

**Making Communications Work
For Kirtland's Warbler
Conservation
Maintaining the Course for Success**

**An Evaluation of the
1991 Kirtland's Warbler Information and Education Plan
and
Recommendations for Future Action**



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Introduction/Background

Like with most endangered species, the recovery of the Kirtland's warbler (KW) requires public support and has great need of information and education (I&E) efforts. Public support or consent of Kirtland's warbler management activities (area closures, clearcutting, prescribed burning, and cowbird control) is vital to the recovery of this species. Successful I&E efforts will build public support/consent for management activities, which increase the amount of good warbler habitat. The ultimate measure of the success of I&E efforts, therefore, is the achievement of the recovery goal of 1,000 pairs of Kirtland's warblers.

Since 1990, the Kirtland's warbler population has increased almost every year. Much of this increase can be attributed to the large amount of warbler habitat that resulted from the 1980 Mack Lake fire. However, intensive management activities (especially clearcutting and prescribed burning) have also played a big role, and the success of these activities is dependent upon public consent and support.

Recognizing the fact that Kirtland's warbler recovery depends on public support/consent, the 1985 Kirtland's Warbler Recovery Plan identified the need for an I&E plan. In 1991 the Kirtland's Warbler I&E Plan was developed and the Recovery Team began implementation. The I&E Plan identified goals, target audiences, key messages, guidelines for an effective program, communications strategies, and specific actions. Many of these actions--as well as other actions not listed in the Plan--have been completed or addressed, and have greatly benefitted the recovery effort.

To help continue making communications work for KW conservation, the Kirtland's Warbler Recovery Team decided in 1997 to assess the progress, effectiveness, and direction of Kirtland's warbler I&E efforts. This report contains the findings of this evaluation as well as recommendations for future actions designed to maintain the warbler's present course for success.

Evaluation Methods

This project assessed major I&E efforts associated with the Kirtland's warbler since 1991, and is not limited to specific actions recommended in the 1991 I&E Plan.

The following methods were used to assess the Kirtland's warbler I&E effort to date:

- Determine the percent of actions recommended in the 1991 Plan that have been accomplished or addressed.
- Summarize major actions that have been completed.
- Interview key audiences and stakeholders (individuals from both the private sector and the three natural resource agencies involved) to obtain their perceptions and opinions regarding achievements of I&E Plan goals, as well as specific actions that should be continued or carried out in the future.
- Review the results of Barry Solomon's (Michigan Tech. Univ.) survey of local residents
- Review the MSU report "Evaluation of the Jack Pine Wildlife Viewing Tour"

Evaluation Results

Percent of Actions Addressed

The Kirtland's Warbler Information and Education Plan recommended 16 specific actions for achieving the Plan's goals. To date, 13 of the 16 actions (81%) have been accomplished to some degree.

Summary of Efforts

I&E efforts that have been conducted for the Kirtland's warbler are summarized below. These efforts consist of many of the specific actions given in the 1991 I&E Plan, but also include other efforts conducted as part of the overall I&E effort. Items are not listed in any particular order.

1. Conduct KW tours—Because the KW is endangered, its habitat is closed to the public during the nesting season, making it difficult for people to view the bird. Therefore, every summer the USFWS (since 1974) and the USFS (since 1966) conduct Kirtland's Warbler tours. The tours are led by a wildlife specialist and consist of a short video or slide show and a field trip into the bird's habitat. The USFWS tour is hosted by the Grayling Holiday Inn, which effectively promotes the tour to increase sales at an otherwise slow time of year. In addition to these regularly scheduled tours, special tours—both into warbler habitat and on the Jack Pine Wildlife Viewing Tour (auto tour)—have been arranged periodically for members of key groups.
2. One-to-one communication—Wildlife managers and foresters make a special effort to communicate important messages about the KW to key audiences. They have given

presentations to state and national wildlife and forestry conferences in several states, and they regularly make presentations to conservation and civic organizations, church groups, etc. (see Appendix I, Page 23, Question 6). The idea for having a KW Festival was the result of this type of one-on-one communication involving a local chamber of commerce. Another way agencies try to reach out on an individual basis is by having booths at the KW Festival, where agency personnel talk with the public and provide information. Prior to major timber sales or other extensive KW habitat management activities, the DNR and USFS make contacts with the appropriate township boards and private landowners adjacent to the affected management area. The agencies explain the activity that will be occurring, why it is important, and how the activity might affect those contacted. Landowners are also given an opportunity for input.

3. Printed materials—The MIDNR Natural Heritage Program produced 250,000 color posters, "Michigan Jack Pine," featuring the jack pine ecosystem and containing a narrative that describes KW and jack pine management. The posters (approx. 21" x 33") were widely distributed throughout Michigan. The USFWS produced 150 (11" x 17") auto tour promotional posters, "Take a Scenic Ride on the Wild Side," which were distributed to businesses, libraries, schools, and chambers of commerce in the four-county KW area. Two informational flyers were produced by the KW I&E Committee: 2,000 copies of "Your Neighbor, the Kirtland's Warbler" and 12,000 copies of "Working Together to Save a Special Bird" were distributed to local landowners and chambers of commerce through one-to-one communications and agency field offices, and at public events such as the Kirtland's Warbler Festival.
4. Help residents protect themselves from fire—Information on how to "fire-proof" residential property was provided in the brochure "Your Neighbor the Kirtland's Warbler," which was distributed to residents near KW management areas. During the KW Festival, the DNR Forest Management Division displays and staffs its Fire Protection Van, which contains general fire protection information. Additional actions that have been taken to help residents protect themselves from fire are results of the USFS's and DNR's ongoing fire protection information campaigns, which are separate from KW I&E efforts.
5. Conduct media relations campaigns—Two media campaigns were organized by the USFWS with assistance from the USFS and MIDNR. In 1994, local, state, and national media were contacted regarding the first annual Kirtland's Warbler Festival and the ribbon cutting ceremony of the Jack Pine Wildlife Viewing Tour. These contacts resulted in KW coverage throughout Michigan via newspapers, magazines, radio, and television. Local and state politicians, as well as many high-ranking agency staff from Lansing, MI, Milwaukee, WI, Minneapolis, MN, and Washington DC attended these 1994 activities. For example, Secretary of the Interior Bruce Babbitt attended and was so impressed with the community involvement that he wrote an article titled "The Mio Model" in the [Summer 1994 issue] of "Defenders Magazine" describing the KW recovery effort as a model for endangered

