training for staff (especially new).

Procedural:
Question #1

Would you like more input from Wildlife Division field staff or natural heritage program staff in reviewing the potential for impacts to T & E species on permit applications?

Follow up responses to Question #1.

Comments were grouped into categories. Similar comments were combined and a number is provided in parentheses to indicate the number of responses of this type.

Yes: Want more input to Improve Efficiency and Timeliness

- Timely complete responses are crucial to permitting process.

Yes: Want more input to gain input from staff with expertise in this area

- I don't understand the process.
- It appears that we should be knowledgeable about how all species would or could be impacted such as what habitat they need, etc.; but I believe staff could use much more help in this respect.
- It is helpful to get any and all information to make a correct permitting decision.
- The information provided often helps to back up our decision making.
- Need to know more about the project before issuing an initial response
- Often these staff are more specialized and familiar with identifying potential suitable habitat for T&E spp
- I rely on Wildlife to assess the cumulative impacts in an area that they are most familiar with. That way, projects can be reviewed in context.
- To have additional expertise, especially in denial of a permit and through the contested case process.
- While in a perfect world we would be able to defend our decisions better
- Larger projects require more information from natural heritage program on why impacts are or are not expected. LWMD must find that the impacts to the environment do not outweigh the benefits to the environment in permit review. Sometimes the standard "no impact" letter is insufficient explanation.
- It helps us defend our permit decisions, or permit condition requirements, as well as improves our overall review of resource impacts and permit issuance criteria.
- More input is always welcome. Especially tips on what LWMD staff should be looking for when conducting site inspections, status updates on reviews, or even why a statement of "no impact" was given.
- I rarely encounter rare communities (and these are generally small examples) or rare species, but have not received much of a response when I have alerted MNFI staff to their existence. As a result, I have not put much effort into seeking alternative development plans from the property owner beyond standard requirements of parts 301 and 303.

No: Input is adequate

- I think the responses provided are adequate for us to be able to continue our review. There have been a couple of times where it was a simple culvert

replacement where they asked for additional review. I did not think this was necessary for this type of project where the applicant is simply replacing what is there.

- Input is adequate. They have far too many projects, per staff person, to review as it stands.
- If we feel there is a need, we normally ask someone with the T&E program for more information on that site.
- Current input explains potential impacts to T & E species
- This is a tough question. The way the T/E program is run now, the comments we receive are adequate. If more on-site inspections were required, then yes, more interaction would be necessary.
- I do feel I have the info from the letters by Natural Heritage and e-mail conversations to do my work.
- Keep database updated and let Wetland Division staff conduct reviews for minor projects; processing will be quicker and result in less complaints by applicants, esp. in northern zones where the construction season is only a little more than half the year.
- T&E species are a small portion of our review and efficiency is vital to keeping things functioning on the whole.
- It takes too long; their comments seem to have little relevance to the project in most cases; their comments and conditions may not be enforceable by the LWMD permits.

Procedural:
Question #2

Do you think that the Wildlife Division field staff or natural heritage program staff should have more interaction with permit applicants and/or consultants?

Follow up responses to Question #2.

Comments were grouped into categories. Similar comments were combined and a number is provided in parentheses to indicate the number of responses of this type.

More interaction needed to improve applicants understanding

- Most applicants and consultants only give negative feedback about longer review times when T&E species come into play. They do not understand the importance of it and it would be beneficial for the natural heritage or wildlife individuals to contact these individuals as well and state the importance.
- Additional interaction might help educate applicants and consultants as to why endangered species and even non-endangered species are important.
- I think that a personal contact to the applicant would be helpful.
- The public doesn't know about the T& E program and when it applies. I think additional information would be beneficial for the consultants.
- Especially in community development and/or land development to bring wildlife habitat/corridors into consideration early on in the planning process.

- The LWMD is the interaction between the public/applicant and the permit process, but oftentimes, we need additional expertise regarding specific sites, species or habitats to back up our decisions on permits, or in dealing with violations.
- Possibly. Hard to know what communication goes on between these entities since we aren't in the loop. OR, maybe there is none!!
- To ensure that survey or other requirements are clear to the property owner/applicant/consultant.
- A cooperation and knowledge between the two would build a more solid permit review and better protection of the resources
- It would help educate the regulated community and thus improve compliance
- Because they are the ones making the determinations and modifications.
- to help them avoid T&E impacts and to help them plan their projects better
- Seems it would be easier for them to explain the information they are requesting instead of us passing it along to the applicant.
- I have often been called after permit applicants or consultants have received a notice requiring a survey.
- I don't know a specific area where interaction is lacking, but more is always better. WD and Natural Heritage are more knowledgeable about the program and reasons for requiring clearance for a specific project. They can often convey the message more clearly and accurately than LWMD staff.
- I think that if LWMD staff isn't trained and allowed to do T&E reviews, then the Wildlife staff should have to deal directly with the applicants/consultants and leave us out of it.
- I am not aware of the level of interaction they have now.
- Seems pretty low on their priority list.

Do not think more interaction is needed.

- I feel that we perform adequately as this liaison, and I think it would result in more work and stress for these staff!
- I believe that there is adequate interaction with the current workload.
- I have no reason to think Wildlife staff are not doing their work.
- written correspondence when there is a need to identify existence of a T&E and subsequent decision is adequate.
- Written correspondence to applicant which should be sufficient with follow-up conversations as needed.
- I am not sure our applicants would understand it. Although there are probably a lot of land clearing activities out there that LWMD does not regulate that do not get the T&E review because the general
- The LWMD staff should administer the programs for which they are responsible and minimizing impacts as appropriate. If a takings permit is required from the Wildlife Division they should interact with them in that context.
- One stop shopping

Procedural:
Question #3

Do you think that the statutory requirements associated with the environmental review process (avg. ~30 days to respond and < 90 days to issue permit) has resulted in inadequate review of the potential for T&E species/habitat and caused negative impacts to T&E species?

Follow up responses to Question #3.

Comments were grouped into categories. Similar comments were combined and a number is provided in parentheses to indicate the number of responses of this type.

Review usually adequate and no negative impacts due to statutory requirements

- If time is running out for a permit decision and applicant has not provided the info or wildlife has not commented on survey results, WD staff could always issue permit with a condition that work cannot proceed until wildlife "no effect" statement is obtained. If applicant proceeds anyway, violation of permit condition could be pursued through OCI. As for potential T&E impacts in areas not under WD statutory authority, I guess Wildlife is on their own. I cannot recall the last time they ever criminally pursued a T&E impact??? Glad we can help!!!
- The counties I cover support relatively few T&E species/habitats. See also my comment to question 1, above.
- MP/GP's can typically be issued in a few weeks. By postponing the permit being issued while waiting for comments make for more compliance issues.

Statutory requirements can result in inadequate review and negative impacts

- There is too much of a rush to meet deadlines from the public and management and I do not feel that most staff do a proper review for T&E species.
- Thorough review is sometimes not possible in such a short time frame. Piecing apart habitats results.
- We are restricted in doing our job.
- Being pressed "completeness" deadlines are the death of the T&E if they are missed initially. Responses are not often received from MNFI in the first 30 days.
- Sometimes we get in a hurry and may issue, not supposed to but things happen
- Situations in winter may present problems.
- permits may need to be issued prior to completion of T&E review
- LWMD staff don't always have time to fully investigate all potential T&E impacts associated with a project.
- I have no specific knowledge of impacts that occurred as a result of the Part 13 requirements, but I am confident that there have been at least some negative impacts statewide. At a minimum, our deadlines restrict the time of year for a survey to be conducted. This can also result in LWMD issuing a permit with the condition that the permittee obtain a letter of "no impact", which they may or may not follow through on. Our ability to track compliance with that condition is limited due to staff resources.
- Very infrequently this may occur.

- I do think that the review deadlines can hinder T&E review sometimes, but not usually. Once in a while a review may be rushed, and a reviewer has little or no communication with Wildlife due to file deadlines, with just a permit condition included. But typically we try to communicate with enough time for Wildlife review.
- I think Wildlife division has been responsive to our needs. At times we have to issue emergency permits which don't allow us time to interact with Wildlife Division.
- It's the LWMD staff along with the statutory deadlines. If you are worried about the statutory deadlines, why not require the T&E sign off for projects in order for an application to be complete (ie before it is submitted to the LWMD)?

Potential For Cumulative Impacts

Question #2

How much of a problem do you think cumulative impacts are to T & E species and protected resources in your region (especially on private land)?

Follow up responses to Question #2.

Cumulative Impacts Likely

- We review a one-time project, with a one-time site inspection. We do not know all of the work that is done on a piece of property over the years, and we cannot schedule site inspections for the best T&E species sightings. Cumulative impacts are probably occurring without our knowledge.
- There may be species involved that have not been reported. Additionally, if unregulated habitat is impacted, eventually an endangered species will be impacted.
- There is no apparent oversight regarding T & E species for development of unregulated areas (uplands, unregulated dunes, etc). Upland development and farming practices are increasing adverse impacts to all communities, including rare upland habitats as well as wetlands and the areas in and around the land and water interface. In addition, the types of projects that are permitted, such as hard seawalls are degrading the immediate shore habitat, or runoff from irresponsible farming practices is polluting our water bodies and contributing to the degradation of all natural habitats and species - probably adding more species to the T & E list over time.
- I have personally witnessed T and E species destroyed by conversion of habitat, specifically painted trillium area where upland forest was cut down, that where in areas outside LWMD authority. Also the conversion of forested or scrub shrub land into farm land has destroyed t & e plant species in my area.
- Until three years ago significant acreages of fallow land was being converted to development very quickly. In fact, too quick for LWMD or WD to track and regulate. The most endangered are those species on private uplands. We are

losing some lakeplain prairie areas like this in SE Mich. The mesic sites are easily converted and no one really notices.

- Habitat loss, fragmentation, and changes in the hydrology of an area contribute to impacts not only to T&E but also non-listed and Special Concern species -- which may lead to their eventual listing. These impacts are inherently difficult to track and quantify. Setting aside a specific habitat for a T&E species, but not requiring buffers, corridors/connections between habitats, or a stable hydrologic regime may not be enough to maintain the species and/or habitat.

Cumulative impacts not a problem

- Not many areas where T&E impacts are present. Seems like lots of hits but rarely changes permit outcome.
- Again, the counties I cover are not particularly rich in T&E species/habitats.

Not sure if cumulative impacts are a problem

- I don't have enough information about the flora and fauna (past, present, predicted impacts) to answer this question. This is not my area of expertise.
- Unknown (even though I answered above because I was required to check a box) We could all use some training/explanation on that subject. When is a rip rapped shoreline on an inland lake one too many??? When is one more residential home on a river the one that pushes a species "over the edge"???? The question of cumulative impact is a dilemma that if we cannot state with certainty, will be the reason we will never prevail in a contested case if we issue permit after permit after permit then say "NO MORE" without proof to back it up.
- The people in my region do not understand the need to delay a project because of the presence of an endangered mussel.

Difficult to track cumulative impacts

- Unfortunately LWMD staff does not have adequate time in reviewing an application or applications to make cumulative impact decisions.
- Not sure if there is a good way to track impacts to T&E spp. and habitats.....everybody has different databases at this time.
- I think for a lot of projects it is hard to estimate what the cumulative impacts may be even for trained staff.
- Impacts on private land can only add to the impacts of disconnecting habitat corridors with highways. There is no single way to track these impacts and we continue to make decisions without this information.
- Not everything people do requires a permit. Clearing brush in an upland-trashing some species is a prime example.
- Accumulative impacts take research and time. Research takes money, we have no money, we have deadlines so we have no time either.....
- Review for T&E species does not occur with violation sites.
- We don't know about many of the projects and impacts, (i.e., non-regulated activity, inability (due to staffing shortage, in some cases) to investigate complaints/violations on a timely basis, etc.).

- Especially in the Critical Dune Area program. We are limited in our regulation by a poorly written statute. I know Part 365 has limited enforcement action, but it would be good to take a closer look at commonly issuing relocation permits to move T/E species for projects.
- Inability to do compliance checks on all permits issued.

Training

Question #4.

Which resources are you aware of to help you identify Michigan's rare species and natural communities?

Follow up responses to Question 4.

How often are these resources used?

Frequency

- Daily – 1 response
- Frequently -At least 1x per week- 4 responses
- Occasionally to somewhat often- 1 response
- Occasionally- 1 response
- When I get a hit on a project or violation – 1 response
- Between 1x per week and 1x per month -4 responses
 - Rare species abstracts and explorer every other week. Field guides a couple of times a week. Botanical texts monthly.
- Somewhat often 1X per month- 1 response
 - Abstracts and field guides to supplement, I use somewhat often (at least 1x/month). I've used the explorer for information much less often, but am aware of it.
- None- 3 responses

Never. This is where the "cross - training" would come in handy. I can't stress enough that the missing component of isolating staff as we have been since before I came to DEQ is a huge degradation in the quality of the employees. * The answer to the question below#5 is not Very Important it's EXTREMELY IMPORTANT.

Types of resources used:

- Invasive Species booklet
- MNFI online database is very useful to get an idea of what spp. may be found in or near the project area (2)
- Web searches, USDA database etc
- CIWPIS has a 'Special Interests' tab in the database that may indicate T&E species; however, it is not always accurate, and I always also check the MNFI database to get a full idea of if there may be a 'hit' for a listed species.
- I use internet sites frequently, or send a note to MNFI with photos.
- T/E species list on DNRE website
- "A Guide to Michigan's Endangered Wildlife" Evers
- Personal conversations with knowledgeable individuals with local insight into the occurrence of certain species.

Final Thoughts

Question #2.

Given the anticipated decline in revenue, what recommendations would you give to improve the ER process in the short term?

Procedural changes

- Get the public notice or application and make a quick review (less than a week) and let us know if maybe there is an issue.
- give WRD (former LWMD) staff access to wildlife and MNFI databases,
- Decide which projects are important to look at and which ones are less important and prioritize. This may mean not looking at the smaller less priority projects.
- If there is a potential for T & E species, we need to have the ability to put an application on "hold" until we can review the site during the appropriate season. For example, if an application is received in early winter and the ground is covered by snow it is difficult or impossible in some cases to complete a comprehensive review of the project and site until the snow melts and the growing season begins, however Part 13 deadlines make this very difficult and when we (former LWMD) issues a permit it is confusing for the applicants/permittees. They sometimes don't understand the relationship between the LWMD permit and the requirement for clearance from Wildlife Division.
- Provide better location descriptions of where the T & E species are. It needs to be narrowed down from section to Lat and Long if available. LWMD often uses aerial imagery and gis which can help to target specific areas to protect when authorizing permits for land development or complaint investigation.
- getting more of the district wildlife biologist & techs involved in T&E reviews.
- Give experienced LWMD staff people the ability to administer part 315 in minor cases
- shorter timeframes for reviews and comments received

Training

- It may be helpful to have former LWMD staff trained to complete the ER process
- Train LWMD staff to do the reviews or separate the reviews from the LWMD permitting process
- Guidance from MNFI on using their on-line database during our review of permit applications. For example, is the database more up-to-date than CIWPIS? What should we conclude when the database shows no EOs in the project area (e.g. section), but CIWPIS indicates a potential "hit"? Tips for determining that T&E habitat/communities are unlikely to be affected.
- Maybe guides to establish where we would MOST LIKELY find the ES on the property indicated.
- Increased LWMD staff training to help us recognize T&E species, rare communities, suitable habitat, associated species, secondary impacts, etc. to allow us to better assist in WD/Natural Heritage's review.
- Increased training for field staff
- Train local staff
- Set up staff to staff training that would cost nothing but the hourly wage the department already pays staff. Small groups of LWMD permitting field agents

with a Natural Heritage/ T& E dedicated staff and a day a month in the field. It would be cost neutral and the intimate learning experiences are the most lasting. A power point show for the masses blast a lot of info into the room but the intimate learning groups (5-15 staff at a time) conveys info that we can walk away and incorporate into our working knowledge and use on the ground day after day. That is where to begin to build interconnected staff that make those employees into valuable resources and in the end all the department has is it's people. People make things happen, not the other way around.

- Continue to use in-house staff to provide training for Water Resource Division (LWMD), Fish and Wildlife staff training. Site inspecting locations of past records of T & E may help both the database and training efforts. A particular plant association (for instance coastal interdunal wetlands and Pitcher's Thistle/Lake Huron Locust) could be looked for at the same time.

More staff

- More staff is the best way to not allow these to fall through the cracks. It is unfortunate, but I try to look for listed species on every MP/GP, many staff don't, and not because of any other reason other than workload. It takes time, sometimes we forget. A good reminder for it, which usually catches me, is that it is a check box on the PRR!
- Use un paid interns to update locations and status of T & E species.
- Our economic situation is always volatile and a short term solution may not be the answer. Increase staffing and educate the private sector through established partnerships and a huge monetary gift wouldn't hurt!!

Develop and improve resources

- Better maps of rare wetland communities and listed species ranges.
- I would recommend developing a database of T&E areas/species and the changes that have resulted over time. This can be as simple as comparing size of the area, land use changes, zoning changes, etc. This would be a HUGE asset when reviewing permit applications in proper context and providing the greatest protection of these resources. This database could be used by all communities to assess needs and plan development in the most sustainable way possible. In the case of needed mitigation, we would be able to make recommendations that make sense and will most benefit remaining sensitive areas. I think that most of this information is available; it should be combined to make it readily accessible to permit reviewers in the spirit of convenience for the people left here working at top speed.!
- Put sightings in GIS format, easily reference-able by WRD staff.
- Create a field guide with awesome photos (like the recently distributed "A Field Identification Guide to Invasive Plants in Michigan's Natural Communities" compiled by: Kim Borland, Suzan Campbell, Rebecca Schillo & Phyllis Higman, December 2009) and provide the guide to field staff so we can take it with us to the site and have the photos, descriptions, and comments with us to help identify T & E species on the site. The guide could be in a binder form and could be easily and inexpensively updated by sending us individual pages as T & E species are located or added to the list.
- Update MNFI database.

Improved communication

- Better communication between field staff and ER staff in Lansing
- Get WD biologists out in the field with LWMD EQAs
- Increased communication even if only through email. Perhaps exploring webcasts etc. for training and coordination opportunities.

Seek additional Funding

- If not already done so, look into every resource possible, Universities, Foundations, etc., to see if any kind of grants are available, even for a short term.
- unsure, need additional revenue for anything to be meaningful.

General Comments

- Struggle...
- Do the best you can, it's all any of us can do in the current political environment.
- We are already working with nothing. There is nothing left to take away.
- I believe the current review process is effective.

Final Thoughts

Question #3.

What long-term recommendations would you give (disregarding financial and staffing limitations) to improve the ER process for protecting T&E species and natural communities?

Update/Improve and Maintain Database

- Update your data base, hire people to go out and verify that some of the older listings on the data base are still valid.
- Improve MNFI' s on-line database and LWMD (now WRD) databases to provide WRD staff with better information on the location and/or habitat of T&E species/habitats.
- Provide adequate funding to keep the T & E database (and the future Field Guide?!) updated.
- Revisit old sites. Give the public the forms and ask if they have any rare plants!! I have a relative who has twinleaf on their property!!

Improve Response Time and Consistency of Reviews

- more consistent reviews
- Quick responses but specific.

Up Front Community and Regional Planning

- Liaisons with communities to plan development and conservation of resources as PART of the permitting process PRELIMINARILY so that there are no surprises and so that everyone can make better development decisions. A special section to do just that: to categorize what was there, what's there now and what's okay to trash now, as well as better planning for mitigation. This can be put into context of the mid-west etc and help with all regional planning....

Public Outreach and Education

- Good education for landowners-target the right ones.
- Encourage public outreach and greater public awareness of T & E species and communities, beginning with zoning administrators, building inspectors/departments, planning commissions, and anyone involved with development in general. MNFI & DNRE can't do it alone, especially in the non-regulated areas.
- education and communication seem to very crucial to getting the public to buy into the notion that these species are worthy of our protection and in turn our money to protect.

More Site Reviews and Inspections Needed

- Sometimes a permit application, and photos and plans are not adequate for a full review. A site inspection should be conducted on every pond in wetland application, for example. A permit applicant may submit an application for a pond indicating an emergent wetland - cattail swamp may be fine for a pond in wetland, but sometimes its a fen, which should not be permitted, but you may not discover that there is a high quality resource at stake unless you actually go to the site. But sometimes permits are easily issued in office, without going to the site, due to workload.
- Site reviews for reviews where t/e species have been identified.

More Staff

- You need enough staff to do the reviews.
- Additional staff needed at Wildlife Division to complete these reviews.
- Increased staffing of the program
- The obvious, more staff, it would be beneficial to have at least one person in the upper peninsula
- best solution is the "disregarded" solution, need \$ and additional staff.
- Don't have a recommendation for the long term to improve the ER process as financial and staffing limitations can't be disregarded.

Procedural Changes

- WD and LWMD need to find a way to incorporate impacts due to violations into T&E reviews.
- Remove farming exemptions that protect irresponsible farmers instead of protecting natural and rare communities.
- GPS every known location of T & E species and add as a layer to a state GIS that LWMD can have access too.
- Entertain a fee-based MDNRE service for T & E searches related to permit applications. This might be similar to our "Pre-application meeting request" and be used to finance staff time.
- Increased focus on cumulative impacts and secondary impacts.

More Training, Communication and Coordination

- Training for staff on where impacts are most likely to be an issue.
- More training in species ID specific to the region or area (i.e. species and habitats are much different in the U.P. and Lower Michigan and even in areas of the U.P.)
- Additional training, outreach materials
- more T&E training for staff permitting projects
- Cross-training between WRD and Wildlife/ natural heritage staff.
- I would personally feel better being able to identify some of the more common species. Onsite training is useful/necessary.
- More training, more interaction between divisions
- More joint trainings so people can become familiar with each other and understand the priorities of each divisions duties.
- More specialized training in identification of T&E species and rare communities, and coordinated site inspections when appropriate. Maybe semi-annual coordination meetings.
- Train local staff
- Continuing education, training and cross training your staff.
- I would like to see more training on T&E species, tailored to each district, and more bodies out in the field documenting the high quality habitats in Michigan.
- provide training for WB staff as referenced in earlier question, cumulative impacts,
- Bi-annual or annual meetings with MNFI staff to gain ideas for streamlining the process.
- More communication from Wildlife and Natural Heritage.