species throughout the nation. The 1994 media campaign also included promoting the KW tours, which nearly doubled in attendance that year (see Appendix II). In 1997, several media were contacted regarding the last year of KW banding research. These contacts resulted in 12 media personnel arriving at three banding locations over a period of three days, and the KW received coverage in several newspapers and magazines, as well as on television.

6. Develop I&E materials for schools—The MIDNR Natural Heritage Program developed a traveling table-top display on the jack pine ecosystem and the KW. The KW I&E Committee requested of and assisted the Michigan United Conservation Clubs (MUCC) in publishing a special edition of their “Tracks” publication for children that focused on the KW. MUCC distributed 70,000 copies to 2,000 schools in 30 states (70% of the schools were in Michigan), and the agencies distributed an additional 45,000 copies through their field offices and the MIDNR Natural Heritage Program. The DNR and USFWS are currently developing a teaching packet on the jack pine ecosystem and the KW. The KW Festival program involves local schools, and the science coordinator for the four-county COOR intermediate school district (Crawford, Ogema, Oscoda, and Roscommon counties) is an active member of the KW Festival Planning Committee, which has helped integrate KW materials into the local schools. USFS and DNR staff met with teachers from the Mio AuSable School District to try integrating KW management into the high school science curriculum.
7. Develop a Mack Lake hiking trail—In response to requests from Mack Lake residents concerned about KW area closures, the USFS developed a hiking trail near Mack Lake, so the residents could walk the area without entering KW nesting habitat.
8. Develop an auto tour—The Jack Pine Wildlife Viewing Tour is a 58-mile self-guided auto tour that interprets many different aspects of the jack pine ecosystem. A descriptive brochure guides tourists to 11 wildlife viewing sites, most of which have interpretive signs explaining what can be seen there. Several of the sites describe forest management techniques, including jack pine management for Kirtland's warblers. In 1994, 9,400 brochures were printed and distributed to agency regional and field offices, chambers of commerce, travel information centers, and businesses in the area. In 1995, the brochure was revised, and 5,000 were printed and distributed. In 1996 an additional 10,000 brochures were printed and distributed. The brochure is widely used by local chambers of commerce. A promotion plan for the auto tour was also developed, and in 1996, an evaluation of the tour was conducted (this evaluation report is discussed below).
9. Develop KW newsletter—In order to improve awareness and attitudes of agency personnel regarding KW management activities, the I&E Committee of the KW Recovery Team produced a biannual (spring and fall) newsletter, “KW Notes,” which began in 1992. Each issue was distributed to agency central, regional, and field offices. The newsletter provided

the recent accomplishments and future plans of recovery efforts, particularly those regarding research and habitat management.

10. Increase the number of people on KW tours—The MIDNR Natural Heritage Program, in cooperation with and with assistance from the USFWS and the USFS, annually produces 25,000 tour cards promoting the KW tours. The tour cards are widely distributed to freeway travel information centers, chambers of commerce, tourism associations, nature centers, places of lodging, and agency field offices statewide. KW tours are promoted as part of the activities of the KW Festival. Additional promotion of the tours was done in 1994 as part of the media campaign for the Festival and auto tour ribbon-cutting ceremony; the resulting attendance—nearly doubled—attests to the effectiveness of media campaigns. Yearly attendance for KW tours is given in Appendix II.
11. Promote the Jack Pine Wildlife Viewing Tour as a fall color tour—At the request of agency staff, the Chamber of Commerce for Oscoda County has promoted (in a limited way) the auto tour as a fall color tour. They provide the auto tour brochure (or mention the auto tour over the telephone) to people who ask about fall color tours.
12. Develop a set of visual aids—The U.S. Forest Service hired a professional wildlife photographer to provide a variety of photographs of the Kirtland's warbler and many other plants and animals of the jack pine ecosystem. These photographs have been widely distributed to the media and have been used in many presentations on the KW and the jack pine ecosystem. The USFWS produced a slide program used primarily for its KW tours, but the program is also used for other events as appropriate. The MIDNR Natural Heritage Program produced a slide program on the Jack Pine Wildlife Viewing Tour, which has been shown to many local civic and conservation groups, as well as at national conferences in several states.
13. Update the KW video—The MIDNR is currently updating the Kirtland's warbler "Bird of Fire" video, with completion in February 1998. This video will be used in many ways, such as for KW tours, school groups, special presentations to civic groups, fairs, and other public events.
14. KW Festival—Local residents and business owners decided to begin holding an annual Kirtland's Warbler Festival after they heard about the KW from USFS staff at an Oscoda County Chamber of Commerce meeting. The first Festival was held in Oscoda County in 1994, with Bruce Babbitt and many other high-ranking agency staff and local and state politicians attending. The Festival was held again in Mio in 1995 and 1996. In 1997 it was expanded to a four-county area and was held at and hosted by Kirtland Community College. In 1997, an estimated 3,500 people participated in Festival activities. As attendance and planning efforts have increased, participation by local chambers of commerce in the four-county area has increased, which has promoted the general understanding of KW management.