Final Thoughts

Question #4.

Please share any additional comments or suggestions here.

Improve efficiency

- Quicker processing times.

Procedural

- The current system is so cumbersome that it gets ignored. It also leaves T&E species that aren't in a wetland, lake or stream without any protection.
- The T & E review staff have been great to work with. There are many activities that are not regulated, such as cutting of wetland or aquatic vegetation. If an activity is not regulated (no application/permit needed from former LWMD) then it is unlikely that MNFI would even know about it. There needs to be more oversight of projects that "take" or destroy T & E species and communities in areas that are not currently regulated under other statutes.

Need More Coordination to Improve Efficiency

- Can you say SHARE?? All we have are state databases; let's get 'em together so it's easy to use! I bet we have people working for us right now that could pull this

together without a "contract" or outside "consultant". Work smart. We're not getting any more money and we still have to do our jobs; please, try to make it easier

Need More Staff

- Overall I think the Wildlife division does very good job with the expedited request. There are times with our regular projects where we don't always receive comments in the 30 days. They need additional staff resources.

Increase/Continue MNFI Funding

- MNFI is an invaluable resource and deserves continued/increased funding.

General

- I've said my best already. It all comes down to quality people working to protect the environment.

National Survey
Appendix IV
Letter Sent to State Programs

August 18, 2010

Hello Partner's in Conservation,

Michigan Natural Features Inventory (MNFI) a member of Nature Serve, associated with Michigan State University Extension, and a working partner with the Michigan Department of Natural Resources has received a 3 year grant through the Coastal Zone Management program to evaluate the effectiveness of the environmental review program which determines potential impacts to threatened and endangered species and special natural communities. In the third and final year of this project MNFI is asking natural heritage programs and/or appropriate wildlife and natural resource programs in all 50 states to take a short survey so that we can learn how they address the protection of rare species and natural communities at the state level and provide input on what is working well and how the environmental review process can be improved. Your input is essential for improving this process.

Please go to the link below and fill out the online survey. We ask that you complete this survey within the next two weeks, no later than September 3. The survey should take less than 15 minutes to complete. Results of the survey will be summarized and available in a final report this fall. If you have any questions please contact Daria Hyde.

Thank you for your valuable input!

Sincerely,
Daria Hyde
Conservation Planner
Michigan Natural Features Inventory
Stevens T. Mason Building
P.O. Box 30444
Lansing, MI. 48909

(517)373-4815
(hyded@michigan.gov)

1. Environmental Review Program

1. Evaluating the Effectiveness of the Environmental Review Process

Background

Michigan Natural Features Inventory is conducting a survey of staff within the Department of Natural Resources and Environment as well as natural heritage programs, natural resource or wildlife departments in all 50 states to gather information that will assist in making recommendations to improve rare species protection efforts in Michigan.

Rare plants and natural communities are important barometers of ecological condition and environmental health, and state and federal agencies have the responsibility of protecting these rare resources from direct and unreasonable human impacts. Unfortunately, the ability to follow-up and monitor compliance of rare species protection efforts is often not a part of the environmental review process, and understanding the effectiveness of environmental review in protecting rare natural resources is a challenge.

For two years we have analyzed permits and conducted field studies in coordination with Michigan Department of Natural Resources and Environment field staff that review permit applications to evaluate projects for which there have been concerns regarding T&E species. In the third and final year of this project we are asking appropriate Michigan DNRE staff to provide input on what is working well and how the environmental review process could be improved. In addition, this survey is being sent to all natural heritage programs or appropriate natural resource or wildlife departments in all 50 states to learn how the protection of rare species and natural communities is being addressed at the state level.

The results of the permit analysis, project site visits, DNRE personnel survey, and the responses from programs across the nation will be summarized in a subsequent final report. The final report will identify specific recommendations and improvements needed to operate a more effective and efficient environmental review program in Michigan. In addition, a summary of findings from the national survey will be made available.

This survey should take less than 15 minutes to complete. Thanks for your participation. Your input is greatly appreciated!

2. Endangered Species Legislation

*** 1. Does your state have an endangered species law?**

Yes

No

Please provide the name of your state.

2. If so, does this law protect both threatened and endangered plants and animals?

Yes

No

Please explain

3. If you have an endangered species law in your state, does it provide protection for T&E species on private land?

Yes

No

Please explain

3. Environmental Review Program

* 1. Does your state have an environmental review program (in addition to the federal review by the USFWS) to review proposed projects for potential impacts to T&E species?

Yes

No

If so, please provide the name of your organization and the URL to your webpage that describes your program as well as links to other appropriate documents.

2. Please describe the environmental review process for T & E species in your state.

Permit applicants have access to locations of T& E species online prior to submitting their application

Our program responds to permit applications which have the potential to impact T& E species

Please provide additional information or please provide the URL to information on your website.

3. What is working well with your environmental review program?

4. What is a challenge in your environmental review program?

5. Do you have a process for monitoring compliance on permitted projects with the potential to impact T & E species?

Yes

No

Please explain

6. Do you have a process for assessing cumulative impacts to T&E species from multiple projects over multiple years?

Yes

No

Please explain

4. Program Evaluation

1. Does your state track and report on the effectiveness of your environmental review process?

Yes

No

Please explain

	5
	6

2. Do you produce an annual report which tracks the results of your environmental review activities?

Yes

No

Please explain

	5
	6

3. Is your state implementing innovative approaches to improve the effectiveness and/or efficiency of the environmental review process?

Yes

No

Please explain

	5
	6

4. If your state is implementing innovative approaches to the environmental review process, would you be willing to participate in a short phone interview so that you can share more information about what your program is doing?

Yes

No




Please provide contact information for those in your organization that review projects for impacts to T&E species and who are willing to be contacted for a short phone interview; including their email and phone number.

	5
	6



5. Please include any additional comments that you would like to share.

	5
	6

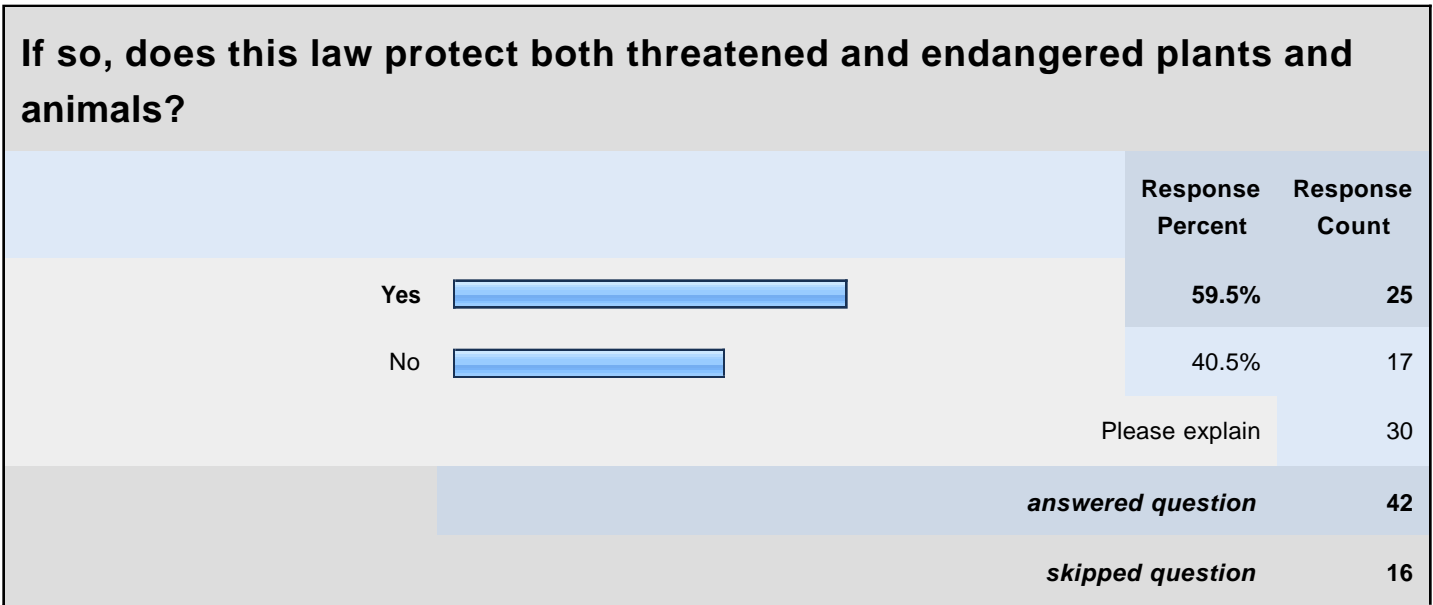
1. Does your state have an endangered species law?

		Response Percent	Response Count
Yes		76.2%	32
No		26.2%	11
Please provide the name of your state.		100.0%	42
answered question			42
skipped question			0

2. If so, does this law protect both threatened and endangered plants and animals?

		Response Percent	Response Count
Yes		57.6%	19
No		42.4%	14
Please explain			25
answered question			33
skipped question			9

MNFI: State Natural Heritage Env. Review Evaluation



Please explain		
1	As with the federal ESA, plant protection on private lands is limited. Invertebrates are NOT included in the act.	Aug 19, 2010 3:40 PM
2	T&E species are protected through regulations of each jurisdictional agency: game, fish, plants. Separate regulations for the Dept Environmental Protection dictate how they will be protected in permitting processes.	Aug 19, 2010 4:09 PM
3	Currently only covers animals. Plant rankings are largely for informational purposes only at this time although there is a regulatory nexus with major development review at the state level.	Aug 19, 2010 4:17 PM
4	Wild Resources Conservation Act- Plants Fish and Boat Code- Fish, reptiles, and amphibians Game and Wildlife Code- Mammals and birds	Aug 19, 2010 4:51 PM
5	Rare animals are protected by the Tennessee Wildlife Resources Agency, although the scope is limited to non-game species which are defined as vertebrates, mollusks, and crustaceans. Insects and arachnids (even those that are federally listed) are not protected and some other invertebrates are also not protected by state law despite having S1 or S2 rankings. Rare plants are addressed in the state's Rare Plant Protection Act, but are not protected from take: "...nothing in this part shall be construed to limit the rights of private property owners to take rare plants from their own lands or to manage their lands for agriculture, forestry, development or any other lawful purpose."	Aug 19, 2010 5:05 PM
6	The law protects animals only.	Aug 19, 2010 5:06 PM
7	Take of listed species is not permitted. Plants and animals are both listed but the level of protection varies by species depending on their given status (endangered, threatened, in need of conservation).	Aug 19, 2010 5:40 PM
8	There are both protected plants and animals but again, it's not part of a specific endangered species law.	Aug 19, 2010 5:43 PM
9	Wildlife species are protected under the state endangered species law. It is not clear whether plant species are covered under this law.	Aug 19, 2010 6:16 PM
10	This law only protects animals, plants are only protected through federal laws	Aug 19, 2010 6:31 PM
11	Listed animals are protected wherever they occur, listed plants are only protected on public lands, with exclusions for agriculture, forestry and utilities activities affecting plants on public lands.	Aug 20, 2010 3:04 AM

Please explain		
12	Missouri's Wildlife Code has a regulation on endangered species which includes specifically designated animals and plants. There is no Threatened status.	Aug 20, 2010 4:37 PM
13	No state agency has regulatory responsibility for rare plants. Some animal species are state protected but there is no provision in the regulations to address incidental take.	Aug 23, 2010 2:31 PM
14	There is a separate law for each.	Aug 23, 2010 3:03 PM
15	We have a Native Plant Law that protects plants, but we have no legal authority for animals. The Game and Fish Department has a list of Wildlife of Special Concern in Arizona, but there are no laws behind it - only closed hunting season for species.	Aug 23, 2010 4:32 PM
16	There are separate plant and animal endangered species laws.	Aug 24, 2010 1:39 PM
17	The California Endangered Species Act protects threatened, endangered, and candidate species or subspecies of bird, mammal, fish, amphibian, reptile, or plant.	Aug 25, 2010 6:49 PM
18	State law protects plants and animals that are listed at End, Threat, Rare or Proposed End, Proposed Threatened and Proposed Rare. The proposed status takes some time to work through our legislative process, so they are protected by our dept of environmental protection because they wish to regulate species impacts based on the "most up to date science available." Ecological communities and terrestrial invertebrates are also regulated, but not necessarily protected by law	Aug 26, 2010 12:49 PM
19	There are endangered/threatened lists for both plants and animals, but no regulatory protection for plants.	Aug 30, 2010 8:38 PM
20	Title 29. Game and Fish. Article V. Game. Part 4. Protected Game. 5-412. Endangered or threatened species or subspecies.	Sep 2, 2010 5:10 PM
21	We have an Endangered Wildlife Act and a Wildlife Preservation Act which protect listed species on state lands.	Sep 2, 2010 5:15 PM
22	See response to Question 1.	Sep 3, 2010 2:36 PM
23	Just animals, not plants.	Sep 3, 2010 3:20 PM
24	Endangered Plant and Insect Species Act- Virginia Department of Agriculture and Consumer Services Virginia Endangered Species Act, Article 6 (§ 29.1-563 et seq.) of Chapter 5 of Title 29.1 of the Code of Virginia-Virginia Department of Game and Inland Fisheries (also adoption of the Federal Endangered and Threatened Species List, Endangered Species Act of December 28, 1973 (16 USC §§ 1531-1543), as amended, and declares all species listed thereon to be endangered or threatened species in the Commonwealth)	Sep 7, 2010 3:16 PM
25	Animals only, protection limited	Sep 8, 2010 11:01 PM
26	Only fish and wildlife species whose numbers have decreased to such an extent as to indicate that their continued existence is threatened are covered.	Sep 10, 2010 6:23 PM
27	No we have a Native Plant Protection Act that is administered by a different state department	Sep 15, 2010 8:29 PM
28	It does not protect plant species.	Sep 17, 2010 4:32 PM
29	animals only; no jurisdiction over plants	Sep 21, 2010 8:25 PM
30	Kentucky has legislation that provides recognition only for plants, but no protection. Another agency (KDFWR) is mandated with oversight of rare animals. Only federally listed species are considered for listing and the law does not reach beyond that provided by the US Endangered Species Act.	Sep 23, 2010 1:23 PM

If you have an endangered species law in your state, does it provide protection for T& E species on private land?

		Response Percent	Response Count
Yes		68.8%	22
No		31.3%	10
	Please explain		18
answered question			32
skipped question			10

3. If you have an endangered species law in your state, does it provide

Please explain

1	Only for wildlife	Aug 19, 2010 3:40 PM
2	Law provides protection for listed animal spp. against take and harrassment on private lands	Aug 19, 2010 4:17 PM
3	We have a PA Natural Diversity Inventory; projects that require a permit from the PA Department of Environmental Protection must run a PNDI search, and coordinate with any agencies they may have conflicts with (PA Game Commission, PA Fish and Boat Commission, PA Department of Conservation and Natural Resources, and US FWS). While a landowner has control over any state-T/E plant species on their private land, they must coordinate with DCNR to minimize impacts when a DEP permit is required.	Aug 19, 2010 4:51 PM
4	Animals are protected on private lands, but not plants (see above).	Aug 19, 2010 5:05 PM
5	Ownership is not a consideration under Maryland law.	Aug 19, 2010 5:40 PM
6	n/a	Aug 19, 2010 5:43 PM
7	It is my understanding that this law simply states that is protects T&E species from incidental take	Aug 19, 2010 6:31 PM
8	Animals are protected on private lands, plants are not.	Aug 20, 2010 3:04 AM
9	Yes and No. Plants are owned by the landowner but animals are owned by the state. It can provide protection to a limited extent.	Aug 20, 2010 4:37 PM
10	There is no distinction in the regulations between public and private lands.	Aug 23, 2010 2:31 PM
11	Not for plants, but limited protection for animals.	Aug 23, 2010 3:03 PM
12	In Georgia, you cannot directly kill native animals (excluding game species) on private lands with a few exceptions, including pest species. You cannot sell plants from private lands without a permit.	Sep 2, 2010 5:15 PM

3. If you have an endangered species law in your state, does it provide

Please explain

- | | | |
|----|---|----------------------|
| 13 | Protection is for endangered and threatened species from "public" actions. Private landowners may not "sell" listed species but each town in CT (169) has local authority to authorize actions on private land. Also important to note: we consider state permits to be "state actions" so we often get protection that way | Sep 2, 2010 6:46 PM |
| 14 | Animals are protected on private land but plants are not (state-listed plants mirror federal list). | Sep 3, 2010 3:32 PM |
| 15 | Yes to protection to animals on private land, no to protecting plants and insects on private land | Sep 7, 2010 3:16 PM |
| 16 | Only lands and waters under the jurisdiction of the state are covered. | Sep 10, 2010 6:23 PM |
| 17 | Under The Endangered Species Conservation Act (RSA 212-A) wildlife cannot be taken - harm harass kill etc. Plants listed under Native Plant Protection Act are not protected on private land. | Sep 15, 2010 8:29 PM |
| 18 | yes & no. yes, only if ironclad proof that willful and deliberate destruction of a species occurred. So, yes technically, but reality, no. | Sep 21, 2010 8:25 PM |

Does your state have an environmental review program (in addition to the federal review by the USFWS) to review proposed projects for potential impacts to T&E species?

		Response Percent	Response Count
Yes		89.7%	35
No		10.3%	4
If so, please provide the name of your organization and the URL to your webpage that describes your program as well as links to other appropriate documents.		74.4%	29
answered question			39
skipped question			3

1. Does your state have an environmental review program (in addition to the

If so, please provide the name of your organization and the URL to your webpage that describes your program as well as links to other appropriate documents.

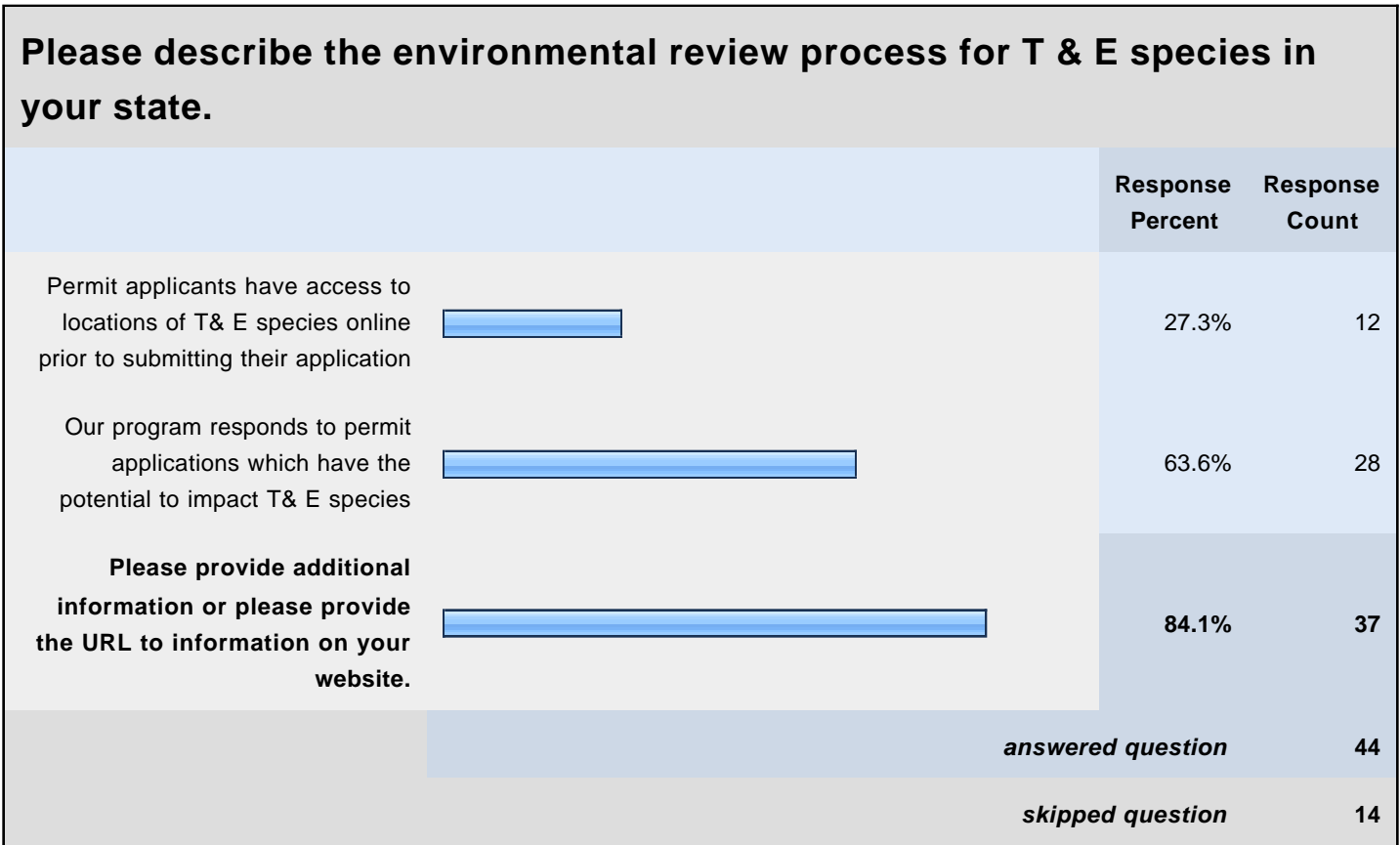
1	MDIF&W http://www.maine.gov/ifw/wildlife/species/endangered_species/index.htm ; MNAP (plants & communities) http://www.maine.gov/doc/nrimc/mnap/assistance/review.htm	Aug 19, 2010 4:29 PM
2	http://state.tn.us/environment/na/data.shtml	Aug 19, 2010 5:33 PM
3	PA Natural Heritage Program (PNHP) http://www.naturalheritage.state.pa.us/	Aug 19, 2010 5:33 PM
4	Maryland Natural Heritage Program, dnr.state.md.us	Aug 19, 2010 5:47 PM
5	There is no webpage for it; there is something called the State Clearinghouse that routes all proposed permits/developements to individual agencies for comment. NV Natural Heritage Program provides comments on rare and threatened species.	Aug 19, 2010 5:48 PM
6	http://gfp.sd.gov/wildlife/management/diversity/default.aspx	Aug 19, 2010 6:20 PM
7	Mississippi Natural Heritage Program http://museum.mdwfp.com/science/nhp.html	Aug 19, 2010 6:43 PM
8	Wildlife Divison, Vermont Fish and Wildlife Department http://www.vtfishandwildlife.com/nnhp_RegulationReview.cfm	Aug 19, 2010 7:56 PM
9	Endangered Resource Review Program http://dnr.wi.gov/org/land/er/review/	Aug 20, 2010 3:14 AM
10	Missouri Department of Conservation. http://mdc.mo.gov/	Aug 20, 2010 4:44 PM
11	AL Department of Conservation and natural Resurces	Aug 23, 2010 2:35 PM

1. Does your state have an environmental review program (in addition to the

If so, please provide the name of your organization and the URL to your webpage that describes your program as well as links to other appropriate documents.