Summary of Interview Responses

Various key audiences and stakeholders were interviewed for their perceptions of the achievements of the I&E Plan's goals. Of the 21 interviewees, representation was as follows: USFS (7); USFWS (3); MI DNR (3); tourism/business (5); local residents (2); and conservation organizations (1). When reviewing the results, it should be kept in mind that this effort was not a scientific sampling, but an attempt to obtain perceptions of people who are integrally involved in or affected by KW management activities. The interview questionnaire and the full interview responses are contained in Appendix I. The general summary of these responses given below follows the format of the interview questionnaire.

Overall—The majority of responses indicated that as a result of I&E efforts, target audiences have more favorable attitudes toward and/or better understanding of KW management activities. However, many respondents also indicated that a lot of work still needs to be done in this regard.

KW Area Closures—The issue of KW area closures stood out from the other management activities in that respondents were more divided as to whether attitudes have changed or not. Half of the respondents said residents and tourism/business interests resent the closures; the other half said attitudes have improved.

Prescribed Burning—Several respondents said that although I&E efforts may have helped residents understand prescribed burning, their attitudes may never change because they have seen the destruction of wildfires, and will always have that fear.

Protection from Wildfire—Regarding residents' ability to protect themselves from wildfire, some respondents said that if residents are "fire-proofing" their homesteads, it isn't a direct result of KW I&E efforts, but of other efforts by the USFS and the MIDNR through their fire protection information campaigns. Other respondents said residents are not doing much to protect themselves—their homes are "immersed in the jack pine."

Economic Impact of KW—Responses overwhelmingly indicated that tourism/business interests see KW management as having a positive economic impact on local communities.

Funding and Participation—Respondents were divided regarding 1) I&E efforts having communicated that funding is critical to KW recovery, and 2) I&E efforts having explained how groups can participate in the I&E program.

Additional Conservation Agendas—All respondents said I&E efforts have communicated that KW management serves additional conservation agendas (such as biodiversity, neotropical migrants, and habitat management for game species).

Funding for KW Recovery Program—Respondents said funding for the recovery program has decreased because of decreased government funding, competition for limited funding from other

endangered species recovery efforts, and because people don't know the program is lacking funds.

Specific Actions—Respondents said one-on-one contact in the field, media campaigns, and the KW slide shows were successful actions to use for KW conservation. Although some respondents said the newsletter "KW Notes" was successful, others questioned its usefulness.

The Jack Pine Wildlife Viewing Tour—The majority of respondents said that the overall impact of the auto tour on the local communities has been positive, that local people see the auto tour as an economic asset, and that the auto tour has been fairly successful. Some respondents questioned whether or not the tour has helped draw tourists to the area, but said once tourists arrive, the auto tour does keep them in the area longer. Most respondents said promotion of the auto tour should be increased. Reasons given for not increasing promotion were that the tour is doing fine as it is, and that the tour is not a high priority for a particular interest group.

Actions (from the 1991 I&E Plan) Not Addressed—Respondents expressed the most support for developing "What's Happening Here" signs and for sending a package of information to new residents in KW areas. Overall, respondents were ambivalent toward the other actions not yet addressed (conducting KW tours from Lumbermen Monument; incorporating KW management into fall color tours; and developing interpretive signage for the existing hiking trail near Mack Lake), or they thought these actions should continue to be a lower priority.

Overall Next Steps—Overwhelmingly respondents said I&E efforts have been worth the money and time, and that efforts need to continue as needed, with a priority on obtaining funding.

Review of "Public Support for Endangered Species Recovery: The Case of the Kirtland's Warbler," by Barry D. Solomon, Michigan Technological University. (December 12, 1997 draft, currently under editorial review for publication in *Human Dimensions of Wildlife*.) Solomon conducted a survey of 290 residents of Mio and Grayling during spring 1996 and spring 1997 regarding local attitudes toward the Kirtland's warbler and its recovery program. The survey results indicate that local awareness and knowledge of the bird and the recovery program are high, especially among men. Sixty-two percent of respondents believe the KW management program is effective, and 57% support the program. Seventy percent thought ecosystem management is important, but only 52% knew KW management is also ecosystem management.

Solomon cites another source¹ as saying economic opportunities resulting from endangered species protection appears to be associated with positive attitudes toward that species. However, only 46% of respondents thought local attitudes toward the KW were positive (25% either thought local attitudes were negative or had no opinion). Of those respondents who gave an opinion about local attitudes toward the KW, 83% thought attitudes had become more positive because of the KW Festival.

Sixty-four percent thought local communities benefit economically from the KW. Solomon suggests government officials and businesses build upon this finding. The Kirtland's Warbler Recovery Team recognizes the value of ecotourism to this endangered species and has indeed fostered such activities. Solomon states, "Economic aspects of a recovery program clearly are applicable to other endangered species." As the Recovery Team emphasizes and promotes ecotourism associated with the KW, it will continue to blaze new trails for endangered species protection in general.

¹Miller, L. 1995. Have binoculars, will travel: In pursuit of rarities, bird-watchers boost tourism. *The Wall Street Journal*. December 15, B1, B4.

Review of "Evaluation of the Jack Pine Wildlife Viewing Tour" by Dr. Maureen H. McDonough and Dr. Dennis B. Propst, Michigan State University.