12	http://www.azgfd.gov/hgis	Aug 23, 2010 4:37 PM
13	Il Department of Natural Resources, http://www.dnrecocat.state.il.us/ecopublic/ and http://www.dnr.state.il.us/esp/index.htm	Aug 23, 2010 5:06 PM
14	Nebraska Game and Parks Commission, www.outdoornebraska.ne.gov	Aug 24, 2010 8:30 PM
15	http://www.dfg.ca.gov/habcon/envirRevPermit/	Aug 25, 2010 7:04 PM
16	http://www.myfwc.com/WILDLIFEHABITATS/imperiledSpp_index.htm	Aug 30, 2010 8:43 PM
17	Georgia DNR, Wildlife Resources Division, Nongame Conservation Section: http://www.georgiawildlife.com/node/1374	Sep 2, 2010 5:21 PM
18	Natural Diversity Data Base www.ct.gov/dep/endangeredspecies	Sep 2, 2010 6:52 PM
19	Kansas Dept of Wildlife and Parks; not the agency that houses the Heritage program	Sep 3, 2010 3:23 PM
20	Texas Parks and Wildlife Department, Habitat Assessment Program http://www.tpwd.state.tx.us/	Sep 3, 2010 3:36 PM
21	DCR- Divison of Natural Heritage - http://www.dcr.virginia.gov/natural_heritage/ereview.shtml Virginia Department of Game and Inland Fisheries- http://www.dgif.virginia.gov/gis/	Sep 7, 2010 3:39 PM
22	http://www.cnhp.colostate.edu/exchange/request.asp	Sep 8, 2010 11:04 PM
23	Montana Natural Heritage Program http://mtnhp.org	Sep 10, 2010 5:20 PM
24	http://wildlife.state.nh.us/Wildlife/nongame_and_endangered_wildlife.htm	Sep 15, 2010 8:59 PM
25	Louisiana Natural Heritage Program with the Louisiana Department of Wildlife and Fisheries: http://www.wlf.louisiana.gov/wildlife/louisiana-natural-heritage-program	Sep 17, 2010 4:56 PM
26	Technical Guidance Section, http://www.wildlife.state.nm.us/conservation/index.htm	Sep 21, 2010 8:32 PM
27	www.michigan.gov/dnre	Sep 29, 2010 8:54 PM
28	Kentucky Dept of Fish and Wildlife Resource Environmental Branch, no URL	Sep 30, 2010 5:17 PM
29	Arkansas Natural Heritage Commission, http://www.naturalheritage.com/default.aspx	Oct 11, 2010 2:10 PM

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Please provide additional information or please provide the URL to information on your website.		
1	Oregon Heritage does not have an environmental review responsibility. The Department of Fish and Wildlife does, although only for state and federal projects, not typical private ones.	Aug 19, 2010 3:42 PM
2	Beginning with Habitat provides fairly detailed occurrence data by town on .pdf maps. We will be launching an ArcServer mapservice application soon. http://www.beginningwithhabitat.org/the_maps/map_availability.html	Aug 19, 2010 4:29 PM
3	We currently do not have an online application that allows applicants to view rare species data. We plan to have one, but we've been constrained by budgetary and technological hurdles. http://state.tn.us/environment/na/data.shtml The environmental review process through the state heritage program is not obligatory (unless another agency requires a permit applicant to consult us), and our heritage program is largely non-regulatory so we can only recommend protective action. Tennessee's Wildlife Resource Agency (TWRA) has one full time environmental reviewer who can legally require projects to provide consideration for rare animals. I do not believe that TWRA typically issues permits for take. Many projects, particularly those on private property that do not require aquatic resource alteration permits, do not request reviews from either the Heritage Program or the Wildlife Resources Agency, and get constructed "under the radar."	Aug 19, 2010 5:33 PM
4	Environmental review is only required for state projects or private projects that require a PA DEP permit.	Aug 19, 2010 5:33 PM
5	see above	Aug 19, 2010 5:47 PM

3. If you have an endangered species law in your state, does it provide

Please explain

- | | | |
|----|---|----------------------|
| 13 | Protection is for endangered and threatened species from "public" actions. Private landowners may not "sell" listed species but each town in CT (169) has local authority to authorize actions on private land. Also important to note: we consider state permits to be "state actions" so we often get protection that way | Sep 2, 2010 6:46 PM |
| 14 | Animals are protected on private land but plants are not (state-listed plants mirror federal list). | Sep 3, 2010 3:32 PM |
| 15 | Yes to protection to animals on private land, no to protecting plants and insects on private land | Sep 7, 2010 3:16 PM |
| 16 | Only lands and waters under the jurisdiction of the state are covered. | Sep 10, 2010 6:23 PM |
| 17 | Under The Endangered Species Conservation Act (RSA 212-A) wildlife cannot be taken - harm harass kill etc. Plants listed under Native Plant Protection Act are not protected on private land. | Sep 15, 2010 8:29 PM |
| 18 | yes & no. yes, only if ironclad proof that willful and deliberate destruction of a species occurred. So, yes technically, but reality, no. | Sep 21, 2010 8:25 PM |

Please provide additional information or please provide the URL to information on your website.		
6	Individual consultants or agencies request data from our program on a project by project basis for a fee. This is in addition to general comments/feedback that the program provides via the State Clearinghouse.	Aug 19, 2010 5:48 PM
7	http://gfp.sd.gov/wildlife/threatened-endangered/default.aspx	Aug 19, 2010 6:20 PM
8	Our program is non-regulatory, but we provide comments on potential impacts to T&E species for permit applications. We have the database containing all known T&E locations for the state, but do not share this information widely.	Aug 19, 2010 6:43 PM
9	The Wildlife Division, Vermont Fish and Wildlife reviews projects for impacts to T & E species	Aug 19, 2010 7:56 PM
10	Projects that go through formal environmental review need to have a completed Natural Heritage review.	Aug 19, 2010 8:52 PM
11	http://dnr.wi.gov/org/land/er/review/ Applicants can look up generalized info on T&E spp, specific spp info is available for proposed projects from the Review Program	Aug 20, 2010 3:14 AM
12	The Dept currently replies to all requests for Natural Heritage Review, whether or not a record was identified during the database query.	Aug 20, 2010 4:44 PM
13	Environmental Coordinator reviews permit applicatioins and coordinates response with other personnel when there are potential impacts to federal and state protected species.	Aug 23, 2010 2:35 PM
14	We have an online system to satisfy Phase I Environmental Compliance. However, the applicant can not see the EOs - they get a list of species documented within a vicinity of their project (they draw the project area).	Aug 23, 2010 4:37 PM
15	The EcoCAT website provides a good explanation of our consultation program. Applicants submit their project on-line and if resources could be in the vicinity (EcoCAT applies a buffer around species, so even if there is a "hit" it does not mean the project will impact the species) they receive a report listing the resources (we do not show them where the resource is) and are told that staff will review the project and get back to them.	Aug 23, 2010 5:06 PM
16	We also provide input for projects that are not permit driven, but are undergoing the state or county approval process. NEPA projects make up a portion of reveiws as well. Our website is: http://www.dnrec.state.de.us/nhp	Aug 24, 2010 12:49 PM
17	State agencies are required to consult with our agency on projects they conduct, permit, or fund. We have programatic agreements with some agencies so that reviews are not required for all projects. We also work closely with the USFWS on projects that have both a federal and state nexus.	Aug 24, 2010 8:30 PM
18	Applicants submit permit applications when a project will "take" a listed species. "Take" means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.	Aug 25, 2010 7:04 PM
19	http://www.gis.dcnr.state.pa.us/hgis-er/default.aspx	Aug 26, 2010 12:54 PM
20	Our program is not in a state regulatory agency, so we are not directly involved in T&E review. We do provide our element occurrence data to FWC, but can't say if they use it directly or some data product derived from it.	Aug 30, 2010 8:43 PM
21	Applicants working within mapped habitat (published rare species habitat (E, T, SC listing state status) must file formally with our office. Our maps do not provide species specific information.	Sep 2, 2010 4:52 PM
22	Applicant in specified areas (Priority Habitat) file the details of their project for review of impacts. Outcomes are no "take", "take" avoided through conditions, or "take" requiring a Permit.	Sep 2, 2010 4:57 PM
23	We have limited information available online. A downloadable GIS file provides species locations at the quarter quad level. You can also search county and watershed lists. For site specific requests, we review them individually. We are not a regulatory agency and do not issue permits. We merely review the projects and provide data and recommendations.	Sep 2, 2010 5:21 PM

Please provide additional information or please provide the URL to information on your website.		
24	WY DEQ provides some review of proposed projects but their emphasis is mostly on air and water quality.	Sep 2, 2010 5:28 PM
25	Our agency has an information sharing program. Under this program users may submit projects for review. Charges do apply for some services (http://www.naturalheritage.com/research-data/data.aspx) Additionally, the agency is part of the state's technical review committee and receives for review public notices for a variety of projects including COE 404 applications, Highway projects, etc..	Sep 2, 2010 5:36 PM
26	Permit applicants can see generalized maps where there may be potential conflicts but must submit environmental review forms to receive more details about the listed species that may be in the area. See www.ct.gov/dep/nddbrequest	Sep 2, 2010 6:52 PM
27	The agency that houses the Heritage program is non-regulatory. We are sometimes requested to look at proposed projects and provide comments, but our opinions are non-binding. The Kansas Dept of Wildlife and Parks is the state regulatory agency.	Sep 3, 2010 3:23 PM
28	A separate program provides T&E information (records) to requestors prior to the review of the project in some cases.	Sep 3, 2010 3:36 PM
29	<p>Most of our program's environmental review requests come from internal TVA organizations (e.g., Hydro, Fossil, and Nuclear Power, etc.). As a federal agency, TVA must comply with NEPA as well as the ESA. TVA Project Control Specialists receive serve as the liaison between our Program and the internal organization requesting an environmental review for a TVA action. The customer provides project descriptions and all related project materials (maps, photographs, etc.) to the Project Control Specialists who in turn enters the information into a project tracking system and assigns the review to the appropriate specialists with a due date. The Resource Specialist then reviews the project material and our database and provides the necessary NEPA input (CEC, EA, or EIS) depending on the alternatives provided by the customer and the size and potential impacts of the project. If federally listed species may be impacted by the action, the appropriate Resource Specialist will notify the Project Control Specialist that USFWS consultation is required and requests an appropriate length of time to consult with the USFWS (dependent upon informal or formal consultation) prior to completing the NEPA input. Following consultation, the Resource Specialist incorporates any appropriate commitments/mitigation measures in their analyses. The Project Control Specialist then sends each Resource Specialists input to the NEPA Project manager who is responsible for incorporating at the input into a draft NEPA document. Public comment periods are incorporated into the EA and EIS process before the NEPA document is finalized.</p> <p>In particular, we provide biological data and recommendations to help guide effective conservation and land planning activities and to ensure TVA's compliance with NEPA (National Environmental Policy Act), the Endangered Species Act (ESA), wetland regulations in the Clean Water Act, Executive Orders and other federal and state legislation.</p>	Sep 3, 2010 5:51 PM
30	<p>Weblinks to information on VA Heritage Website Database Search-http://www.dcr.virginia.gov/natural_heritage/dbsearchtool.shtml Natural Heritage Data Explorer- http://www.dcr.virginia.gov/natural_heritage/nhdeinfo.shtml Shapefiles and other information resources- http://www.dcr.virginia.gov/natural_heritage/infoservices.shtml</p>	Sep 7, 2010 3:39 PM
31	https://www.flrules.org/gateway/ChapterHome.asp?Chapter=5B-40	Sep 8, 2010 5:32 PM
32	<p>We are not a state agency, so no permitting. Mostly data is exchanged, to learn more read here:</p> <p>http://www.cnhp.colostate.edu/exchange/request.asp</p>	Sep 8, 2010 11:04 PM

Please provide additional information or please provide the URL to information on your website.		
33	Generalized rare species location information is available on our website at http://dnr.wi.gov/org/land/er/nhi/countydata/ ; many (but not all) requesters use this prior to submitting their requests.	Sep 10, 2010 4:12 PM
34	http://www.iowadnr.gov/other/reviews.html	Sep 10, 2010 7:01 PM
35	http://www.gencourt.state.nh.us/rsa/html/xviii/212-a/212-a-mrg.htm	Sep 15, 2010 8:59 PM
36	it is not a permitting process. inquiries for review are sent (typically with project overview, maps and photos)--a biologist is assigned and reviews, a letter goes out from Tech Guidance noting if an impact is anticipated and if so, recommendations to avoid or mitigate the impact.	Sep 21, 2010 8:32 PM
37	Only county level data available online. Our program does not have access to all permit applications that are submitted to the cabinet. We receive notices from the Dept for Environmental Protection	Sep 23, 2010 1:49 PM

MNFI: State Natural Heritage Env. Review Evaluation

What is working well with your environmental review program?	
	Response Count
	37
<i>answered question</i>	37
<i>skipped question</i>	21

Response Text		
1	We are reasonably well-known within the appropriate circles as the place to get rare plant and ecosystem data, so people to come to us for information and expertise.	Aug 19, 2010 3:46 PM
2	automated search and response speeds up the process. Some level of review is built into the automated system to weed out easy avoidance and no conflict projects.	Aug 19, 2010 4:12 PM
3	Good coordination between agencies is a plus. Maine DEP receives development applications and is consistently good about contacting resource agencies and allowing time for comment. MDEP is also very willing to implement our recommendations with applicants.	Aug 19, 2010 4:29 PM
4	Our data are shared as a shapefile with various state/federal agencies. Many of these agencies are using the data as intended for their own environmental reviews of permit applications. This is particularly true for water quality permits involving aquatic resource alteration. Federal agencies including NRCS and the ACOE coordinate their projects and permits closely with both the Heritage Program and the Wildlife Resources Agency.	Aug 19, 2010 5:33 PM
5	Our online PNDI system works well to minimize the number of projects we must review, by clearing projects that are not near any known populations of rare species.	Aug 19, 2010 5:33 PM
6	We have the opportunity to work within a framework that allows us to make protection comments and recommendations on most development activity taking place in the State.	Aug 19, 2010 5:47 PM
7	Most consultants and agencies know us and use our data; the state clearinghouse provides comprehensive access to statewide information that could effect rare and at-risk species.	Aug 19, 2010 5:48 PM
8	Opportunity to review many projects with potential environmental impacts.	Aug 19, 2010 6:20 PM
9	We also do surveys for T&E species, using GIS analyses to refine our state's known habitat locations, we participate in mitigation bank reviews. Our program is housed at the MS Museum of Natural Science, which is part of the MS Dept of Wildlife, Fisheries & Parks. We work with the wildlife game side of agency when asked.	Aug 19, 2010 6:43 PM
10	Consultants and planners can view our data either through an ArcIms application http://maps.vermont.gov/imf/sites/ANR_NATRESViewer/jsp/launch.jsp or download the shape files of interest from the distributor of GIS information VCGI. The names of the species are not given, but the rank and status are. We recently have consolidated reviews so they are done by District Wildlife Staff and include critical wildlife habitat, significant natural communities, and RTE species.	Aug 19, 2010 7:56 PM

Response Text		
11	We provide very good information about T&E spp in a proposed project area and recommendations as to what to do to avoid impacts to them when the information is requested.	Aug 20, 2010 3:14 AM
12	Allows the Dept to provide input on projects that may impact sensitive resources, including state conservation areas.	Aug 20, 2010 4:44 PM
13	Process works well for species whose distribution is well documented.	Aug 23, 2010 2:35 PM
14	Receiving emails regarding proposed projects that have shapefiles for project areas.	Aug 23, 2010 4:30 PM
15	The online environmental review tool has automated the system for generating T&E and other special status species, wildlife corridors, and critical habitats. It also provides some general project recommendations.	Aug 23, 2010 4:37 PM
16	With EcoCAT reviews for projects that are not in the vicinity of a resource can be quickly 'terminated'. (We do not provide permits.) This leaves staff time for projects that could have an adverse effect on species. We can only make recommendations; it is up to the authorizing agency (state or local) to decide to make the recommendations mandatory.	Aug 23, 2010 5:06 PM
17	We have made strides in recent years improving communication with regulators so that they can condition permits such that RTEs will gain better protection. Internal coordination and obtaining technical expertise is working well. Also, getting the opportunity to review projects early in the planning process works well. Lastly, in general, most entities know who to contact and how our process works.	Aug 24, 2010 12:49 PM
18	We have good relationships with state agencies and the USFWS. We have a good record of working with project proponents to find solutions that benefit wildlife and the project.	Aug 24, 2010 8:30 PM
19	In PA we are lucky to have protection for T/E plants, animals and those species proposed for listing. Overall, our online review process works fairly well and catches most projects that have potential impacts.	Aug 26, 2010 12:54 PM
20	We have a good working relationship with FWC.	Aug 30, 2010 8:43 PM
21	Many aspects. We review a wide range of projects and outcomes include project revisions, protection plans during construction, long-term monitoring of species and/or habitat, surveys, habitat protection in form of CR and DRs, research funding, off-site land banking, etc.	Sep 2, 2010 4:52 PM
22	Hardworking staff and great inventory to base decisions.	Sep 2, 2010 4:57 PM
23	Generally, we are able to review and respond to requests with a relatively short turnover time. We also have some simple web tools available.	Sep 2, 2010 5:21 PM
24	We have a very good working relationship with many of the state and federal natural resource and permitting agencies in the state. This means we are "invited to the table" to provide input on many projects and policies.	Sep 2, 2010 5:36 PM
25	not much although we manage to do @ 800/year with only two staff members	Sep 2, 2010 6:52 PM
26	Our work flow seems to work well in the current system.	Sep 3, 2010 5:51 PM
27	Clients value natural heritage information and normally coordinate with us early in the permitting process.	Sep 7, 2010 3:39 PM
28	Locations of rare plants on private land are sometimes avoided in development phase.	Sep 8, 2010 5:32 PM
29	Having a robust Oracle database allows us to do some heavy lifting fairly quickly via reporting software and queries.	Sep 8, 2010 11:04 PM

Response Text		
30	<ul style="list-style-type: none"> • We feel that once we receive Endangered Resources Review requests, our process is thorough and efficient. We offer a fairly quick turnaround time for standard reviews as well as the option to request an expedited review. Our review letters provide specific guidance and recommendations- we feel this is important for on-the-ground conservation. • We recently began working with the regulated community to evaluate and improve our program, and have developed a good working relationship with many stakeholders, customers and partners. As part of this program evaluation we've developed a wider suite of tools for our customers and partners to use, including a program newsletter, species guidance documents, improved comprehensive species web pages (http://dnr.wi.gov/org/land/er/biodiversity/) and a standardized process for incidental take permits and authorizations. • We also have a good working relationship with law enforcement (wardens) when we need to involve them in the ER review process or follow-up actions. 	Sep 10, 2010 4:12 PM
31	Being based in the State Library, we are a non-regulatory program and are able to provide information to all parties in a neutral, non-biased manner provides	Sep 10, 2010 5:20 PM
32	It works well is we are issuing a permit.	Sep 10, 2010 7:01 PM
33	Good cooperation with our Department of Environmental Services, especially the wetlands bureau. DES and all other state agencies that fund or permit activities are required to take "reasonable and prudent" actions to protect habitat deemed critical by Executive Director [of Fish and Game]	Sep 15, 2010 8:59 PM
34	We have things pretty well streamlined as far as environmental reviews. Private consultants will send requests directly to us, we review the project, and send back a response letter with any species of conservation concern that occur within 1 mile of the project area. We also have an MOU set up with the Louisiana Department of Natural Resources. As part of this MOU, DNR receives an abridged version of the heritage database. This allows DNR to review the projects, and send any projects to us that may have impacts to any species of conservation concern. Projects that are sent to us are reviewed, commented on, and returned to DNR. These comments are then incorporated into DNR's response letter to the applicant.	Sep 17, 2010 4:56 PM
35	14 day turn around	Sep 20, 2010 6:36 PM
36	most reviewing biologists are long term agency employees who are very knowledgeable and committed to their work--the quality of the responses that go out as 'custom' letters are superb.	Sep 21, 2010 8:32 PM
37	Location specific information regarding rare species is provided to applicants in a timely manner, for those projects that we receive notice.	Sep 23, 2010 1:49 PM

What is a challenge in your environmental review program?

	Response Count
	31
answered question	31
skipped question	11

4. What is a challenge in your environmental review program?

	Response Text	
1	We don't have the capacity to do a very thorough job. And we are limited by state-level environmental protections and state-level requirements regarding review process. Also, our program only reviews projects for plant species and ecosystems, not for animal species, which is done by WDFW.	Aug 19, 2010 3:46 PM
2	Most land use decisions happen at the local (town) level. Despite our efforts to make data readily available for town use, permits are regularly issued that conflict with our resources.	Aug 19, 2010 4:29 PM
3	Our biggest challenge is in directly providing the public and permit applicants with the data. Most private development that occurs in the state does not include a review of rare species records as part of the project design phase. Rare species protection on these sites only comes into play if another agency reviews a permit application that requires consideration of rare species. We do not have a single person dedicated to environmental reviews so the burden falls on the Heritage Data Manager and the Program Coordinator to complete reviews. A final challenge is in finding a way, given our limited resources, to furnish rare species data to the public in a way that does not divulge exact locations and that encourages proper interpretation of habitats rather than yes/no presence of rare species.	Aug 19, 2010 5:33 PM
4	Working with a variety of different-scales and types of projects with one program; improving and scientifically regulating avoidance and mitigation efforts when conflicts do occur.	Aug 19, 2010 5:33 PM
5	The volume of work has steadily grown while staff resources remain inadequate. We lack specific authorities to require the adoption of protection strategies in all cases.	Aug 19, 2010 5:47 PM
6	It's unclear if all consultants and agencies are using our data and if they are using it correctly. We provide data on the front-end of projects and often do not get follow-up information/data in return.	Aug 19, 2010 5:48 PM
7	No enforcement or law requiring compliance with environmental review recommendations. Under the state endangered species law, only taking of individual animals is prohibited. The law has no habitat protection measures.	Aug 19, 2010 6:20 PM

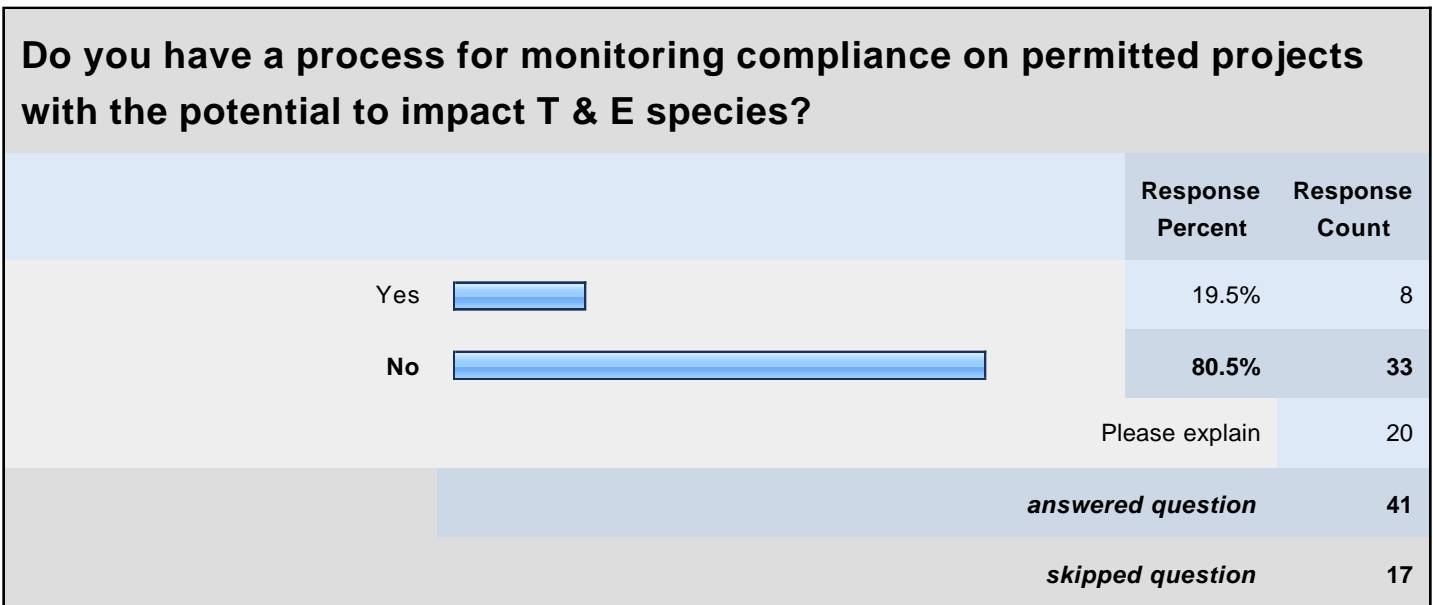
4. What is a challenge in your environmental review program?

	Response Text	
8	We are non-regulatory, so we often feel that our recommendations are often not implemented by other agencies requesting a review. We perform over 600 reviews each year, and are understaffed.	Aug 19, 2010 6:43 PM
9	Many reviews are office reviews only. Major projects can limit overall time necessary for appropriate level of reviews for standard projects. For example, commercial wind farms have been consuming a lot of time. Another issue is addressing travel corridors. They don't fit well in our existing regulations unless they are related to a riparian area.	Aug 19, 2010 7:56 PM
10	We only provide information when requested and there are likely projects going on that we do not see. There is no follow-up to the review recommendations, unless the applicant contacts us for more guidance and keep us in the loop.	Aug 20, 2010 3:14 AM
11	Number of requests is large and we have few staff to review. Often we do not have sufficient information on the project to adequately complete a review. We have little opportunity for onsite evaluation.	Aug 20, 2010 4:44 PM
12	Many terrestrial species have poorly understood distributions.	Aug 23, 2010 2:35 PM
13	Too much development - 2500 projects a year are a lot to review. We try to focus on large scale projects and those that might have cumulative impacts. Right now it is renewable energy projects. Can't be at every meeting, but we do review all EIS and BA documents.	Aug 23, 2010 4:37 PM
14	Follow-up on our recommendations. We do not have the resources to check the effectiveness of our recommendations, or even if they are actually implemented.	Aug 23, 2010 5:06 PM
15	Limited staff due to insufficient funding. The way the statute is written limits our ability to evaluate cumulative effects. Environmental review is limited to state and federally listed species.	Aug 24, 2010 8:30 PM
16	We do not have control over how our data are used in the process.	Aug 30, 2010 8:43 PM
17	Enforcement, staff time, site visits	Sep 2, 2010 4:52 PM
18	There is one person who completes all reviews and that is only part of their job. Also, we are updating the review process and moving into ArcGIS from ArcView which provides challenges when modifying the custom extensions we use. We would very much like to go to a web based review system which would help "filter out" some of the very simple projects that take too much time to review on an individual basis and are unlikely to have negative impacts. Cost is a big issue but limited staff to work on these tools is another.	Sep 2, 2010 5:21 PM
19	Not enough staff and too many reviews	Sep 2, 2010 6:52 PM
20	Due to our non-regulatory status, our recommendations are voluntary unless they are included as a permit condition by one of the regulatory agencies. In turn, it makes it difficult to determine whether non-permit recommendations are implemented as part of the project.	Sep 7, 2010 3:39 PM
21	Fees required to sustain our review service are at times a barrier for some folks who might otherwise use our ER service.	Sep 8, 2010 11:04 PM
22	Funding and ability to follow-up on how the information is well and was it used appropriately	Sep 10, 2010 5:20 PM
23	Funding for staff to be available to get out on the ground and work with consultants and developers to modify project design early on in application process.	Sep 15, 2010 8:59 PM
24	This is a full time job. We would like to get an online project review system in place.	Sep 17, 2010 4:56 PM
25	better communication between area biologists and headquarters need to occur. (though in general it works fairly well)	Sep 21, 2010 8:32 PM
26	Getting comments on projects out in a reasonable and meaningful amount of time.	Sep 29, 2010 8:54 PM
27	We have no regulatory authority over "state listed" species, since our list is not officially recognized by the state legislature.	Sep 30, 2010 5:17 PM

4. What is a challenge in your environmental review program?

Response Text		
28	Staffing is a challenge. Since the data management section handles both getting the data into the database and getting the data out of the database for environmental review, we are often stretched to our limits.	Oct 11, 2010 2:10 PM
29	Due to a general lack of regulations it is difficult to get applicants to implement 'recommendations' to reduce impacts to RTEs. Regulators can sometimes place conditions on permits that result in a reduction of impacts (typically a time of year restriction on project activities). Many projects are approved at the county or local level and it has been a challenge to get these entities to implement or even consider measures that would reduce impacts to RTEs and habitat that supports those species. There is also a general lack of funding and staff to adequately conduct a thorough investigation at many project sites or to follow-up on comments to determine if recommendations were implemented. A big challenge is the volume of reviews we do per year (500-600+) and we only have one part-time staff person coordinating all but State Dept of Transportation reviews.	Oct 11, 2010 2:12 PM
30	Incorporating the results of the Natural Heritage review into permit conditions.	Oct 11, 2010 2:21 PM
31	If no permit is needed, an environmental review request may not be requested.	Oct 11, 2010 2:22 PM

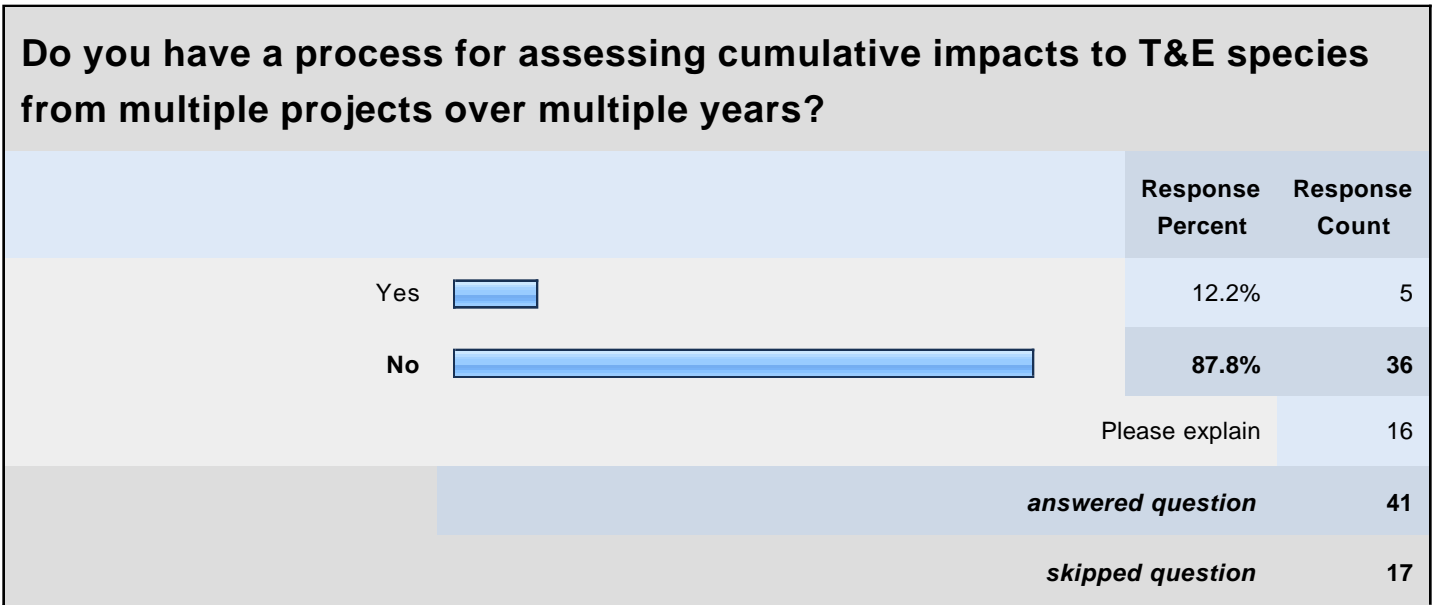
MNFI: State Natural Heritage Env. Review Evaluation



Please explain		
1	Typically done by MDEP enforcement and field staff. MNAP and MDIF&W will monitor as time and staff allow, but we do not have the capacity that MDEP has.	Aug 19, 2010 4:29 PM
2	As we are non-regulatory, we have never instituted a system for following up on projects.	Aug 19, 2010 5:33 PM
3	This falls under DEP's regulation, as they are the ones who regulate the permitting process which PNDI is a part of.	Aug 19, 2010 5:33 PM
4	In some cases we are able to condition wetland permits with monitoring requirements but that is not the norm. Usually project comments go back to local jurisdictions for adoption We have no ability or resources to monitor for implimentation/compliance.	Aug 19, 2010 5:47 PM
5	Yes, you can request more information from Mark Scott, our Widllife Director mark.scott@state.vt.us	Aug 19, 2010 7:56 PM
6	Sometimes. Typically only with larger projects (pipelines, transmission lines) and with third-party monitors.	Aug 19, 2010 8:52 PM
7	Generally projects proceed once they have met the requirement of infomration on T&E spp, but there is no usuaaly follow up as to what actually is done, unless a project specifically calls for monitoring (i.e. relocation of T&E spp out of harms way woudl have monitoring, and also requie and Incidental Take Authorization/Permit).	Aug 20, 2010 3:14 AM
8	We rarely get any data back from surveys that were conducted for project clearance. We do get information from USFWS for formal consultations.	Aug 23, 2010 4:37 PM
9	Due to limited staff and funding, there is little time to follow-up on most projects. The state regulators however may have some process for ensuring compliance, but I'm not sure how much time they have to do this. Our program is considered non-regulatory and we do not monitor compliance.	Aug 24, 2010 12:49 PM
10	Limited staffing limits our ability to monitor compliance. We review ~ 500 projects per year.	Aug 24, 2010 8:30 PM
11	Not really, although since PA DEP issues the final permits, they may have some compliance checks depending on the project type. Here at the Bureau of Forestry, we can barely keep up with the volume of projects that need reviewed. We do at times conduct the botanical surveys or join private consultants in the field while they are conducting the surveys.	Aug 26, 2010 12:54 PM

Please explain		
12	FWC might, but we don't.	Aug 30, 2010 8:43 PM
13	We have a process but it is understaffed and our regs don't allow us to charge fines.	Sep 2, 2010 4:52 PM
14	Follow-up from staff.	Sep 2, 2010 4:57 PM
15	not that I know of	Sep 2, 2010 5:28 PM
16	Any commitments incorporated into a TVA NEPA document are tracked for compliance by the Project Control Specialist. In addition, for transmission line maintenance, we provide the customer with a GIS layer identifying sensitive resource areas and the maintenance actions necessary to protect the resource (e.g., hand clearing of vegetation vs. aerial spraying of herbicides).	Sep 3, 2010 5:51 PM
17	Rules for compliance and monitoring are established, at different levels of government. County through state.	Sep 8, 2010 5:32 PM
18	Our program doesn't have a process for monitoring compliance, although other permitting processes (water quality, etc.) are able to. We do follow up on projects when we become aware of compliance issues.	Sep 10, 2010 4:12 PM
19	Permits typically require coordination with local biologist or conservation officer prior to and sometimes during construction. Projects are inspected when complete.	Sep 10, 2010 7:01 PM
20	to some degree on specific projects (wildlife corridors/safe passage), but mostly no. this has been identified in agency as an important goal (and the safe passage monitoring was started as a result of setting that goal)	Sep 21, 2010 8:32 PM

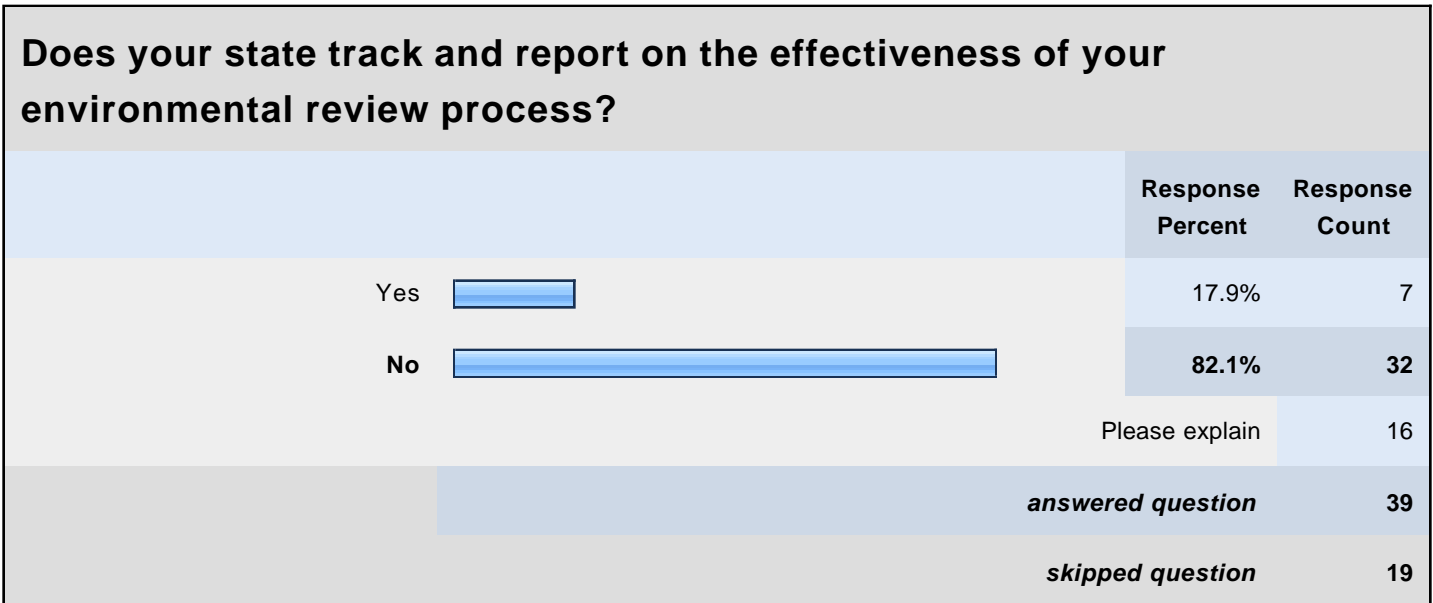
MNFI: State Natural Heritage Env. Review Evaluation



Please explain		
1	This is a perpetual challenge. Our ability to track incremental impacts is challenged, and our ability to get beyond site specific project review is difficult.	Aug 19, 2010 4:29 PM
2	See above.	Aug 19, 2010 5:33 PM
3	However, botanists from throughout the state gather yearly to discuss proposed changes to species' statuses due to project disturbances.	Aug 19, 2010 5:33 PM
4	Wish we did	Aug 19, 2010 6:43 PM
5	Would be nice, but due to limited staff and time we cannot accomplish this. We do map/track where projects are located, but there is no assessment done on that information.	Aug 20, 2010 3:14 AM
6	Our online system captures all project footprints as well as project type. We can then view an area or the entire state to see where the majority of project are. We can look just at certain project types this way as well.	Aug 23, 2010 4:37 PM
7	Only in so far as the species may no longer occur in the vicinity of a highly developed area.	Aug 23, 2010 5:06 PM
8	We do have calculations on habitat loss--wetland acreage, forest clearing acres--and local species extirpations. We have an internal database that can be queried for some cumulative impact information, but there is a general lack of time to quantify RTE impacts. This aspect of the program needs improvement, but again funding and staff time is an issue due to the sheer volume of reviews we conduct per year (over 500-600 with a part-time staff person coordinating all but Dept of Transportation reviews).	Aug 24, 2010 12:49 PM
9	See above.	Aug 24, 2010 8:30 PM
10	Again, FWC might, but we don't.	Aug 30, 2010 8:43 PM
11	Our regulations allow us to consider cumulative impacts. It is difficult when land is subdivided or many years have passed.	Sep 2, 2010 4:52 PM
12	the process is informal cooperation and some funded field work by WYNDD, WGF and private consultants, with status assessment by WYNDD and WGF biologists.	Sep 2, 2010 5:28 PM
13	TVA employees Land Use Specialists and Socioeconomics Specialists who provide the information necessary to conduct a cumulative impacts analysis.	Sep 3, 2010 5:51 PM
14	There are specific situations (jeopardy assessments, EIS/EA processes) in which cumulative impacts are considered, but this isn't a regular part of our review program.	Sep 10, 2010 4:12 PM

Please explain		
15	yes, but it is still in development--we've been working on it about a year...	Sep 21, 2010 8:32 PM
16	In some instances we assess potential cumulative impacts on selected species by looking at distribution and quality of occurrences in the area in relation to other known proposed or existing projects. We alert the permit reviewers of possible cumulative effects.	Sep 23, 2010 1:49 PM

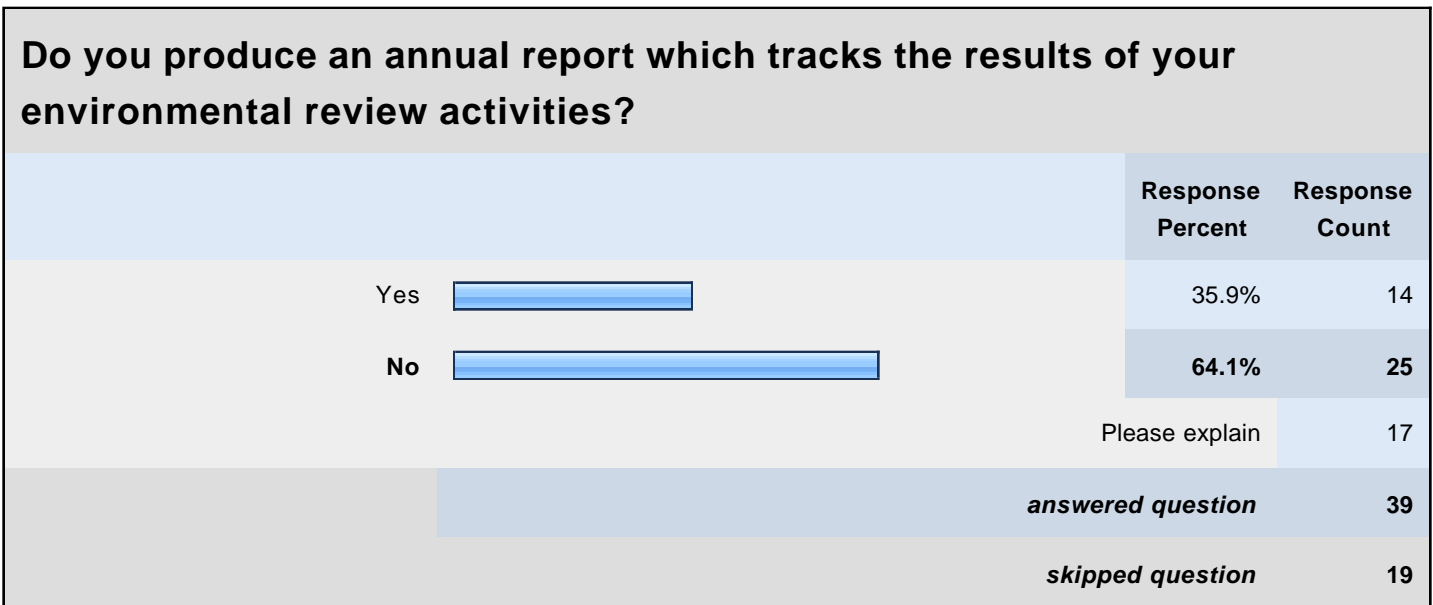
MNFI: State Natural Heritage Env. Review Evaluation