McDonough and Propst conducted an evaluation of the Jack Pine Wildlife Viewing Tour during summer 1996 in order to estimate the use of the tour and to assess the tour's interpretive materials. This study found an estimated 688 visits (observed across all seven sites that were monitored) and an estimated 96 (low) to 367 (high) vehicles using the sites. In addition, 15 parties were interviewed at four sites. From these findings, the authors concluded that the tour is underutilized and based on their professional expertise, they concluded that there are "interpretive problems" with the tour.

These results indicate that the auto tour is not being used as much as had been desired. However, in terms of the "interpretive problems," it is clear that McDonough and Propst did not evaluate the tour against the stated tour goals and guidelines. For example, their Interpretive Evaluation makes several statements based on the premise that to use the tour, one must drive the entire route at one time, yet Guideline 4 of the Tour's Interpretive Proposal states that the sites should "stand alone" and not require visitors to make every stop in one trip. Their Interpretive Evaluation also criticizes the fact that the site about snags is not relevant to the KW or its habitat, yet Guideline 9 states that the tour should emphasize the entire ecosystem, not only the KW.

Based on the tour's underutilization, McDonough and Propst suggest that the funds invested in the auto tour may not have been worth the tour's usefulness. We contend that the tour has served and will continue to serve a very valuable function. Although the number of people using the tour in summer 1996 was lower than desired, the fact that the agencies made the effort to create something beneficial for the local communities goes a long way in developing positive relations between the agencies and the communities.

Promoting the tour as its own attraction may not bring visitors to the area, but a package promotion that includes the auto tour, KW tours, and KW Festival will serve to keep people in the area longer, creating an economic asset dependent on KW conservation.

The goals of the Jack Pine Wildlife Viewing Tour are:

1. Communicate important messages about KW conservation to key groups of the public.
2. Create an additional economic asset dependent on KW conservation.
3. Provide recreational opportunities for people who enjoy viewing wildlife.

All three goals are being achieved, although the number of people using the tour appears to be down. With continued and increased promotion, the tour will enhance KW conservation through its interpretive materials and through the economic asset it is becoming.

Recommendations

The recommendations below are based on the following:

- Evaluation (contained in this report) of I&E efforts
- Previously conducted survey of local residents
- Previously conducted evaluation of the Jack Pine Wildlife Viewing Tour
- Experience and familiarity of D.J. Case & Associates with the Kirtland's warbler's situation and with I&E efforts in general

- 1) **Make a concerted, coordinated effort to communicate with the appropriate decision-makers to secure long-term funding for KW management activities.** This effort should be conducted by people outside the government agencies, such as existing conservation organizations, a coalition of interested groups, or a newly formed group ("Friends of the Kirtland's Warbler"). This group should use innovative ways to communicate the fact that without perpetual human management, the KW will be lost. The group could also raise funds directly with an 'Adopt-an-Acre' program or other such ideas.
- 2) **Continue to pursue corporate sponsorship and involvement for implementing these I&E recommendations and for KW management efforts.** Detroit Edison's jack pine plantings are one example.
- 3) **Develop an integrated program to promote the KW tours, the Jack Pine Wildlife Viewing Tour, and the KW Festival.** The goal of such promotion should be to increase participation in these activities. Some possibilities suggested by interviewees include: increase the KW tours' emphasis on biodiversity and promote all three activities to a broader audience than birders; promote nationally; get these activities involved with Gov. Engler's campaign to increase tourism into Michigan; create Festival activities designed for the target audiences to increase their understanding of biodiversity through personal experience; place brochures throughout the towns; develop materials that relate the 'bottom line' effect of the KW (the number of visitors, the revenue brought in as a result

- of birders, etc.) and distribute to area businesses and chambers of commerce (for distribution to businesses looking at moving to the area); develop a co-op of businesses to market the auto tour and invest in promotional efforts of the KW tours, auto tour, and Festival; get economic associations and business leaders more involved.
- 4) **Conduct one-on-one communication as often as possible.** This is by far the most effective way of communicating with the target audiences because agency personnel who are integrally involved with KW conservation have high credibility regarding this topic. It is important to keep in mind that much of the effectiveness of one-to-one communication comes from agency personnel listening and empathizing with the other person(s). The new video and other printed materials contribute to and enhance personal communication and should be used in this way.
 - 5) **Continue conducting media campaigns as appropriate.** Media efforts so far have been very successful in raising the profile of the KW. The more the media are involved, the better: invite media to team meetings, prescribed burns, jack pine plantings, KW tours, etc.; emphasize to the media that without perpetual human management, the KW will be lost; use the forestry industry angle to get national coverage of the KW and funding needs; include biodiversity when publicizing the KW.
 - 6) **Complete the key components of the Jack Pine Wildlife Viewing Tour.** Most importantly, the Mack Lake site should be completed. As the first official stop of the auto tour, the Mack Lake site is very important. Although each site stands alone, the interpretive signs that have been produced for the Mack Lake site welcome visitors to the tour, describe the KW and the jack pine ecosystem, alert visitors to the closed breeding areas, inform visitors of the KW tours, and set the tone for the entire auto tour. Additional work that might be done on the east loop include building observation decks at the river sites and improving roads or access points.
 - 7) **Develop a KW curriculum for use in schools.** Children within the local communities are an important audience to reach with positive information on the KW. Possibly fund with a grant from the DNR Nongame Wildlife Fund, Natural Heritage Program (or other source).
 - 8) **Continue to develop the "KW Notes" newsletter.** It is important to keep agency personnel who are not directly involved with KW issues informed about past and future activities. Develop a system to improve circulation and readership among agency personnel.
 - 9) **Develop a package of KW information for newcomers to the area.** Distribute through local chambers of commerce and realty companies; possibly form partnerships with realty companies. Such efforts need to be ongoing, as people living in the area are always

changing. The package should address KW management activities and biodiversity and should emphasize the short time period of area closures, the danger of old jack pine and the importance of harvesting, and that prescribed burning is no longer an emphasis for KW management.

- 10) **Develop "What's Happening Here" signs at more sites, and rotate the signs to keep them accurate.**
- 11) **Continue to address the concern of Mack Lake residents regarding local access to KW habitat areas.** Addressing this concern—even to a small degree—will do much to improve relations between agencies and residents, and residents' attitudes toward the warbler.
- 12) **Update and reprint the two brochures, "Your Neighbor, the Kirtland's Warbler" and "Working Together to Save a Special Bird," and the two posters, "Michigan Jack Pine" and "Take a Ride on the Wild Side."** Develop more focused distribution for these materials.
- 13) **Conduct an evaluation of the Jack Pine Wildlife Viewing Tour during the summer of 2000.** This evaluation should be similar to that conducted in 1996 by Michigan State University.

Recognizing the importance of I&E efforts to the recovery of the Kirtland's warbler, 1997, the Kirtland's Warbler Recovery Team decided in 1997 to assess the progress and direction of Kirtland's warbler information & education (I&E) efforts. Part of this assessment involved interviewing a variety of people who are or have been affected by Kirtland's warbler management activities. Interview questions are given below in bold type and are followed by summarized comments of the 21 interviewees. (Comments are not verbatim.)

I. KW Management Issues

To increase support for the Kirtland's warbler management program, a formal Kirtland's Warbler Information & Education (I&E) effort began in 1992. Since that time, would you say attitudes toward the following issues have changed among the following groups of people, or not? If so, how?

- A. Prescribed burning** —Residents/homeowners in KW management areas
 —Hunters/anglers
 —Tourism/business interests

Comments:

- Realtors should do a better job of making homeowners aware of the fire danger and how to protect their property.
- Hunters' and anglers' views on prescribed burning are mixed; the views of those in tourism and business have not changed.
- My gut feeling is that these groups may have a better understanding, but their attitudes have not changed.
- Residents attitudes haven't changed much; hunters/anglers—yes, but this may be a result of an overall better understanding due to things like The Discovery Channel, etc.
- The 1990 Luzerne fire destroyed 75 homes; prescribed burning is not looked upon very favorably in this area.
- I see no indication that I&E efforts have changed residents' attitudes; they are still resistant and fearful of prescribed burning. Hunters are supportive because of the benefits to game. I&E efforts have had a positive impact on tourism/business interests.
- Prescribed burning used to be a problem; people used to make negative comments, but their negative feelings have been lessened. Hunters see it as a good thing because it creates cover. I&E efforts have had a positive impact on tourism/business interests.
- Most residents don't like prescribed burns, but some are changing their minds. More education is needed. The USFS and DNR are better at listening and explaining than they were before. Hunters don't complain much.
- Residents need to understand better about prescribed burning and that the jack pine ecosystem is different from the oak ecosystem.
- Mack Lake residents seem to have changed their attitudes, but they will always have the fear of wildfire. They do see the economic benefits.
- Some residents and tourism/business interests changed their attitudes.
- Residents don't see why ORVers can go all over and they can't; residents feel like 2nd rate citizens to the bird. They are very outdoors-minded and concerned for the environment. There needs to be better communication on both sides; now it is a one-way street with the agencies telling the residents what to do.

- Residents have changed their attitudes to a small degree, but we need to get across the fact that burning is not a strong emphasis anymore in the KW recovery program (the USFS hasn’t burned for six years). We haven’t effectively gotten the message to hunters/anglers or tourism/business interests.
- A lot more residents understand better, but this doesn’t always mean increased support; there is still concern for prescribed burning. Hunters/anglers are more supportive because now they understand why we burn. Tourism/business interests are beginning to see the benefits from the whole KW management program (the increased value of the jack pine due to better technology has helped a lot).
- No real change.
- Residents understand it better, but there’s no less opposition. There’s been no improvement among tourism/business interests except for those who already were favorable to the KW.
- People who own property here but do not live here year-round do not understand the fire potential, and they jeopardize their neighbors. Residents are scared to death of prescribed burning. I&E efforts haven’t reached them. Residents really do appreciate the firebreaks that are created.

- B. Clearcutting** —Residents/homeowners in KW management areas
—Hunters/anglers
—Tourism/business interests
—Environmentalists/conservation organizations

Comments:

- Hunters have concerns that clearcutting will decrease the acorn mass, and they don’t understand how things work on state and federal lands.
- Understanding and acceptance has improved. We get some negative feedback with our environmental analyses for timber sales.
- There is a general acceptance among residents; the signage at clearcuts has really helped hunters; tourism/business interests don’t seem to view clearcuts negatively, but not sure if they ever did; environmental groups were supportive before.
- This is not a major issue for tourism/business interests; wood products are a good thing.
- Efforts have had some positive impact on residents. Hunters are supportive because of the benefits to game. Efforts have been positive for tourism/business and environmental groups.
- Hunters see clearcutting as a good thing because it creates cover. I&E efforts have had a positive impact on tourism/business interests. Some environmentalists don’t like it, but you’ll always have that.
- People are better understanding why this is done. They had a seminar at the festival that explained some of the management activities—more of this is needed.
- A big obstacle is that agency people speak on a different level and the local people don’t understand their terminology.
- Many residents want a buffer zone; they understand the relationship between clearcuts, planting, and the KW. Environmental groups don’t like clearcuts for single species management, but for an endangered species they think it is important.
- After I&E efforts, I heard fewer complaints from residents and environmental groups.
- Residents know it is good for habitat and the environment. It’s fine as long as it’s not right in their backyard.