Please explain		
1	To my knowledge, most of the environmental review is on the front-end, with no monitoring or compliance (at least from my agency perspective; federal land managers and other state agencies may require follow-up on certain projects).	Aug 19, 2010 5:49 PM
2	No system in place to process this information.	Aug 19, 2010 6:30 PM
3	Yes, through our annual technical assistance report to the USFWS.	Aug 19, 2010 8:04 PM
4	We are discussing how to implement this.	Aug 19, 2010 8:55 PM
5	No time, no money, and fewer staff as time goes on.	Aug 20, 2010 3:21 AM
6	We have mostly anecdotal information.	Aug 23, 2010 4:39 PM
7	Have performed a seven-year study on trends in consultation. But as already mentioned, it is only for the consultation process--no follow-up on effectiveness of the recommendations.	Aug 23, 2010 5:22 PM
8	We have an internal database that allows us to track and summarize projects. In general though, it is difficult to quantify effectiveness given the lack of follow-up on most projects. This lack of follow-up is not just due to staff time but because many projects go through a complex approval process that can span several years and involve a changing cast of 'characters'. We do keep a list of projects that were changed due to our comments and that entailed protection of RTEs due to our review. We are able to query the database to provide specific information as requested (such as number of cell tower projects, number of projects that could impact RTEs, number of projects in proximity to Bald Eagle nests etc..)	Aug 24, 2010 12:52 PM
9	Not sure what the question is asking. We do not evaluate if recommendations we make are carried out and we do not assess which species benefit..	Aug 24, 2010 8:39 PM
10	Pennsylvania may do this, but I am not aware of it.	Aug 26, 2010 12:57 PM
11	Many of these questions are not relevant to our program since we are not involved in the regulatory review process.	Aug 30, 2010 8:45 PM
12	We report the number of reviews each year.	Sep 2, 2010 5:24 PM
13	I believe we may, if so, Jennifer Conner, Manager, Project Planning and Support may have knowledge of it. Her telephone number is 423-751-7690.	Sep 3, 2010 6:26 PM
14	We have a committee that looks at and reports on projects. They have reports online.	Sep 8, 2010 5:36 PM

Please explain		
15	We have no formal process for tracking and reporting on the effectiveness of our program, but in reaching out to and working with our stakeholders we've heard their feedback, both positive and negative, about our effectiveness.	Sep 10, 2010 4:12 PM
16	track and report yes; effectiveness is still subjective	Sep 21, 2010 8:35 PM

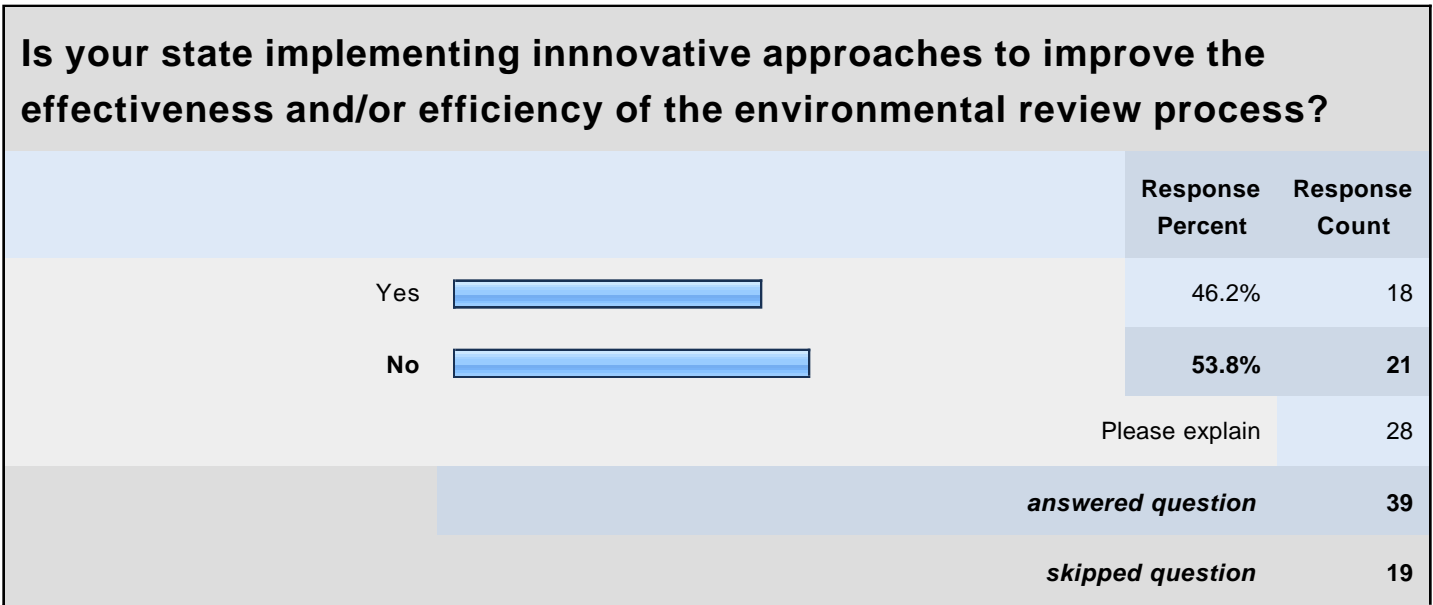
MNFI: State Natural Heritage Env. Review Evaluation



Please explain		
1	internal for purposes of arguing for more staff	Aug 19, 2010 4:13 PM
2	The report simply counts the number of reviews we do, divided out by public notice reviews, in-office consultations, and the for-fee reviews we provide for consultants.	Aug 19, 2010 5:34 PM
3	We track volume of responses only.	Aug 19, 2010 5:49 PM
4	Yes, see appove.	Aug 19, 2010 8:04 PM
5	Reports are prepared spreadically on an as needed basis for administrators, mostly to determine how many and what types of projects we review - but NOT their effectiveness.	Aug 20, 2010 3:21 AM
6	Only a brief summary report of number and type of projects reviewed.	Aug 23, 2010 2:36 PM
7	We have to report to Federal Aid and to our state legislature the number of projects reviewed, but nothing on results of how many move forward, impacts, or mitigation.	Aug 23, 2010 4:39 PM
8	Yes, we have a State Wildlife Grant that partially provides funding for the reviews. We submit progress and annual reports which includes analysis of our reveiw process.	Aug 24, 2010 12:52 PM
9	Usually this is informal and for our internal use only	Aug 26, 2010 12:57 PM
10	n/a	Aug 30, 2010 8:45 PM
11	occasional species-specific reports are issued by WYNDD after field work is analyzed	Sep 2, 2010 5:33 PM
12	I believe we may, if so, Jennifer Conner, Manager, Project Planning and Support may have knowledge of it. Her telephone number is 423-751-7690.	Sep 3, 2010 6:26 PM
13	As a division within the Department of Conservation and Recreation, we track number of projects reviewed, use of the Natural Heritage Data Explorer website and number of late projects.	Sep 7, 2010 3:53 PM
14	See CNHP project abstracts booklet for recent years for a rundown.	Sep 8, 2010 11:06 PM
15	We produce monthly and annual reports of the "statistics" of our program (number of reviews done, average turnaround time, etc.), but we don't have a process for analyzing qualitative results of our reviews.	Sep 10, 2010 4:12 PM

Please explain		
16	We do a summary level report on the number and types of project reviews we conduct. Due to Library confidentiality laws, we cannot disclose the identity of the project review requesters	Sep 10, 2010 5:22 PM
17	especially in regards to Permits	Sep 21, 2010 8:35 PM

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Please explain		
1	regular updates to the online environmental review system, improving mapping, altering the receipt language.	Aug 19, 2010 4:13 PM
2	We think so anyway... Our Beginning with Habitat program is intended to get the information out proactively so that issues are identified early in the process. We are currently making strides in consolidating MNAP and MDIF&W environmental review functions and improving the efficiency with which initial project screening is completed at a central location, then regional field offices are brought in when an obvious resource impact is likely to occur.	Aug 19, 2010 4:33 PM
3	We hope to have an online environmental review application available in next 2-3 years, but there are several technological and security hurdles that our overall Environment and Conservation department has to cross before we can offer dynamic websites to the public.	Aug 19, 2010 5:34 PM
4	We are consistently trying to improve our PNDI system and environmental review processes. Recently, we've improved the mapping system and PNDI receipts (which now give the names of species which cause hits, except for species sensitive to collection or disturbance) for users. We are also working on Tier II, a more proactive version of PNDI meant to help agencies avoid impacts during the planning process rather than reacting to them.	Aug 19, 2010 5:39 PM
5	We have come a long way with our ability to screen for impacts using GIS and advance mapping platforms.	Aug 19, 2010 5:49 PM
6	Our program is working to revise GIS data for habitat locations across the state, this will speed up the review process while performing reviews	Aug 19, 2010 6:45 PM
7	Yes, we just did through a reorganization. Previously initial reviews were done separately for Natural Communities/RTE species and critical wildlife habitat. Initial reviews have been consolidated to avoid duplication and increase efficiency. We also are providing some of the consultants with access to ArcIMS application\ with a fully attributed dataset of RTE species and significant natural communities. Everyone now has access to shape files and ArcIMS application that provide the location of RTE species and natural communities, but they only give the rank and status, not the name.	Aug 19, 2010 8:04 PM
8	Topic of discussion.	Aug 19, 2010 8:55 PM

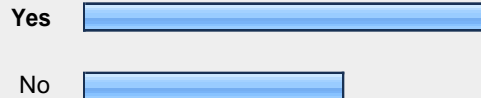
Please explain		
9	We are initiating a certification program so that consultants can be certified to do 'pre-review' letters and thereby expedite our review process, all of these 'pre-review' letters would still have to come to state staff to review and sign-off, since only our agency has the authority to deal with T&E spp.	Aug 20, 2010 3:21 AM
10	Trying to develop a website.	Aug 20, 2010 4:46 PM
11	Land and Water Sites and Scenic byways have recently been converted into GIS layers.	Aug 23, 2010 4:31 PM
12	We continue to add new features to our online tool and collect feedback from users.	Aug 23, 2010 4:39 PM
13	EcoCAT and various automated forms for efficiency.	Aug 23, 2010 5:22 PM
14	We are continually trying to streamline the review process and improve communication with regulators and other entities that approve projects, but I wouldn't qualify this as innovative!	Aug 24, 2010 12:52 PM
15	We have developed programatic agreements with NRCS, NE Game and Parks Commission, and the Nebraska Department of Roads that expedite the review process. We also have developed an on-line checklist for developers who are seeking a NPDES permit which allows them to determine if they need to send the project to us for review.	Aug 24, 2010 8:39 PM
16	Our heritage program continues to improve the validity and accuracy of our occurrence data. Over time or process have become more effective and the online tool has become more efficient. I wouldn't necessarily call these things innovative. The Western PA Conservancy has developed some innovative studies to enhance conservation across PA, but it may be some time before it trickles down to the ER process.	Aug 26, 2010 12:57 PM
17	Both our state DOT and FWC have online environmental review tools in use.	Aug 30, 2010 8:45 PM
18	off-site land banking, designing protection plans to protect species during construction, moving to online submission of applications	Sep 2, 2010 4:54 PM
19	We would like to but are still in the planning phase.	Sep 2, 2010 5:24 PM
20	not that I know of	Sep 2, 2010 5:33 PM
21	Kind of. We are now asking applicants to provide habitat descriptions, photographs and more details about their projects so that staff biologist spend less time guessing about potential impacts. We are also going to a document management system within our agency to help with sharing documents with permit analysts and others that need to be involved in writing permits.	Sep 2, 2010 6:57 PM
22	I believe we may, if so, Jennifer Conner, Manager, Project Planning and Support may have knowledge of it. Her telephone number is 423-751-7690.	Sep 3, 2010 6:26 PM
23	I do not know.	Sep 8, 2010 5:36 PM
24	Again, the environmental review process is run by CNHP and we are not a state agency.	Sep 8, 2010 11:06 PM
25	Our program has recently made several changes and improvements to enable us to provide better customer service and better conservation of endangered resources in our state. We are developing an Endangered Resources certification program (http://dnr.wi.gov/org/land/er/review/proposedChanges.asp), providing better and more consistent reviews through use of a standard review process and template across multiple reviewers, working more closely and more effectively with stakeholders and partners, updating our guidance document that details our endangered resources screening procedure, and providing an improved set of tools and resources for rare species conservation in Wisconsin.	Sep 10, 2010 4:12 PM
26	Will send under separate cover	Sep 15, 2010 9:08 PM
27	As previously mentioned our department is interested in incorporating an online project review system. We have had a few discussions regarding this project, however, we are still in the preliminary stages.	Sep 17, 2010 5:16 PM

Please explain

28	long way to go with this, but we have begun to change the nature of how we respond to requests for review--more face to face meetings, more team members on technical committees, etc, vs. a review/letter sent (with little or no contact with the inquiree)...	Sep 21, 2010 8:35 PM
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MNFI: State Natural Heritage Env. Review Evaluation

If your state is implementing innovative approaches to the environmental review process, would you be willing to participate in a short phone interview so that you can share more information about what your program is doing?



Response	Response Percent	Response Count
Yes	60.9%	14
No	39.1%	9

Please provide contact information for those in your organization that review projects for impacts to T&E species and who are willing to be contacted for a short phone interview; including their email and phone number.

<i>answered question</i>	23
<i>skipped question</i>	35

Please provide contact information for those in your organization that review projects for impacts to T&E species and who are willing to be contacted for a short phone interview; including their email and phone number.

1	Sarah Demers (207)287-8670 Steve Walker (207)287-5254	Aug 19, 2010 4:33 PM
2	Andrew Rohrbaugh 717-705-2823 c-arohrbau@state.pa.us	Aug 19, 2010 5:39 PM
3	Tim Larney 410-741-6062 tlarney@dnr.state.md.us	Aug 19, 2010 5:49 PM
4	n/a	Aug 19, 2010 5:49 PM
5	Joelle Carney Database Manager (601) 354-7303	Aug 19, 2010 6:45 PM
6	Everett Marshall 802-241-3715 everett.marshall@state.vt.us	Aug 19, 2010 8:04 PM
7	Lisa Joyal Lisa.Joyal@state.mn.us 651-259-5109	Aug 19, 2010 8:55 PM
8	Lisie Kitchel, 608-266-5248, lisie.kitchel@wisconsin.gov	Aug 20, 2010 3:21 AM
9	We're not far enough along to provide any additional information.	Aug 20, 2010 4:46 PM
10	Sabra Schwartz sschwartz@azgfd.gov 623.236.7618	Aug 23, 2010 4:39 PM
11	Karen Miller, karen.m.miller@illinois.gov 217-524-1048	Aug 23, 2010 5:22 PM
12	Michelle Koch, Environmental Analyst Supervisor, 402-471-5438, michelle.koch@nebraska.gov	Aug 24, 2010 8:39 PM
13	Our organization is not involved, I will try to find a FWC contact.	Aug 30, 2010 8:45 PM
14	Kristin Black 508-579-1774 Jon Regosin, Environmental Review Manager, 508-389-6376	Sep 2, 2010 4:54 PM

Please provide contact information for those in your organization that review projects for impacts to T&E species and who are willing to be contacted for a short phone interview; including their email and phone number.		
15	WYNDD biologists: Doug Keinath (zoology) 307-766-3013, Bonnie Heidel (botany) 307-766-3020, Lusha Tronstad (invertebrates) 307-766-3115	Sep 2, 2010 5:33 PM
16	dawn mckay phone: 860-424-3592 email: dawn.mckay@ct.gov	Sep 2, 2010 6:57 PM
17	Other than the software packages mentioned in Question 3, I'm not aware of any innovative approaches.	Sep 3, 2010 6:26 PM
18	Though I don't believe our state is currently implementing innovation approaches for the environmental review process my contact information is: Rene' Hypes, Project Review Coordinator , DCR-Division of Natural Heritage, 217 Governor Street Richmond, VA 23219 rene.hypes@dcr.virginia.gov, 804-371-2708	Sep 7, 2010 3:53 PM
19	Emily Groh emily.groh@wisconsin.gov (608) 267-0862	Sep 10, 2010 4:12 PM
20	N/A	Sep 10, 2010 7:20 PM
21	John Kanter (603)271-3017 john.kanter@wildlife.nh.gov Michael Marchand (603)271-3016 michael.marchand@wildlife.nh.gov	Sep 15, 2010 9:08 PM

MNFI: State Natural Heritage Env. Review Evaluation

Please include any additional comments that you would like to share.	
	Response Count
	17
<i>answered question</i>	17
<i>skipped question</i>	41

Response Text		
1	In response to the question "Does your state have an environmental review program?" I checked yes, because we do conduct environmental review (as does the WDFW for animal species and habitats). But our review isn't specifically mandated and it isn't funded separately, so I wouldn't what we do as a 'program.'	Aug 19, 2010 3:49 PM
2	We would love to see the results of this survey and the study as a whole. Silas Mathes Roger McCoy Tennessee Natural Heritage Program Tennessee Department of Environment and Conservation L&C Annex 7th Floor, 401 Church Street Nashville, Tennessee 37243 silas.mathes@tn.gov roger.mccoy@tn.gov Thanks!	Aug 19, 2010 5:34 PM
3	A large number of our staff members are funded through State Wildlife Grant funds to protect MS's species of greatest conservation need.	Aug 19, 2010 6:45 PM
4	I'm intersted in a summary of your results, when available. Thanks!	Aug 19, 2010 8:04 PM
5	I think this is a great effort, we do not evaluate the effectiveness of our review program and woudl benefit from seeing the results from Michigan and possibly applying what you learn to our state. i ahve kept the answers on this survey short, but can provide additional information or clarification if you woudl like.	Aug 20, 2010 3:21 AM
6	We would be interested in what others are doing. Let us know if you have any additional questions.	Aug 20, 2010 4:46 PM
7	A general lack of regulations protecting RTEs or their habitat makes the environmental reveiw process less effective. There are not many cases where voluntary actions by a project applicant result in protection. It is important to use scientific research to support recommendations to protect RTEs when providing input for a project. It is challenging to conduct reveiws for an entire state with only one part-time staff person coordinating all but state department of transportation reveiws.	Aug 24, 2010 12:52 PM
8	If any states have created web based programs for environmental review on their own, we would love to see how those work and if we can "borrow" any of their products. I'm only familiar with the programs that paid for these sites to be developed.	Sep 2, 2010 5:24 PM
9	It should be noted that our agency is not a regulatory agency in the state. We serve as an information provider. This may be a very different role than other agencies that are responsible for "permitting."	Sep 2, 2010 5:36 PM

Appendix VII Contacts and Web Addresses for State Programs

State Environmental Review Programs

State	Organization	Website
Alabama	AL Department of Conservation and Natural Resources	
Arizona	Arizona Game and Fish Department, Heritage Data Management System and Project Evaluation Program	http://www.azgfd.gov/hgis
Arkansas	Arkansas Natural Heritage Commission	http://www.naturalheritage.com/default.aspx
California	Environmental Review and Permitting Programs, California Department of Fish and Game	http://www.dfg.ca.gov/habcon/envirRevPermit/
Colorado	Colorado Natural Heritage Program	http://www.cnhp.colostate.edu/exchange/reqwest.asp
Connecticut	Natural Diversity Data Base	www.ct.gov/dep/endangeredspecies and www.ct.gov/dep/nddbrequest
Delaware	DNRC - Division of Fish & Wildlife - Natural Heritage and Endangered Species Program	http://www.DNRc.state.de.us/nhp
Florida	Florida Fish and Wildlife Conservation Commission	http://www.myfwc.com/WILDLIFEHABITATS/imperiledSpp_index.htm
Georgia	Georgia DNR, Wildlife Resources Division, Nongame Conservation Section	http://www.georgiawildlife.com/node/1374
Illinois	Ill Department of Natural Resources	http://www.DNRcocat.state.il.us/ecopublic/ http://www.dnr.state.il.us/espb/index.htm
Iowa	Iowa Department of Natural Resources	http://www.iowadnr.gov/other/reviews.html
Louisiana	Louisiana Natural Heritage Program with the Louisiana Department of Wildlife and Fisheries	http://www.wlf.louisiana.gov/wildlife/louisiana-natural-heritage-program
Kansas	Kansas Dept of Wildlife and Parks- regulatory agency (does not house the Heritage program)	No URL provided
Kentucky	Kentucky Dept of Fish and Wildlife Resource Environmental Branch	No URL provided
Maine	Maine End. Species Program, Maine Department of Inland Fisheries and Wildlife Maine Natural Areas Program (plants & communities)	http://www.maine.gov/ifw/wildlife/species/endangered_species/index.htm and http://www.maine.gov/doc/nr/mc/mnap/assistance/review.htm
Maryland	Maryland Natural Heritage Program Maryland Department of Natural Resources	www.dnr.state.md.us
Massachusetts		
Michigan	Michigan Department of Natural Resources	www.michigan.gov/DNR
Minnesota		
Mississippi	Mississippi Natural Heritage Program	http://museum.mdwfp.com/science/nhp.html
Missouri	Missouri Department of Conservation	http://mdc.mo.gov/
Montana	Montana Natural Heritage Program	http://mtnhp.org
Nebraska	Nebraska Game and Parks Commission	www.outdoornebraska.ne.gov
Nevada	NV Natural Heritage Program	No URL provided
New Hampshire	Nongame and Endangered Wildlife Program, New Hampshire Fish and Game Department	http://wildlife.state.nh.us/Wildlife/nongame_and_endangered_wildlife.htm
New Mexico	Technical Guidance Section	http://www.wildlife.state.nm.us/conservation/index.htm
Oregon	Oregon Department of Fish and Wildlife (Env. Review) Oregon Natural Heritage Program	No URL provided
Pennsylvania	PA Natural Heritage Program (PNHP)	http://www.naturalheritage.state.pa.us/
South Dakota	Wildlife Diversity Program, South Dakota Game, Fish and Parks	http://gfp.sd.gov/wildlife/management/diversity/default.aspx and http://gfp.sd.gov/wildlife/threatened-endangered/default.aspx
Tennessee	Resource Management Division, Tennessee Department of Environment and Conservation and Tennessee's Wildlife Resource Agency (TWRA)	http://state.tn.us/environment/na/data.shtml
Texas	Texas Parks and Wildlife Department, Habitat Assessment Program	http://www.tpwd.state.tx.us/
Vermont	Wildlife Division, Vermont Fish and Wildlife Department	http://www.vtfishandwildlife.com/nnhp_RegulationReview.cfm
Virginia	Natural Heritage Program, Virginia Department of Conservation and Recreation Virginia Department of Game and Inland Fisheries	http://www.dcr.virginia.gov/natural_heritage/index.shtml and http://www.dcr.virginia.gov/natural_heritage/dbsearchtool.shtml
Wisconsin	Endangered Resource Review Program	http://dnr.wi.gov/org/land/er/review/

Appendix VIII Summary of Phone Interviews with Eight State Programs

Arizona Heritage Data Management System, AZ Game and Fish Department (Sabra Schwartz- HDMS Program Coordinator)

Information is summarized from a phone interview and excerpted from the following website:
(<http://www.azgfd.gov/hgis/>)

Arizona has a Native Plant law that protects plants but the state has no legal authority for animals other than closed hunting seasons for specific species. The Game and Fish Dept has a list of Wildlife of Special Concern in Arizona but there is no legal protection. “The Arizona Game and Fish Department's (AGFD) Heritage Data Management System (HDMS) and Project Evaluation Program (PEP) work together to provide current, reliable, objective information on Arizona's plant and wildlife species location and status to aid in the environmental decision making process. This information can be used to guide preliminary decisions and assessments of proposed land and water development, management, and conservation projects statewide, while incorporating fish and wildlife resource needs or features.”