- Residents are still concerned, but they are more supportive now. We haven't reached hunters/anglers (lower priority) or tourism/business interests (higher priority). Environmental groups are more supportive and outspoken now. We can't sidestep this issue—we need to continue efforts.
- Residents understand better, although they may not like it. Hunters/anglers have always been fairly supportive.
- Probably higher acceptance now than 20 years ago.
- Residents are mixed on this issue; the fact that clearcuts have become larger and more numerous hasn't helped. The KW tours and the auto tour have really helped environmental groups understand and accept clearcutting associated with the KW. Nationally it is a hard sell, and it takes good I&E work to do the job.
- Residents understand this, although there are some mixed feelings—some people prefer strip cutting.

C. KW area closures —Residents/homeowners in KW management areas
—Tourism/business interests

Comments:

- Received some negative comments from residents. We need to reach hunters better.
- Residents see closures as a big negative—we need to explain why we close areas; tourism/business interests don't seem to view closures negatively, but not sure if they ever did.
- This is a negative economically for tourism/business—people want to use the land, but can't.
- Efforts have had positive impact on residents; they understand and grudgingly accept it.
- Residents are starting to understand this more. A small percentage will always gripe, but most accept it when they understand the reasons.
- The restrictions aren't for very long, but the signs don't emphasize this. People should realize that the auto tour allows controlled access so the birds aren't bothered.
- Residents like the increased privacy (horses and ORVers aren't allowed), and they like the development restrictions.
- Residents had not changed their attitudes and tourism/business interests were polarized at the time I left the area.
- People felt better; they understood that they have the areas for what they want to do.
- If it's necessary, it's necessary. But some of the trails could be opened up for the residents. A lot of hunters resent the road closures.
- In some cases we've made significant progress (one-on-one communication and doing things for them), but we haven't convinced residents that the areas need to be closed.
- Residents and tourism/business interests understand better now.
- No change.
- This issue remains an obstacle for residents; the fact that the size and frequency of area closures keeps increasing doesn't help. We need to give more on this issue. Trying to accommodate the people is very important, and it prevents hardships later on. Since Mack Lake is supporting fewer birds, and those residents want to be able to walk in the area, we could get them involved—let them patrol the area for trespassers, or let them do some cowbird control. We could also vary the restrictions at habitat areas near Mack Lake village to accommodate the residents (make the closed period shorter or allow walking on a single trail through the habitat). Tourism/business interests

aren’t threatened by the closures.

- There are many hard feelings among residents. They want to be able to walk the area. Not too many use the hiking trail developed by the USFS; they might not know about it. It is used by people using the campground.

- D. The value of biodiversity** —Residents/homeowners in KW management areas
 —Hunters/anglers
 —Tourism/business interests

Comments:

- No change--need more I&E efforts.
- Attitudes have positively changed among all these groups.
- Tourism interests see biodiversity as a positive thing because it keeps the area natural and aesthetically pleasing.]
- Residents are not aware of biodiversity—we need to target this more. Efforts have helped tourism/business interests understand, but we need to continue.
- People need to understand that old growth jack pine is very dangerous, and that having a management program to control it is good and needed.
- They generally understand this concept.
- What is needed is education with more flexibility and openness. The agencies need to communicate better with the public and find ways to get the public involved.
- When I lived at Mack Lake, there was a real misunderstanding of what biodiversity is and why it is important. Tourism/business interests understand that the KW is economically beneficial.
- Residents are more sensitive to this issue, but I don’t know if it’s due to I&E efforts. Hunters/anglers and environmental groups seem to understand and support KW management better. And the auto tour has really helped tourism/business interests understand biodiversity better.
- Residents understand this better because of I&E efforts. The festival addresses this issue directly.
- Residents are understanding this better as a result of posters and other materials. We’ve had limited success with hunters/anglers and tourism/business interests.
- No—all these groups still don’t understand this concept.
- Most don’t really understand but there probably is somewhat higher support.
- The signs in management areas that mention a variety of species are very good. It would be good to add brochures to these signs so people can get even more information (this wouldn’t cost that much money). Hunters/anglers are understanding better. Tourism/business interests that have worked closely with the agencies understand, but others need more work. Both KW tours should emphasize KW management and biodiversity. We should stress the common management interests of hunters and non-hunters; maybe we should re-introduce sharp-tailed grouse.
- Residents haven’t seen the information; most of them don’t care to go into the agency offices.

- E. KW mgmt. maintains the natural ecosystem** —Residents/homeowners in KW management areas
 —Environmentalists/conservation organizations

Comments:

- No change--need more I&E efforts.
- Although a number of them have taken the KW tours, local, full-time residents are not being reached effectively--we need to target the Mack Lake Homeowners Assoc. and service groups.

- The slide show contains this message. Environmentalists already know this, although they may not think management activities are as good as nature.
- Has positive impacts for tourism/business interests.
- For residents, we need to tie this message into the fire prevention/education programs, and we need to conduct more of these programs. Environmental groups view KW management as the most socially acceptable way of saving the KW.
- People understand this.
- Seven years ago people were very negative about the KW. When the USFS and the DNR started explaining things to people and listening to their concerns, peoples' attitudes about the KW improved, and I see improvements every year.
- Non-birders don't see the benefits; we need to come at it from their viewpoint, and communicate the benefits KW management has for hunted species.
- Residents understand this, but still have the fear of fire.
- I&E efforts have communicated this message through the auto tour.
- Residents understand that KW management is good for the habitat.
- The festival directly addresses this issue.
- Residents are more supportive now; however, because the people living in the area are always changing, we need to continue these efforts. Environmental groups are better informed--this is evident from their presentations and published articles.
- Residents understand that the KW and jack pine are part of the natural ecosystem, but they don't understand that KW management maintains the ecosystem. Environmental groups understand better.
- No change among residents, but more environmental groups are in favor now.
- Residents haven't changed their attitudes much, but environmental groups have improved.
- Yes, residents understand this, although new homeowners just don't care about the environment. It doesn't help that realtors give false information about the area.

The following responses treated the above sections (A through E) as a whole:

- I don't sense the levels of animosity that there used to be. The attitudes of business interests and residents have certainly become more positive.
- Most of the old-timers will always have the same attitudes.
- I don't know of any efforts to contact hunters/anglers or tourism/business interests.
- All these things--except prescribed burning--have positive impacts on tourism/business.
- Some residents have had negative interactions with the agencies. The animosity is still there, and I don't know how you can get rid of it. There is a general lack of trust; the agencies won't let residents dredge the lake in front of their homes, but the agencies had sand brought in for the park across the lake. It took 9 years to get a road put in. On the other hand, the USFS provided the land for the road, but most residents don't know this--it would help the relationship if they knew these things. Residents think the

agencies don't care about them. Residents think the KW management program exists to support jobs (there's no management program in the Bahamas, and the bird is doing fine there).

II. Target Audiences

A. Residents/Homeowners

Are residents in KW management areas better able to protect themselves from potential wildfire damage?

Comments:

- I don't know, but I do know that I&E efforts were conducted to give them the appropriate information—in materials produced by both the DNR and the USFWS.
- Yes--because of talks, programs, pamphlets, etc.
- No. We need to give them more of this kind of information.
- They are much more aware of the potential; more people have made changes around their homes.
- Yes, but not from KW I&E efforts—from fire I&E programs. Although the brochure, "Your Neighbor the Kirtland's Warbler" has some information on fire protection, it doesn't get to the right people.
- Yes, but this is not a result of KW I&E efforts.
- Yes – 2 responses
- The USFS has given them the information to protect their property.
- Definitely. The agencies need to ask questions of the Mack Lake homeowners—have a general meeting to find out their needs and views, and then return with some answers by going door-to-door.
- Yes, but they were pretty capable before any I&E efforts because of the Mack Lake fire.
- Yes. We talked with individuals and with the MLHA; we set up a brush pit for them to use, and we staged a mock disaster with them. This wasn't necessarily part of I&E efforts, but we knew it was needed.
- There is no change in their fear of wildfire. If they have the knowledge, I haven't seen much application—their homes are immersed in the jack pine.
- No—not because of any I&E efforts; it's because the residents kept asking for the USFS to do things that would help.
- Some landowners have improved their property, but it is difficult to say it is a result of KW I&E efforts. There is some information available, but it needs to be more focused and distributed better.
- No—they learn from other fires that occur locally.
- No—a lot of them still have trees close to their houses.
- Yes, USFS efforts helped the residents.

B. Tourism/Business Interests

Do tourism/business interests see that the Kirtland's warbler has an economic impact on the local communities?

Comments:

- Absolutely. The effort to reach these groups has done the most good. We need to continue the effort and work with them.
- Yes, the festivals in Mio have helped. The festivals should be kept in Mio.
- More needs to be done; get economic associations and other groups involved.
- Only those who can look beyond today; business leaders need to be more involved and help others see.
- Some do, but most don't. I spoke to the Oscoda Chamber of Commerce about economic benefits, but they didn't seem to care.
- Positive tourism impact: it does bring visitors to the area—Bahamians' visit, and the Holiday Inn gets people from all over the country & the world who come to see the KW. This is a slight positive impact for businesses, and they are vaguely aware of it. But there is a very negative business impact: 73-77% of the county is state/fed. owned, which prevents development, etc.
- Yes. They recognize the value of the KW and that creating habitat allows timber harvest.
- Yes, many do understand this (Mio and Luzerne more so).
- It has had an impact on their businesses. The bird plays a very big part in tourism. New younger business people are positive about the KW.
- The auto tour and advertising and marketing has been very beneficial. We should put more time into the auto tour because it has long-term benefits, whereas the festival is short-term.
- Yes, a positive impact because of the auto tour and festival.
- Yes—this view was increasing when I left the area.
- Yes. I saw several instances where people changed their minds after learning more.
- Yes. This has increased directly because of the festival.
- Yes. This is one of the biggest successes we've had—the Holiday Inn and some others are marketing with a KW angle.
- Yes.
- More and more do.
- Yes. The auto tour keeps them around longer.

C. Environmentalists/Conservation Organizations

1. Have I&E efforts communicated that funding and other support are critical to recovery of the KW?

Comments:

- Local citizens may understand, but we need to communicate this message to those at the legislative level. Each agency has its own contact, but we could improve our coordination; funnel our efforts with a single voice.
- Yes – 2 responses
- The recovery team needs to make statements to this effect, so that communicators and educators can pass it on to special interest groups. Communications--both internal and external--would be greatly improved by having agency-based I&E personnel on the recovery team.
- We haven't done a good job at this—it needs to be communicated to them.
- Tourism/business interests are not aware that funding is critical to KW recovery.
- We need to target state and federal legislatures and national leadership within the agencies. Funds for endangered species are being given to western species in the USFS and the USFWS.

We need to inform the U.S. Congress how state layoffs have affected funding for the KW.