The Heritage Data Management System (HDMS) “collects, synthesizes, and catalogs information concerning the distribution and occurrence of species and habitats in need of special attention. The HDMS is part of a global network of more than 80 Natural Heritage Programs and Conservation Data Centers. HDMS information is available so Arizonans can make prudent decisions weighing future development, economic growth, and environmental integrity.” (<http://www.azgfd.gov/hgis/naturalheritage.htm>) HDMS manages the states on-line environmental review tool which was developed by ESRI (a GIS software developer) and went live to the public in July 2006. They currently have a program coordinator, data manager, systems manager and 2 to 3 staff that process data. Most of the program's funding comes from state lottery funds, with some funding from federal cooperators (BLM, USFS, etc.).

“The Project Evaluation Program provides policy, technical and environmental law compliance guidance and oversight, and coordinates the AGFD review of internal and external policies, plans, and projects affecting fish and wildlife resources in Arizona.” The Project Evaluation Program (PEP) has four staff in the central office (Phoenix) that review proposed projects and 2 staff each at 6 regional offices that conduct reviews. Approximately 2500 projects per year are reviewed, which is a challenge. They focus on large scale projects and those that might have cumulative impacts. Currently renewable energy projects are a high priority as wind and solar projects are “big right now”. Funding comes from Pittman-Robertson, Dingell-Johnson, Sport Fish and Wildlife Restoration dollars. (http://www.azgfd.gov/w_c/project_evaluation.shtml)

Arizona's online system satisfies Phase I Environmental Compliance requiring due diligence in determining the environmental impacts of projects. Applicants can select their project type, locate and draw a project on an interactive map, submit project information into the AZHGIS Environmental Review System, perform an analysis, generate and print a receipt, and can follow the instructions on the receipt to pursue project clearance with the appropriate state agency. When using the online tool the applicant cannot see the element occurrences (EO's). Instead the applicant gets a list of species documented within the vicinity of their project (they draw the project area). In general, exact site information is only released to the land owner or with their

permission. This includes federal and “public” lands. No information is provided on tribal lands. General data at the quad level are available to anyone who asks in a GIS layer. Quarter-quad and down to square mile are available with certain data use agreements.

The online environmental review tool has automated the system for generating T&E and other special status species, wildlife corridors, and critical habitats. Species currently listed as “Special Concern” will be soon be reclassified as “Species of Greatest Conservation Need” (SGCN) in association with the State Wildlife Action Plan (SWAP). It also provides some general project recommendations. The online system captures all project footprints as well as project type. Staff can view an area or the entire state to see where the majority of projects are or they can query for certain project types. This can be useful when analyzing the potential for cumulative impacts to rare species from multiple projects over multiple years.

Applicants using the on-line tool can choose whether they are 1) scoping a potential project that they are looking to bid on or 2) submitting a project for review that is not likely to change. Thus the tool can be used to assist applicants develop their bids on projects. The applicant is forced to tell what type of project they are proposing rather than just ask what is in the area. This triggers specific guidelines associated with the project type (e.g., bridge projects will return a paragraph about doing the project between Sept – April when roosts bats will be least likely impacted).

It is estimated that approximately 40% of projects submitted through the on-line tool and/or the PEP have no “hits” or potential impacts. Currently, they have over 250 regular users. It is hoped that project applicants do not choose to develop projects in areas of high biodiversity. For example, if a transmission line is proposed through a canyon, there is a limit to the number of species that occur in the area before they must automatically contact the AGFD. All of the project categories listed in the on-line tool tie back to the SWAP and the threats associated with specific species and habitats. For example, if there are 450 applications for “solar energy fields”, staff can look at the proposed footprints and gauge the cumulative impacts. If there are 12 solar fields proposed that are right next to each other, this may indicate the need to develop a “wildlife corridor” in the vicinity to address this threat.

“Before we went live, we did a survey of customers that use our environmental review service. All were in favor of having 24-7 access. It reduced our response time from 30 days to less than 20 minutes with the self-service application. We also invited over 250 agency and consulting firms to a presentation and test run of the application. We took 20 laptops to our six regional offices around the state, did a presentation and demonstration and then allowed them to test the system. We have gotten nothing but good responses from our public.” (Schwarz, pers. comm. 2010)

The on-line tool received major upgrades in 2009 which allows users to turn on and off the base map layers and will eventually (within the next 6-12 months) allow them to use free map services. Map services are base maps that have been put together by someone else (i.e. Esri). Many of these "services" can then be viewed in other applications. It reduces the need to rebuild base data layers, minimizes the amount of memory needed and speeds up delivery of the base maps. It gives flexibility for people to personalize their views and bring in layers that are important to them for viewing the other part of the application. In addition, HDMS is working

with the Western Governors Association to pilot a web application which is a decision support system and geospatial planning tool (similar to NatureServe's Vista tool "Model Builder") which can be used to view predicted range maps of over 260 SGCN associated with the SWAP when planning projects such as state transportation corridors. It also will have unfragmented habitat blocks, corridors, and big game range maps. It then has a "diversity index" of these species.

The coordinator articulated that one suggested improvement regarding the on-line application tool would be for applicants to have the ability to go back and change the project footprint or manipulate the polygon and return a new result. In addition, the HDMS program currently faces the challenge of spatially "redigitizing" older records that originally went into the database as "minute" records. Another opportunity that she would like to pursue would be to do more outreach with municipalities and ask them to contribute funds to help support a half time staff person that could assist with development planning. She would like to see a "check off" on real estate transactions inquiring whether the proposed development is "wildlife friendly". Finally the coordinator would like to see sensitive species guidelines provided to project developers.

The HDMS coordinator provided information on web applications and online tools in other states. "I know that MT has a great web application for viewing data and CA has several – a quad viewing tool that just returns species lists per quad to more precise application for fish and wildlife professionals called BIOS. They also have their RareFind application, which is CD with precise data for all but a few sensitive species that is available for the scoping part of environmental compliance. They do charge a nominal fee for the data. From what I've seen, MT and CA have some of the better applications out there (other than ours and PA of course). I know there are many others."

Illinois
Impact Assessment Section, Division of Ecosystem and Environment,
Department of Natural Resources
(Karen Miller, Manager- Impact Assessment Section)

Information is summarized from a phone interview and excerpted from the following website:
(<http://dnr.state.il.us/orep/ee.htm>)

The Impact Assessment Section reviews projects and recommends alternatives to avoid or minimize potential adverse impacts to state-listed threatened & endangered species, natural areas, and, in certain circumstances, wetlands and cultural resources. Currently, nine full time employees conduct assessments. Staff do not provide permits but rather make recommendations; it is up to the authorizing agency to make the recommendations mandatory.

Under the IL Endangered Species Protection Act and the IL Natural Areas Preservation Act, state agencies or units of local government must consult the IDNR about proposed actions that they will authorize, fund or perform. Private parties do not have to consult, but they are liable for taking of state-listed plants (unless they have the written permission of the landowner) or animals or for adversely modifying a Nature Preserve or a Land and Water Reserve.

To initiate consultation, applicants submit their projects online using [EcoCAT](#) - the Ecological Compliance Assessment Tool. EcoCAT uses databases, Geographic Information System mapping, and a set of programmed decision rules to determine if a proposed action may be in the vicinity of protected natural resources. Applicants receive a natural resource review report that either: terminates consultation if no resources are in the vicinity; or lists resources that may be in the vicinity and identifies the staff member who will review the action. After review, staff will either: terminate consultation because adverse effects are unlikely, request additional information, or recommend methods to minimize potential adverse effects. Typically species are buffered by approximately one mile, although it depends on the species and the locations, i.e. for fish in linear habitats the buffer is usually 1.5 miles).
(<http://www.DNRCocat.state.il.us/ecopublic/>)

EcoCAT asks a series of questions, and those answers are recorded in a database. Applicants are asked whether they are using EcoCat to: 1) initiate consultation with IDNR to determine potential impacts to Illinois Natural Area Inventory sites or state-listed threatened or endangered species, or 2) to obtain information on Illinois T&E species or INAI sites for project planning, or 3) to obtain information on Illinois T&E species or INAI sites for **federal agency** actions (including NEPA compliance). If the 1st option is selected the applicant is fulfilling the consultation requirements of the Illinois Endangered Species Protection Act and the Illinois Natural Areas Preservation Act. If the 2nd option is selected the submittal is considered an 'information request' and will not be assigned for review. The 3rd option is only selected by federal agencies that are required to seek comments from state fish & wildlife agencies before authorizing, funding, or performing a federal action. EcoCAT processes most of these submittals as information requests, not as consultations. Only submittals for the Federal Energy Regulatory Commission are assigned to staff if resources are flagged.

Applicants are then asked to provide project information and project location (TRS information). Once the location information is submitted, the applicant is taken to a map tool where they draw an outline of their proposed project area. EcoCAT will return a report for the project that lists any resources found in the area. If no resources are in the vicinity and the applicant has requested consultation, the report will terminate consultation and they have completed the process. If the project was submitted for consultation and protected natural resources are identified in the area, EcoCAT will assign the project to IDNR staff for further review.

Currently the program reviews approximately 10,000 requests per year. About half of these are information requests and half are consultations. It is estimated that between 40-45% of consultations are terminated due to a determination of “unlikely to have an adverse impact.” (not true; study conducted before the recession hit) The Impact Assessment Section has realized greater efficiency by the adoption of automated “termination letters” when a project is unlikely to have an adverse impact. Staff can also add additional comments to the automated letters by inserting them in the database. These are used when staff wishes to advise caution in certain situations, but does not feel the situation requires official recommendations to which the unit of government must respond.

When recommendations are made and a third party is the applicant, the letters are addressed to both the applicant and the appropriate authorizing agency. The Department recommends that the agency incorporate the recommendations as a condition of its authorization or grant (if the state is funding the action). Adopting the recommendations is voluntary. (This does not really say anything to make it worthwhile including and could be misleading)

The section’s “wish list” would include more staff and additional resources. Both would allow staff to make more site visits to assess potential impacts and to follow up when recommendations are adopted—to determine if they are implemented correctly and if they are effective in protecting the resource.

**Massachusetts
Natural Heritage and Endangered Species Program,
Massachusetts Division of Fisheries and Wildlife
(Kristin Black, Environmental Review Manager)**

Information is summarized from a phone interview and excerpted from the following website:
<http://www.mass.gov/dfwele/dfw/nhesp/nhesp.htm>

Currently the Environmental Review group of the NHESP consists of 1 full time manager, 3 assistants, 1 full time biologist, and 4 biologists (3/4 FTE dedicated to environmental review). The program does not have a line item with the state but is funded primarily from review fees and donations received through a state "check off" program. Funding was provided through the BIO MAPS project from 1999 to 2001 to link Biotics to NatureServe and map species habitats.

The [Massachusetts Endangered Species Act](#) protects rare species and their habitats by prohibiting the "Take" of any plant or animal species [listed as Endangered, Threatened, or Special Concern](#) by the MA Division of Fisheries & Wildlife. "Take" is defined as, "in references to animals, to harass, harm, pursue, hunt, shoot, hound, kill, trap, capture, collect, process, disrupt the nesting, breeding, feeding or migratory activity or attempt to engage in any such conduct, or to assist such conduct. In reference to plants: to collect, pick, kill, transplant, cut or process or attempt to engage or to assist in any such conduct. Disruption of nesting, breeding, feeding or migratory activity may result from, but is not limited to, the modification, degradation or destruction of Habitat." Permits for taking rare species for scientific, educational, conservation, or management purposes can be granted by the Division of Fisheries & Wildlife.

There are three types of filings under MESA: 1) MESA Information Request for rare species information, 2) MESA Project Review, and 3) the Conservation and Management Permit Application. Site specific rare species information for regulatory review can be requested from the NHESP. This is not required as part of a MESA Project Review, however, it is highly recommended that project proponents request this information prior to development of site plans, especially if the project falls within [Priority Habitat of Rare Species](#) or Estimated Habitat for rare species. There is a \$50 fee to process the MESA Information Request Form. The NHESP will respond within 30 days of receipt of your request.

If a project falls within a Priority Habitat of Rare Species and does not qualify for a MESA filing exemption, proponents must file with the NHESP. Project reviews range from \$300 for a simple review (less than 5 acres disturbed) to \$1,800 for an intermediate review (5 to 20 acres of disturbance) to \$4,000 for a complex or linear review (greater than 20 acres of disturbance, or wetland variance or projects greater than 1 mile in length). If during the MESA Project Review it is determined that a project will result in a "take" of a state-listed species, the project may be eligible for a Conservation and Management Permit. Fees for these permits range from \$600 for a simple project to \$4,000 for an intermediate project to \$6000 for a complex project and \$7,500 for a linear project. Some agencies reduce costs by "lumping" projects for review together.

Priority Habitat is based on the known geographical extent of habitat for all state-listed rare species, both plants and animals, and is codified under MESA. Habitat alteration within Priority

Habitats may result in a “take” of a state-listed species, and is subject to regulatory review by the NHESP. Priority Habitat maps are used for determining whether or not a proposed project must be reviewed by the NHESP for MESA compliance. Projects resulting in disturbance of Priority Habitat greater than two acres and results in a “take” of a state-listed species may be subject to MEPA review. Estimated Habitats are a sub-set of the Priority Habitats, and are based on the geographical extent of habitat of state-listed rare wetlands wildlife and is codified under the Wetlands Protection Act, which does not protect plants. State-listed wetland wildlife species are protected under the MESA as well as the Wetlands Protection Act.

It is the responsibility of project proponent to determine if their project falls within Priority Habitat or Estimated Habitat. Certain project types are exempt from MESA review. Failure to file under MESA constitutes a violation of the Act and is subject to a fine. Applicants can determine if their property is in a Priority Habitat for rare species by checking the [Natural Heritage Atlas book or CD](#) or checking online. Priority habitat maps are updated every 4 years. (http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/priority_habitat/online_viewer.htm)

Applicants can determine if their property is in Estimated Habitat for rare species by checking with their local Conservation Commission which has a large scale map available for viewing. They can also check the Natural Heritage Atlas book or CD or view Estimated Habitats online. The 13th edition of the Natural Heritage Atlas (effective Oct 1. 2008) displays the boundaries of Priority Habitats and Estimated Habitats. It is the product of a statewide revision to reflect the latest state-listed species data, understanding of species biology and habitat requirements, and GIS technology and data. With the support of MassGIS, the NHESP Priority Habitats and Estimated Habitats are now viewable through an interactive mapping program and can also be downloaded from MassGIS. NHESP produces and maintains several GIS datalayers accessible to the public. The list below describes each of the datalayers that can be downloaded.

- NHESP Priority Habitats of Rare Species
- NHESP Estimated Habitats of Rare Wildlife
- NHESP Natural Community
- NHESP Certified Vernal Pools.
- NHESP BioMap Core Habitat
- NHESP BioMap Supporting Natural Landscape
- NHESP Living Waters Core Habitats
- NHESP Living Waters Critical Supporting Watersheds

Additional innovations that NHESP is implementing include off-site land banking, long term conservation planning, revising regulations, designing protection plans to protect species during constructions and moving to online submission of applications. It is hoped that the MESA process will be online within the next 2 years.

Division of Ecological and Water Resources
Minnesota Department of Natural Resources
(Lisa Joyal- Natural Heritage Review Coordinator)

Information is summarized from a phone interview and excerpted from the following websites:

<http://www.dnr.state.mn.us/eco/nhnrp/index.html>

<http://www.dnr.state.mn.us/eco/ereview/index.html>

<http://www.pca.state.mn.us/index.php/view-document.html?gid=4313>

The Minnesota Environmental Policy Act (MEPA) of 1973 established a formal process for reviewing the environmental impacts of development projects. It is considered to be more stringent than the National Environmental Policy Act (NEPA) and requires that environmental features and qualities be given equal consideration to economic and technical considerations. It also includes mandatory review provisions based on numerical threshold or project type. The Environmental Quality Board (EQB) advises the local governmental units and state agencies, which carry out the reviews, on the proper environmental review procedures and monitors the effectiveness of the process. The organization responsible for conducting the review is referred to as the responsible government unit or RGU and is determined through the formal process.

Minnesota's environmental review process is based on two different levels of review, the Environmental Impact Statement (EIS) and the Environmental Assessment Worksheet (EAW). The EIS is a comprehensive study that is completed for projects with potential for significant environmental effects. Only a handful of projects meet this qualification each year. The EAW process screens projects which may have the potential for significant environmental effects. It uses a six page worksheet with a standardized list of questions. It generally takes between two to three months to complete and is subject to a 30 day public review period. In addition, the Alternative Urban Areawide Review (AUAR) is designed to look at the cumulative impacts of anticipated development scenarios within a specific geographic area. It is a planning tool that local governments can use to understand the impacts of different types of development in their communities and is a way of performing an environmental analysis in advance before major development occurs in an area. The EQB provides "A Citizens Guide: An Introduction to Environmental Review" on their website, which clearly explains the process.

<http://www.eqb.state.mn.us/documents/Introduction.pdf>

The DNR Division of Ecological and Water Resources collects, manages, and interprets information about rare animals, rare plants, and native plant communities to promote the wise stewardship of these resources. They participate in an international network of Natural Heritage Programs, coordinated by [Nature Serve](#), a non-profit organization. One of their functions is to maintain the [Natural Heritage Information System](#) (NHIS). This program tracks important information about the biology and distribution of rare features and provides that information for activities such as community planning, environmental review, and research. In addition they provide ecological expertise through fact sheets, [publications](#), and other [ecological assistance](#) to help government agencies, scientists, land managers, developers, educators, and citizens protect our rare natural resources. Finally, program staff administer [endangered and threatened species permitting](#).

Many people and agencies request data from the NHIS because it is required in order to complete their EAW application. In addition, the NHIS reviews all of the Minnesota Pollution Control EAW's as well as proposed DNR recreation trails, applications for mining, etc. if there is concern about impacts to listed species. Currently, staff receive approximately 600 to 700 Natural Heritage Data requests each year. The NHIS is continually updated with information from the Minnesota County Biological Survey (MCBS). Three of the NHIS databases (MCBS Native Plant Communities, MCBS Sites of Biodiversity Significance, and MCBS Railroad Rights-of-Way Prairies) are available as GIS shapefiles and can be downloaded at no cost from the DNRData Deli at <http://deli.dnr.state.mn.us>.

The locations of state-listed species and other rare features are maintained in the Rare Features Database. This information is considered sensitive and is protected under the Minnesota Data Practices Act. This data can be obtained for a fee by requesting a database report or by requesting electronic data after completing a license agreement with the DNR. The purpose of the license is to establish a contractual relationship between the DNR and outside users of the data, and to provide a training context regarding the interpretation and appropriate use of the rare features data. http://files.dnr.state.mn.us/eco/nhnrp/natural_heritage_data.pdf

One challenge that was articulated is that some projects that may have significant impacts to rare features fall below the established minimum thresholds and do not undergo environmental review. For example, an applicant that proposes developing a gravel mine that is less than 40 acres is not currently required to complete an EAW. With regards to compliance, sometimes the program can monitor compliance on large projects such as pipelines and transmission lines by using third-party monitors. Yet measuring cumulative impacts within the EAW process is "hit or miss" at this point. It was articulated that at times the AUAR process is misused and single projects are submitted when it is intended more for comprehensive review of multiple projects. One topic of discussion is the task of determining the most appropriate type and level of detail to provide in data reports, requested by applicants, which balances the need for information with the need to protect the specific locations of rare species. A future goal that Minnesota would like to accomplish is to provide an online process for the Natural Heritage review. They hope to move towards this goal by using an online tool to internally screen projects and then eventually institute a web application.

Nebraska
Wildlife Division
Nebraska Game and Parks Commission
(Michelle Koch- Environmental Analyst Supervisor)

Information is summarized from a phone interview and excerpted from the following website:
<http://outdoornebraska.ne.gov/wildlife/programs/nongame/goals.asp>

The Nebraska Department of Environmental Quality (DEQ) is the state nexus for most state environmental permits. They consult with the natural heritage program on projects with potential to impact rare species. Nebraska's natural heritage program is housed within the Wildlife Division of the Nebraska Games and Parks Commission (NGPD). Proposed projects that would be authorized, funded, or carried out by state agencies are reviewed annually as part of a mandatory consultation process designed to prevent a state action from jeopardizing the existence of an endangered or threatened species.

The natural heritage program also works closely with many state and federal agencies as well as private companies to sit down and work things out as needed and to find solutions that benefit wildlife and various projects. For example the program works closely with the USFWS on projects that have both a federal and a state nexus. They also work proactively with the NE Public Power District, even though they are not a state agency and do not have to consult by law, to address potential impacts to wildlife by projects such as wind development and transmission lines. In addition, the program meets every 4 months with the Natural Resource Districts to work on protection of river species. Meetings can at times be contentious but all parties keep coming back to the table to arrive at a mutual agreement with regard to specific actions and mitigations that are needed. Finally, the program encourages private land biologists to talk with private landowners, who are very protective of their land, about balancing the demands of farming and ranching with the protection of rare species. Staff believe that nurturing good working relationships with partners is critical in improving the effectiveness and efficiency of their program.

Innovations that have improved the efficiency of the program include the implementation of programmatic agreements with some agencies (i.e. NGPD, NRCS, NE Dept of Roads) so that reviews are not required for all projects. For example, they have worked with the NE Department of Roads to develop an entire list of project activities associated with road construction (i.e. applying asphalt) and for each activity they list potential impacts for each listed species and conservation measures that can be implemented to avoid impacts. If the project will likely affect a rare species then the department is requested to send their project in to the Natural Heritage Program for further review. In addition they have developed an online checklist for developers who are seeking a National Pollutant Discharge Elimination System (NPDES) permit from the DEQ. This checklist allows applicants to determine if they need to have their project reviewed further by the natural heritage program. There are maps associated with the checklist which allows for a preliminary review to see if a rare species may occur in the project area. The program hopes to expand this type of checklist to other agencies where appropriate.

Some challenges faced by the program include limited staff due to insufficient funding. Funding for the natural heritage program is currently received from the State. The agency recently went through reorganization and there is potential for further cuts to the heritage program so that only those activities required by law are carried out. Currently the program has one full time staff person and one half-time temporary staff position, in addition to one environmental analyst that focuses solely on NEPA project reviews. Staff must prioritize those projects with the potential for greatest impact and are not always able to address all project review requests. It is estimated that staff review approximately 500 projects per year. Thus there is limited ability to monitor compliance. In addition, the language in the environmental statute also limits the ability to evaluate cumulative impacts and limits review to state and federally listed species. They would like to identify additional resources so that they can hire more staff to assist in meeting their program goals.

In the future the program would also like to develop an online system which could provide applicants with a siting tool that could identify areas where there may be concerns and reduce risk to rare species. This type of system would help the program avoid providing “conditional commitments. An online system could also enable the department to conduct a regional scale analysis when identifying the “best sites” for potential wind energy development for example.

New Hampshire
Non Game and Endangered Wildlife Program
New Hampshire Fish and Game Department
(John Kanter- Nongame and Endangered Wildlife Program Coordinator)

Information is summarized from a phone interview and excerpted from the following websites:
http://wildlife.state.nh.us/Wildlife/nongame_and_endangered_wildlife.htm
<http://nhdfl.org.aurora.silvertech.net/about-forests-and-lands/bureaus/natural-heritage-bureau/>

The [NH Natural Heritage Bureau](#) (NHB), within the Division of Forest and Lands, finds, tracks, and facilitates the protection of New Hampshire's [rare plants](#) and exemplary [natural communities](#). They are not a regulatory agency; but instead, work with landowners and land managers to help protect the State's natural heritage while meeting their land-use needs. The mission of the Natural Heritage Bureau, as mandated by the Native Plant Protection Act is to determine protective measures and requirements necessary for the survival of native plant species in the state, to investigate the condition and degree of rarity of plant species, and to distribute information regarding the condition and protection of these species and their habitats. They also maintain information on rare wildlife in cooperation with the NH Fish & Game Department's [Nongame & Endangered Wildlife Program](#), which has legal jurisdiction over New Hampshire wildlife. These two programs meet weekly to review applications together.

The Nongame and Endangered Wildlife Program works in cooperation with other New Hampshire wildlife agencies and organizations to develop and implement effective conservation strategies to protect and enhance wildlife. The New Hampshire Endangered Species Conservation Act states that “all state department and agencies....shall take such action as is reasonable and prudent to insure that actions authorized, funded or carried out by them do not jeopardize the continued existence of such species or result in the destruction or modification of habitat of such species.” There are several agencies that are involved in environmental review of projects and that consult with the Nongame program. The Department of Environmental Services (DES), which includes the Water Division, Air Division and Waste Management Division, administers laws which protect the environment. In particular, the Wetlands Bureau works closely with the nongame program to coordinate reviews. They recently implemented strategies to improve coordination and realize greater efficiency.

The NHB maintains data on known locations of rare species and exemplary natural communities. The NHB DataCheck Tool allows anyone planning a project in New Hampshire that requires a permit to find out if there are records of rare species in the vicinity of the project. The NHB DataCheck Tool was developed as a collaborative effort between the NHB, the DES, and the [NH Fish and Game Department](#). This web site is hosted by DES. However, the Tool can be used to comply with requirements by other agencies or organizations, when applicants must check for possible impacts on rare species or natural communities. The following website outlines the process. https://www2.des.state.nh.us/nhb_datacheck/

- If no NHB records are in the vicinity of the project area, users of the Tool can immediately get an official letter to that effect, at no charge.

- If there *are* NHB records in the vicinity of the project area, NHB staff need to assess potential impacts of the project; and users can request this assessment using the Tool. The results will be sent to the user in the form of an official letter, which can then be submitted to regulatory agencies as part of a permit application. There is a \$25 fee for an assessment by NHB.
- Although users can find out if there are NHB records in the vicinity, they cannot find out while using the Tool whether NHB has records within a specific property boundary. The Tool looks for *potential* impacts to NHB records. These could include impacts to records outside of the property (e.g., downstream of a project). So the Tool may report "Potential Impacts" for a project even if there are no NHB records on the property. Users who then request a more detailed report from NHB will get more specific location information for NHB records.
- If there are NHB records in the vicinity, they cannot get a definitive statement of whether their project will actually impact rare species or natural communities.
 - The Tool collects some information about each project, but more project details (e.g., site plans) or a site visit may be needed to assess impacts.
 - NHB focuses on rare plants and natural communities in New Hampshire, while the NH Fish & Game Department has jurisdiction over wildlife. Wildlife records are included in the NHB data, but an assessment of their significance can only be provided by Fish & Game.
- The Tool cannot be used to find areas in the state that have no rare species. Most areas have never been surveyed for rare species, and the absence of a record in the NHB database does not mean that no rare species are present. However, most permitting agencies simply require a check for *known* rarities (those in the NHB database). A

Applicants need to provide: a map showing the area that will be disturbed by the project (the tool can be used to draw an area on a map or users with access to GIS software can send a shapefile to NHB); the name of the landowner and a statement that the landowner agrees to the request for information; and specific project information.

Current challenges identified by staff include lack of funding for personnel to get out on the ground and work with consultants and developers to modify project designs early on in the application process and the inability to monitor compliance or assess cumulative impacts of projects on the landscape. In addition, an improved pre-application process is desired to provide a more coordinated and consistent response to applicants from various agencies to prevent the manipulation of agencies by applicants determined to get their projects approved. It was also articulated that there are currently no additional resources provided by the State and Federal government to address the great influx of alternative energy applications that must be researched and reviewed.

The Northeast Association of Fish and Wildlife Agencies is planning the 67th Annual Northeast Fish and Wildlife Conference in the spring of 2011. They plan to convene a symposium on environmental review programs and how they can further the goals of the Wildlife Action Plans.

Pennsylvania
Pennsylvania Natural Heritage Program
Department of Conservation and Natural Resources
(Andrew Rorabach-Environmental Review Specialist)

Information is summarized from a phone interview and excerpted from the following websites: <http://www.naturalheritage.state.pa.us> and http://www.gis.dcnr.state.pa.us/hgis-er/PNDI_Introduction.aspx

The Pennsylvania Natural Heritage Program (PNHP) is a partnership between [The Western Pennsylvania Conservancy](#), [The Department of Conservation and Natural Resources](#), [The PA Fish and Boat Commission](#) and, [The PA Game Commission](#). The PNHP conducts inventories and collects data regarding the Commonwealth's native biological diversity. Information is stored in an integrated data management system consisting of map, manual, and computer files. The Pennsylvania Natural Diversity Inventory (PNDI) information system is continually refined and updated to include recently discovered locations and to describe environmental changes affecting known sites. The goal is to build, maintain, and provide accurate and accessible ecological information needed for conservation, development planning, and natural resource management.

The PNDI Environmental Review Tool (PNDI ER Tool) enables the public to perform online searches for potential impacts to threatened, endangered, special concern species and special concern resources in PA. Anyone including property owners, consultants, project planners and staff can access the tool for PNDI project screening. The PNDI ER Tool is used prior to submitting permit applications to Department of Environmental Protection (DEP) or during any project pre-planning phases. The user performs the search online using the ER Tool, prints the results from the search and follows the instructions on the receipt. The PNDI Project ER Receipt lists the search results of the four jurisdictional agencies: PA Game Commission, PA Department of Conservation, PA Fish and Boat Commission, and the U.S. Fish and Wildlife Service. There are four possible results for each agency: No Known Impact, Potential Impact, Avoidance Measure or Conservation Measures. Projects will have different results depending on the search area, the project type, and the species and communities located in the area. The process is clearly outlined on the website: http://www.gis.dcnr.state.pa.us/hgis-er/PNDI_Receipt.aspx

No Known Impact

There are no potential impacts anticipated with special concern species or resources in the project area. No further coordination is required with PNDI jurisdictional agency within one-year of Receipt date unless project plans change. If the search result for all four agencies is “No Known Impact” no further coordination is required with the jurisdictional agencies. Print the receipt and send to DEP for permit applications or for use for environmental assessments.

Potential Impact

There are potential impacts anticipated with threatened and endangered and/or special concern species and resources in the project area. The applicant must consult with the jurisdictional agency/agencies listed with Potential Impacts on the receipt for further review of the project. Applicants send the information requested on the receipt to the agency/agencies noted. The applicant will receive recommendation or clearance letters from the agency/agencies.

Avoidance Measure

There are special concern species or resources in the vicinity of the project area that could be impacted by the project. Avoidance Measures are intended to reduce the need for further coordination with Jurisdictional Agencies on projects that could be “No Known Impact” if the Avoidance Measures are carried out. If the Receipt lists Avoidance Measures, the PNDI review is not complete or satisfied until the applicant has signed indicating they can and will fulfill the Avoidance Measures for that project. If an Avoidance Measure cannot be met or if the applicant chooses not to fulfill it, the project is treated as a “Potential Impact” and must be sent to the Jurisdictional Agency indicated for further review. In the latter case, a clearance or recommendation letter will be required from the jurisdictional agency/agencies indicated, along with the ER Receipt, for submission with DEP permit applications.

Both Potential Impacts and Avoidance Measures may occur for the same project with different Jurisdictional Agencies. If there is an Avoidance Measure for one Jurisdictional Agency and a Potential Impact listed for a different agency, then the Avoidance Measure must be signed (if the measure can be fulfilled) and the project should be forwarded to the other Jurisdictional Agency/Agencies for clearance or recommendation letters.

Conservation Measure

There are special concern species and resources in the project area that may be impacted by the project, but the impacts could be minimized if certain measures were incorporated. Conservation Measures are suggestions meant to reduce further impact to the special concern species/resource in the vicinity of the project or to protect special concern species/resources that currently lack legal protection (i.e. seasonal restrictions). If the Receipt contains a Conservation Measure, that measure can be pursued at the discretion of the DEP program based on their knowledge of the project and site. Conservation Measures are strongly recommended by the Jurisdictional Agencies but are not required.

Currently the PNHP currently reviews approximately 3000 projects per year. Recently there has been a “natural gas rush” in Pennsylvania as well as projects for roads and bridges funded by stimulus money. This has increased the number of projects overall. The Dept. of Conservation and Natural Resources employs 4-5 full time staff and one part time person that spend most of their time on environmental. The online tool has increased the efficiency of the environmental review process by sifting out those projects with “no hits”. Sometimes coordination between the various agencies can be challenging, especially for large projects, since the Bureau of Forestry reviews projects for plants, the Game Commission reviews for mammals, the Fish and Boat Commission reviews for reptiles, amphibians, fish and mussels and the Western PA Conservancy conducts inventory. Monitoring compliance is not routinely conducted and there is currently no process for assessing cumulative impacts.

Specific location information is only provided to landowners if the species occurs on their property, otherwise occurrences are buffered. Technically plants belong to the landowner so state officials have to seek more permission to survey, however, state law does still protect these species but it gets tricky when it comes to landowner rights. Ecological communities and terrestrial invertebrates are also regulated by not necessarily protected by law. Sometimes it is difficult to educate landowners and mitigate the impacts of projects.

There is discussion about expanding the PNDI ER tool to the next level in order to be more proactive and encourage careful project planning. Rather than providing a buffered polygon or point, the tool could potentially provide information on where rare species occur and where potential habitat for these species could occur so that impacts can be avoided early on in the process.

Wisconsin
Endangered Resources Review Program, Bureau of Endangered Resources
Wisconsin Department of Natural Resources
(Lisie Kitchel- Conservation Biologist/Transportation Planner)

Information is summarized from a phone interview and excerpted from the following websites:
<http://www.dnr.wi.gov/org/land/er/review/> and <http://dnr.wi.gov/org/land/er/review/proposedChanges.asp>

The DNR's Bureau of Endangered Resources coordinates Wisconsin's Natural Heritage Inventory (NHI) program. The NHI program is responsible for maintaining data on the locations and status of rare species, natural communities, and natural features in Wisconsin. It is part of an international network of inventory programs that collect, process, and manage data on the occurrences of natural biological diversity using standard methodology and is currently coordinated by the Nature Serve. The NHI program help customers and partners comply with Wisconsin's endangered species laws and helps conserve the rare plants, animals and habitats found in Wisconsin. They work with landowners, businesses, communities, and other customers and partners to consider the potential impacts of land development, planning, and management projects on rare and sensitive species and habitats very early in the project planning process. Their goal is a cooperative, partnership-based approach to land use and management that proactively and effectively conserves Wisconsin's natural resources.

Although staffing varies over time, the NHI program currently employs four staff to conduct environmental reviews. One person focuses on transportation projects (funded by the Dept. of Transportation), another person focuses on projects associated with utilities (funded by the public service commissions), the state funds one person to handle incidental take permits while two half time, limited term staff also assist with review, as well as logging in and billing projects. Wisconsin's endangered species law protects threatened and endangered animals wherever they occur (public or private) and threatened and endangered plants on public land only, with the exception of agriculture, utility and forestry activities when they are not protected. The transportation and utility companies have for the most part participated in voluntary compliance. There have been some efforts within agriculture to look at potential environmental impacts, especially via the Landowner Incentive Program. In the past, private foresters working on private land have not always considered endangered resource impacts in their planning.

Applicants have access to maps with general locations of T&E species online for planning and education purposes. Detailed data can be shared through a formal ER Review, a one time request or a data license agreement. An ER Review is a formal letter from the ER Review Program to the requestor which provides information from Wisconsin's Natural Heritage Inventory (NHI) database and other sources on rare plants and animals (including state and federally-listed species), high quality natural communities, and other endangered resources that may be impacted by the proposed project. The ER Review also includes specific recommendations to help projects comply with Wisconsin's Endangered Species Law, the Federal Endangered Species Act, and other laws and regulations protecting endangered resources. Applicants can request Endangered Resources Reviews, with a minimum fee of \$60. If a voluntary expedited endangered resource (VEER) review is requested the minimum fee is \$360 with a guaranteed time frame of 7 days.

The Endangered Resources Review Program (Review Program) is in the process of considering and implementing a variety of changes to the services that it provides to better meet the priority needs of its customers and partners for endangered resources information, training, and support. In July 2008 a formal review was begun to evaluate existing services and consider additional tools and services to better serve customers and partners. The goal was to redesign the Review Program to provide the services most important to the conservation of Wisconsin's rare resources and to stakeholders in an efficient, effective and financially feasible manner.

- (i) Stakeholders were a key component of the redesign process. Input was requested from current and past customers of the Review Program as well as other organizations and DNR programs. One of the primary stakeholder messages received during the initial program review was a request for expanded sharing of detailed NHI data with customers and partners accompanied by appropriate training and safeguards. In response to this request, the Program is developing and implementing a pilot NHI Certification Program. The intent of the program is to provide individuals with comprehensive training to help ensure the security and correct interpretation and application of detailed NHI data. Volunteers interested in working together with Review Program staff were recruited to help develop an NHI Certification Program. The timeline for development of the program was October 2009 - July 2010, with rollout of the 1st NHI Certification session anticipated in 2011. A second Forestry NHI Certification Working Group is working to develop an NHI Certification Program specifically for forestry user groups.

The Endangered Resources Review Program will begin offering Introductory NHI Screening and Methodology Training to external individuals and organizations with whom the program has an NHI license agreement. This training will provide information on the WI NHI Program and the WI Endangered Species Law, detail the endangered resource screening process and how to access NHI data via the web-based NHI Portal, and outline resources for additional information about protected species and habitats. The existing training has been divided into several sessions and typically takes 4-5 hours to complete; additional training will be developed as needed. Consultants and staff who complete the training will be certified to do "pre-review" letters and thereby expedite the review process. All of the pre-review letters would still come to state staff to review and sign-off, since only the Wisconsin DNR has the authority to address T&E species.

The Bureau of Endangered Resources is proposing a new fee structure to make fees commensurate with actual costs of the existing program. The NHI program would like to be more proactive in providing recommendations on the "front end" of projects to facilitate conservation and avoid impacts. Outreach is a challenge as there are many people who don't know about endangered species laws and how they apply to their activities. For these and other reasons, many projects are never reviewed for endangered resource issues. They would also like to expand outreach and training for other Department staff who conduct endangered resource screening, and have requested more information and training. The program currently does not have the ability to monitor compliance with the recommendations that they make although other permitting programs (water quality, etc) are able to address compliance through their permits. Assessment of cumulative impacts is not currently a regular part of the review program, although it would be tracked if time and money were provided.

Arizona Game and Fish Department

Development and Implementation of the Environmental Review On-Line Tool

By: Sabra Schwartz

1.0 THE PROCESS

1.1 Process Identification

1.1.a1: All land and water development projects (internal and external) in Arizona are submitted to the Department through the Habitat Branch for compliance with municipality, state and federal compliance. These projects are reviewed for potential impacts to special status species, other wildlife species, and associated habitat concerns. Information is sent back to the customer in letter form to be considered and incorporated into the planning process (i.e. various permits, design concept reports, etc) and environmental compliance documentation (Environmental Assessment, Biological Assessment and Evaluations, etc). The customer must have this correspondence with the Department to meet federal and state compliance requirements. This information is utilized to identify possible impacts to fish and wildlife resources from proposed project activities and helps in the development and planning of mitigation measures. Providing this information ensures fish and wildlife resources and associated habitats are adequately considered in and throughout project planning.

Customers must submit a request for project review in writing identifying their project type (i.e. residential development, communication, mining, etc) and location. The project is submitted to the Habitat Branch through the Project Evaluation Program and is assigned a log (tracking) number and entered into a tracking database. The Project Evaluation Program (PEP) is responsible for incorporating fish and wildlife resource needs or features in land and water development projects and land and water management planning efforts in Arizona. PEP also ensures habitat protection through environmental compliance and regulation, and monitors the implementation and effectiveness of mitigation commitments for various land and water development projects and management planning activities. The project then goes to the Heritage Data Management System (HDMS) to generate a special status species list for the project area. The HDMS is a central repository for site-specific information for special status and rare species in Arizona. A member of the HDMS must use a geographic information systems (GIS) software program to identify the geographic location of the project being submitted. A query is performed based on the location of the project and type of project to identify those special status species and critical habitats documented within the project area.

The query is exported from the GIS software into another computer software program in order to generate a report to identify the species and their various federal and state legal statuses. Microsoft Excel is the most common program used, although others such as Crystal Reports and Paradox have been used. Once the report is generated, a response letter is written to the customer. The project request and response letter is photocopied for the regional office in which the project is located, logged as completed in the tracking database, and the documents are filed.

1.1.a.2: The project is routed through at least five people from the time it enters the Habitat Branch; it takes as much as thirty days for a response to be issued to the customer. Although the

average response time has been lowered to seven days over the past few years, the Department tries to guarantee a thirty-day turn around time schedule. The process was in need of improvement both for efficiency and for customer service. The idea of an online computer application to deliver this service over the Internet was first submitted as a Governor's Efficiency Review proposal in 2003. We received numerous concerns from our customers asking for a process improvement. Customers wanted a quicker response time and in discussions with several key customers, it was determined they were willing to do some of the work themselves through using an interactive Environmental Review On-Line Tool (Tool) in order to obtain a quicker response time. This Tool eliminated the need for customers to submit their request in writing and further reduce cycle time due to mailing constraints.

1.1a.3: Requirements for making this process available over the Internet include purchasing hardware and software to create an Internet mapping service. The GIS software company ESRI had created an online system to deliver a report for environmental compliance for the Pennsylvania State Natural Heritage Program. Through discussions with the Pennsylvania State Natural Heritage Program and ESRI, it was determined the Tool could be modified for implementation in Arizona. Because the Pennsylvania State Natural Heritage Program and the HDMS (which is Arizona's State Natural Heritage Program) are part of a network of Natural Heritage Programs that build from each other's expertise and accomplishments and have identically structured databases and methodology, the HDMS was able to utilize the same computer programming and simply modify it for its use. This meant that the cost of research and development for the initial computer application was paid by Pennsylvania. Arizona was able to implement the same application for about a fourth the cost, demonstrating best business practices and the benefit of belonging to a Network of similar programs.

An internal grant was submitted for funding for the hardware, software, and contract with ESRI for computer programming to modify Pennsylvania's application. The grant was approved at \$325,000.

1.1a.4: While gathering ideas for process improvements, we met with several customers and stakeholders, as well as with ESRI and Pennsylvania staff. In addition, we met with internal work units to determine how we could incorporate components into this process to capture information for annual reporting and strategic planning needs. The Nongame Branch needed to begin identifying how many different types of projects were being proposed across the state to address components of our Comprehensive Wildlife Conservation Strategy (CWCS). By using the same categories for our project types used in the CWCS, we were able to capture the data required. We also identified the need to capture projects as a spatial GIS layer that could be potentially shared with other federal agencies for analyzing cumulative effects across the landscape.

1.1a.5: The process improvements are designed specifically with customer service and value in mind. Customers can now use the Tool to receive their information in a matter of minutes rather than up to thirty days. This Tool allows customers to make an informed decision in selecting between two potential parcels for develop. They can run a query on two different areas and compare the results. The tool allows them to label the project as scoping versus final project so the Department can respond appropriately.

Because this project was the first public Internet Mapping Service (IMS) project for the Department, this process also added to organizational growth. With the purchase of the hardware and software, and making it available through our public web site, it allows others in the Department to build on the IMS application for other projects. There are several other IMS projects being built, including a crayfish database, education applications, and many others are in the design phase. By consolidating the hardware and software for this project, it allows others to use the same hardware and software at no additional cost. This type of technology is being utilized by a number of agencies and organizations throughout the state and continues to progress as this is the first step for the Department to take advantage of the capabilities of this software.

1.1b Process Design or Improvement

1.1b1: The design of the new application improved the process in several ways. It met the needs of our customers in reducing cycle time for response to projects. It allows the customers to obtain their special status species lists instantly over the Internet. Further, the Tool allows for the comparison of project areas to lessen the potential impacts to fish and wildlife resources. These actions improved our customer service.

This Tool allowed the Department to standardize project recommendations for use early in the planning process for proposed land and water development projects. The Project Evaluation Program developed specific project type recommendations. All projects being submitted through the Tool must be identified in categories (project type). These categories directly relate to threats identified in the Department's CWCS and can be evaluated for cumulative impacts to the landscape and to wildlife resources. In addition, this also aids our stakeholders in their analysis.

Language associated with project recommendations were reviewed by the Arizona Attorney General's Office. The project receipt is generated through the Tool and provides a list of special status species, critical habitats, and tribal lands in the project area. In addition, general project type recommendations are also provided on this receipt. Contacts for other federal, state, and tribal entities, such as the U.S. Fish and Wildlife Service and State Historic Preservation Office, with whom project proponents may need to be consulted with before the project can be implemented, are also provided on the report.

1.1b.2: The main focus of this process improvement was cycle time for our customers in responding to project reviews. The cycle time for a response went from up to thirty days (with an average of seven days) to a few minutes by using the Tool. The Tool further reduces the cycle time for our regional staff reviewing projects. Using the old system, the Phoenix office (Habitat Branch) had the project for up to two weeks before the documents were copied and mailed to the regional offices for review. Now, regional staff can access the Tool through our internal access and obtain instant access to projects submitted. This allows for more lead time in responding to local issues. See Figure 1 for process maps of manual and automated processes.

By automating the system, it frees up staff time for other activities, thus leading to more productivity. Time spent for no-impact projects can now be devoted to reviewing and evaluating those projects that may require the further development of mitigation measures or additional coordination to minimize or avoid impacts to wildlife resources.

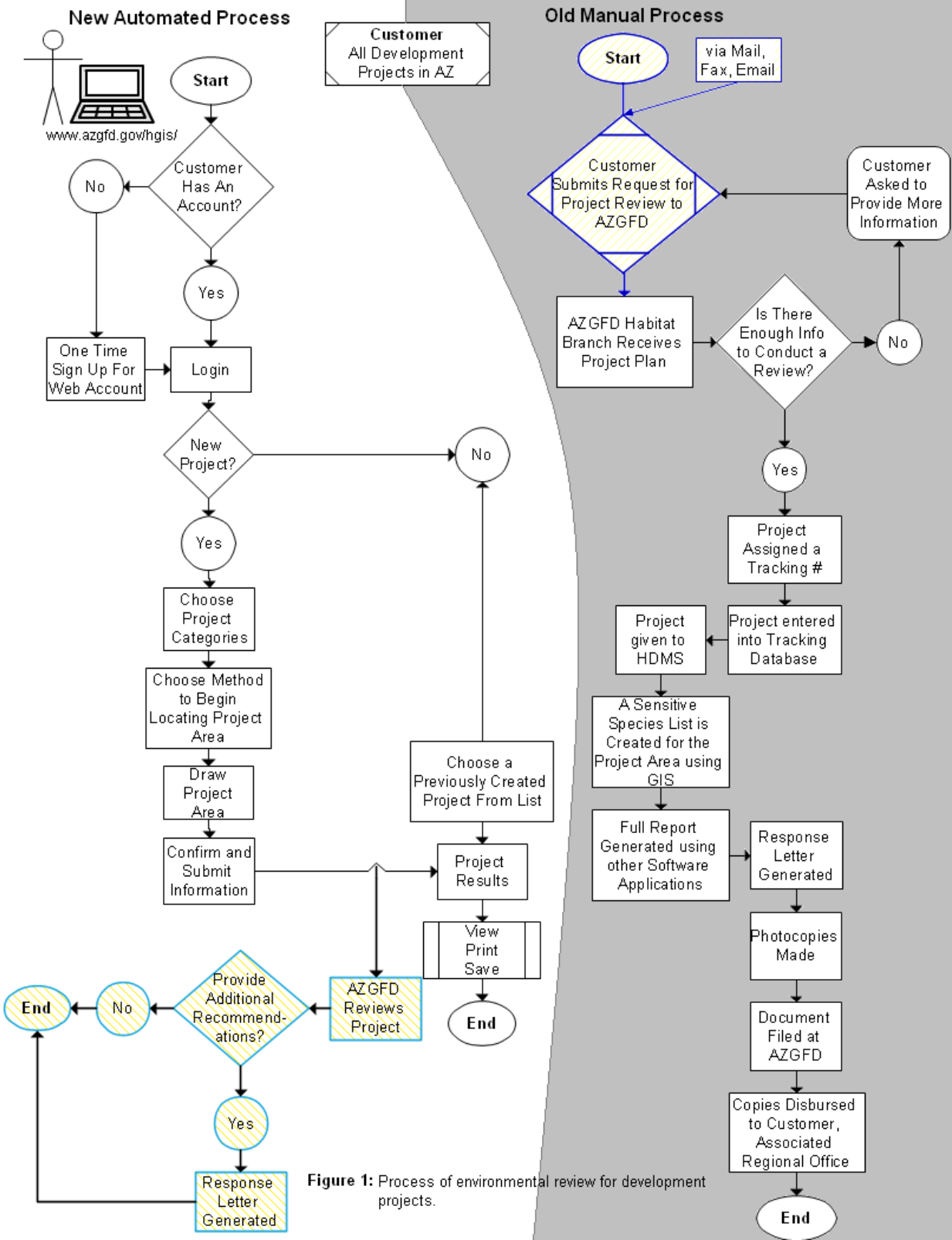


Figure 1: Process of environmental review for development projects.

The purchase and consolidation of hardware and software further aids in cost control for maintenance of the hardware and software. By allowing shared use of servers and software, it reduces the cost of each work unit needing to maintain their own systems.

1.1b.3: The Department utilized a product designed for a similar process in another state. This allowed more time to be spent in the modification and improvement of an existing system, rather than starting with the development and design of a completely new system. The main design requirements were well stated and the existing application met many of those, but not all. Modifications were necessary to meet the needs of our customers in Arizona. These included producing an actual list of special status species and critical habitats documented within the project area, being able to locate the geographic project area by several search methods, and providing project type recommendations over the Internet. Meetings were held weekly with the ESRI design team to ensure requirements were being met.

1.1b.4: Meetings were also coordinated with the Pennsylvania staff to learn from their experience with developing such an application. Many questions were asked that directly affected how the application was designed to reduce the need for rework. The Tool was designed to allow for expansion and modification in the future. This will minimize cost and time for programming when it becomes necessary to update the Tool in the future.

1.1b.5: Once the application was developed, it was tested, modified, and re-tested for performance. Multiple parties (internal/external) were testing the application from different locations to try to run through scenarios customers would potentially encounter. Staff accessed the web site at home under different circumstances (e.g., dial up access versus high speed internet) to test the performance and speed of the application. A few stakeholders (e.g., U.S. Fish and Wildlife Service) and frequent customers (e.g., SWCA Environmental Consulting) also tested the system from their offices to provide feedback on the ease of use and help screens. This allowed for early identification of several potential modifications before the application went live to the public.

Automating the process reduced variability in responses. By having a standard query and search tool that is automated, the same response is sent for the same project type in the same geographic area. When conducted manually, there was potential variability that existed due to multiple users. For example, the buffer size around the project could be changed by the individual manually (buffer size is automatically assigned in the Tool). Automating the process reduces the potential variability, creates a consistent product, and reduces the likelihood of errors.

This process also utilizes the most current GIS and web technology. This keeps the Department current with business needs and moving forward with current technology.

When it was determined the Tool was working correctly, the Department provided free training for internal and external customers. Although the application is self-explanatory and can be used without formal training, it was an opportunity for outreach to our customers as well as a training opportunity. Invitation letters were sent to more than 200 external customers. Internal customers were invited by Intranet and email. Two internal customer training sessions were held along with twelve training sessions at seven locations around the state for both internal and

external customers. Over 125 customers took advantage of the learning opportunity. Laptop computers were available at each training session for customers to experiment with the new application. Individual assistance was available and specific questions were addressed. Input for future improvements were also captured during these training sessions.

1.1b.6: Training for the new process was provided to the Department and continues to be provided to work units. This provided an opportunity to show the improvements as well as receive feedback for future improvements. A list of possible improvements is located on a shared computer server so others in the Department have access to files associated with the process.

1.1c.1: The Internet application continues to be tested for performance and effectiveness. New data layers are added as needed to update location data for special status species, changes are made to the legal status of those species, modifications to the recommendations and additions of new project types. The number of projects being submitted is monitored to ensure proper functionality of the application. Feedback from customers is also collected as a measure of the process.

1.1c.2: The application is tested and if an unexpected result is obtained, the Tool is analyzed to determine what could be wrong. Modifications are made as needed to fix the problem. If a customer is having difficulty using the Tool, they are usually assisted with their problem on the telephone, so the problem is immediately corrected and the Tool will work for them in the future, or they may submit the project directly to the Department. PEP or HDMS will then go through the process of handling the project and returning the results. This allows for customers not wanting to use the application to still receive their product or service. Feedback from customers is analyzed for possible modification of the Tool and overall process.

1.1c.3: Customers and partners can provide feedback directly through the online application. There is a link for technical problems as well as a general link for contact. Customers can use this link to provide specific feedback, including suggestions for future improvements. Direct contact with customers also allows for feedback regarding improvements.

Contact is maintained with ESRI as the supplier. Regular quarterly phone meetings are maintained to discuss issues with the application, future expansion, and ideas on new technologies. This allows for planning continued improvements.

2.0 PROCESS RESULTS

2.1a1a: By providing this service over a web server, customers can produce a more accurate and consistent search which results in a unified approach to tracking and creating queries. Customers are able to access the information twenty-four hours a day and receive the special status species list in a matter of minutes. Customers can track the status of projects as well as access previous projects submitted. It enhances customer service, encourages pre-planning of projects, and reduces time spent by PEP and HDMS staffs to manually respond to every request. The automation of project review requests improves customer service and decreases cycle time, while also providing improved productivity and cost savings for the Department. Program staff,

having immediate access to all aspects of the automated project review, would therefore have added time to provide more thorough project analysis on those projects with which the Department might have specific concerns. In addition, our internal customers (e.g., the Regional Offices) can more quickly and accurately track projects in their appropriate Region to determine site-specific impacts or effects and appropriate management actions. Cost savings may also be measured by the amount of time Program staffs save on disseminating project information, collating comments, and coordinating input into the tracking database.

The Tool is available to the general public at: <http://www.azgfd.gov/hgis>.

The Tool provides links to important information including: definitions and guidelines that are displayed on the report and general biologic information for special status species. See figure 2 for picture of Tool page.



Figure 2: Web site

Process improvements:

- Cost reduction – the cost reduction includes up to one FTE time currently spent tracking, reviewing, responding to the project requests, and filing the documents. A cost reduction of photocopying the documents for the regional offices and mail cost to send out the responses. See Figure 3.
- Improved customer service – provides instant self-service for our customers.
- Improved product quality – provides consistent and accurate responses.
- Improved cycle time – the cycle time went from up to 30 days to less than 30 minutes.
- Improved accuracy – accuracy is improved in the fact that there is less chance of human error. Previously there was a chance of the customer typing the location incorrectly, HDMS staff using the wrong location for producing the species list, and typing the responses incorrectly. By having the customers use the Internet maps, they know they are in the correct area and the computer generates the response, enhancing the accuracy.
- Enhanced productivity – by freeing up the time previously spent on these activities, the HDMS and PEP staff can focus on other activities, and allows for added time to provide more thorough project analysis on those projects with which the Department might have specific concerns, thus increasing productivity.
- Repeatable process – the same results every time due to automation of query process.

Figure 3 shows the number of projects that have been submitted using the Tool. With a total of 2130 projects submitted, and an average of 30 minutes necessary for staff to create the query, species report, and correspondence manually, there is a savings of 1065 hours of staff time. This time savings results in enhanced productivity. It allows staff to focus on projects with potential impacts and address ways to minimize those impacts.

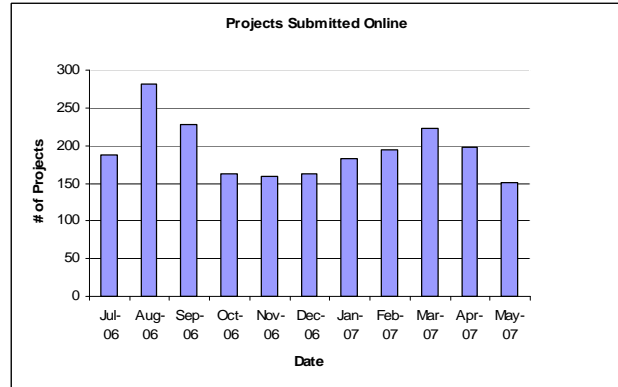


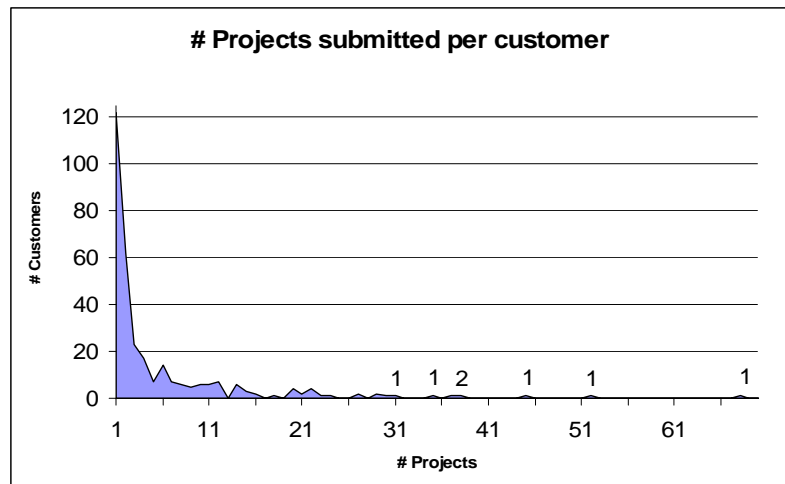
Figure 3: Number of Projects Submitted

Other less tangible benefits include:

- Increased spatial accuracy of proposed projects.
- Ability to address cumulative effects because projects are stored as a spatial data layer for easy viewing.
- Reduction in handling time by Department staff (to zero in most cases) for "no-impact" result receipts.
- Substantial streamlining for applicants and reduction in bottlenecks.
- A development-friendly tool, thus serving the need for economic development, while at the same time providing conservation-responsible rules for mitigation.
- Reduction of costs of finding low impact areas to both developer and agency reviewers.
- Politically places review up front at an easily absorbed and cost-effective position.
- Provides for documentation of the environmental review process.
- The hardware and software architecture provides a basis for other IMS projects to be developed at a minimum cost.

Figure 4: Demonstrating Repeat Customers

2.1a1b: According to customer feedback, the process improvement was welcomed. Customers are happy with the ability to receive their results instantly online. Some comments received include: “A great addition to the HDMS,” “Excellent tool; appreciate the outreach on AGFD’s part and the opportunity to preview the program,” and “I really appreciate the development of this program, it will help significantly!” There are



more than 200 customers who have registered to use the Tool with over 2000 projects submitted. Although 119 customers have submitted one project each, the other almost 100 customers have submitted multiple projects with one customer using the Tool 68 times. See Figure 4 for a graph

showing repeat customers. The training also strengthened customer relations. Actually meeting with the customers face-to-face is a value added that is impossible to measure.

Evaluation forms were handed out at each training session. There were 125 customers that returned their evaluation forms. Twenty-three did not rate the overall training. The average rating was 4.7 on a scale of 1 – 5 with 1 being bad and 5 being good. The overall ratings of the course can be seen in figure 5.

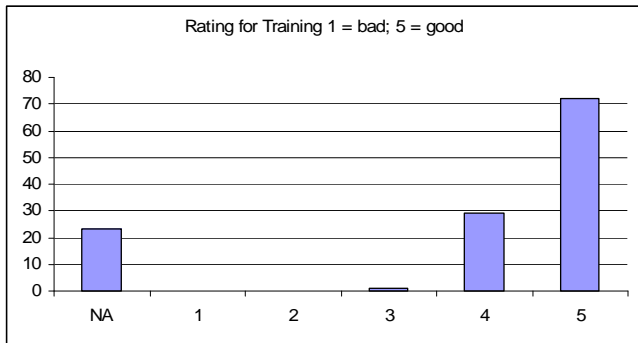


Figure 5: Training evaluation results

2.1a.1c

Organizational performance has been positively affected as well. The customers view this Tool as a value-added process. With customers using the Tool, staff are available to review projects in more detail and provide guidance early in the development of projects. This effectively reduces the likelihood of adverse impacts to wildlife and can assist in planning for mitigation or alternative plans.

2.1a.2 Comparisons to others:

There are no other government or private programs in the state that provide a similar service. There are currently at least three other states that provide a similar service over the Internet: Pennsylvania, Wisconsin, and California. The Pennsylvania system does not provide the species names, but rather just indicates whether there is a potential impact. The customers must then follow up with the state agencies indicated on the report for potential impacts. There is a cost to the customers for this service. California provides a system where by the public can access lists of species by an area for free, but there are no project recommendations associated with the system. California and Pennsylvania both had their programs available before Arizona. Arizona was able to build on the systems from the other states, utilizing the good and modifying the bad, to create something that met the needs of the customers of Arizona.

Figure 6: response time manually

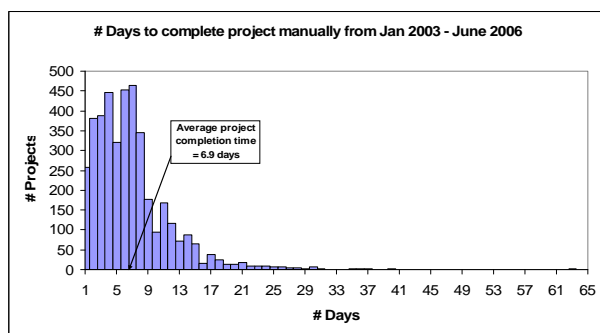
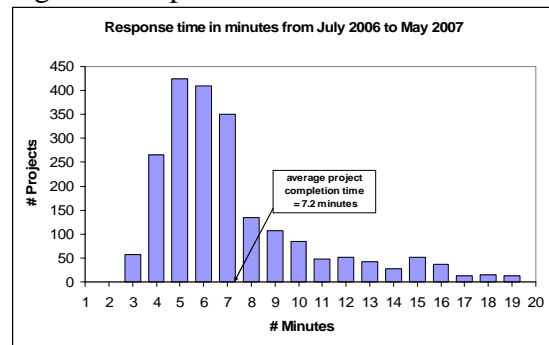


Figure 7: response time automated



Cycle time is dramatically reduced from the manual process. Response time for a customer went from an average of seven days, although as many as thirty days, to a matter of minutes utilizing

the Tool. See Figures 6 and 7 for comparison. Figure 6 represents over 4000 projects submitted between January 2003 and June 2006. The Tool was designed with an automatic time-out function. If a customer is logged in for more than twenty minutes without completing a project submission, he is automatically logged out. For that reason, a project can never take longer than twenty minutes to process. The average time for a project submission is around seven minutes. The Tool also gives the customers the freedom of twenty-four hour utilization. Projects have a date and time stamp as part of the project number. Although the majority of projects are submitted between the hours of 8:00am and 5:00pm, there have been projects submitted at 11:00pm and 4:00am. This demonstrates an addition to customer service, as the customer has no time constraints on when he submits a project and receives a report.