- Yes, they understand that intervention is needed.
- Businesses will invest in something that has long-term benefits; they will invest in it if it will bring in money later on. We've lost sight of our purpose.
- There is a continued push to get more funding.
- We hadn't done a very good job of this when I left.
- Not as far as I can see.
- Yes. There's a lot of agency participation at the festival; this is communicated through the presentations.
- No. We are in a significant downward trend.
- They may understand, but they aren't supporting it.
- Yes, but we could do more.
- People are shocked at the cost; they take it for granted. The agencies and public are getting complacent because the KW population has increased.

2. Have I&E efforts explained how specific organizations can participate in KW efforts and help with the I&E program?

Comments:

- Yes. For example, Kirtland Community College, the cooperative extension service, and some other groups have become involved.
- No. We need a volunteer coordinator to conduct outreach for the KW by working through the conservation organizations. These groups can reach many people, both locally and nationally, but they need prompting and they need information. The recovery team should look for an agency-retired person who has lived in the area and is familiar with KW issues to coordinate this type of outreach.
- Yes. There are many programs with different organizations involved.
- No. We could have an 'adopt-an-acre' program for high school students.
- They probably don't know how to get involved unless specific mailings have been sent to them.
- I'm not aware of their involvement with I&E efforts.
- I haven't heard much other than opportunities to help with the festival.
- No—we've allowed the festival to take over.
- Yes—auto tour and festival (Bob Hess & Dave Case had made one-on-one contacts).
- I haven't seen this message.
- Yes, we give people the opportunity to be involved in the festival.
- Yes, in some efforts, but we can involve them in more.
- Not as much as we could—we need to do more.
- Yes, but could improve.

3. Have I&E efforts communicated to specific organizations that KW management serves additional conservation agendas, such as biodiversity and neotropical migrants?

Comments:

- Yes. All the agencies have included ecosystem management and other species besides the

warbler in their messages.

- Although the agencies have included neotropical migrants and other topics along with information about the KW, we are all also guilty of single species management and communications. Whoever will be continuing the KW Update should stress neotropical migrants, not just the KW.
- Yes – 2 responses
- Some. My own talks include this.
- Yes–biodiversity.
- We need to do more of this. Decrease the KW messages, and increase the other topics.
- Yes, and people see the other species when they go on the KW and auto tours.

- Yes, especially on the auto tour.
- Yes, through the presentations, programs, and tours at the festival.
- Yes, but we need to do more; this needs to be a new focus in I&E efforts (equal or ahead of the KW focus).
- Maybe we need to downplay these messages.
- Yes, but we could do more.
- Yes, collectively we have made significant progress.

III. Funding the KW Management Program

Has funding for the KW management program increased since 1992? If yes, what role do you think the I&E effort has played in the increase? If no, why not?

Comments:

- No, because of political events beyond our control. We need a coordinated effort by the recovery team and input to the legislature by the citizens. Maybe the business community could hire someone to lobby government on behalf of the warbler, similar to what is being done for pheasants (Pheasants Forever) and bluebirds (Bluebird Society).
- No. We need a letter-writing campaign contacting the legislators. The recovery team could also discuss the possibility of a corporate sponsorship (Coke or Ford, etc.) for KW conservation. Maybe people need to know how losing the KW would affect them and their families.
- No, there is no increased funding anywhere, and I've heard that funding for planting has decreased. Maybe we need to change the rules and regulations as far as how agencies can bring in money.
- I think it has decreased significantly because of government downsizing and because most people don't know we need funding. In the USFS, most of the money goes to the western states where there is controversy, but here there are no issues, no controversy, so the media doesn't cover it, and no one knows we need funding.
- No. Maybe I&E efforts should have targeted legislatures, etc.
- Agencies should start vending these things--tours and things that cost them money--out to the private sector.
- Government funding has decreased.
- I don't know how funding has turned out, but I&E efforts did help promote publicity.
- No. The primary source of funding is state/federal money, which has decreased. A caution

regarding I&E efforts: if successful, funding for KW will decrease. Life modeling tables were developed to show that without cowbird trapping, the KW population would decrease; presenting this information to region 3 congressional delegations in 1996 helped the funding situation, but the following year funding decreased. We should get private foundations to financially support KW conservation (Kellogg and other companies based in Michigan).

- No. The USFS is now at the lowest point since 1992. I've done all I know to do; now I need to listen to other people's ideas.
- No. Federal funds for endangered species have been cut in the region; not much can be done. I have no solutions for this.
- For the DNR, federal funds have declined. However, with other funds (from Detroit Edison because of a legal settlement re: carbon emissions), overall money has increased. I&E efforts played no role in this.
- Funding has decreased due to general budget cuts across the board. We need to make the planting program more cost-effective.
- Emphasize the fact that human management is necessary or we will lose this species. Maybe we need to target lobbyist groups.

IV. Specific Actions

A. Agency Personnel [The following was asked of agency personnel only.]

1. Was one-on-one contact in the field successful?

Comments:

- This is a very worthwhile thing to do, but resources are lacking.
 - No one has the resources to do this.
 - Yes, this is always the best way.
 - Whenever we get complaints or negative responses from our scoping projects, I talk to them one-on-one. This is critical to the survival of the program. Having brochures to give them is a big help.
 - Yes—this is the best way to communicate.
 - This was one of the most successful ways of delivering messages.
 - The one-on-one effort at the beginning of I&E efforts did change some residents' opinions.
 - Yes, but we are losing this opportunity because we lack the people to do it.
 - Yes – 2 responses
 - Yes. It is very important not to antagonize people who come to the area to see wildlife. We need to help them find what they're looking for.
- ##### 2. Have efforts to distribute information to the media been successful?

Comments:

- Yes. These efforts have really increased since the I&E Plan was developed, and they have had a large impact on getting the word out.
- The recovery team should invite the media to the recovery meetings, prescribed burns, jack pine plantings, tours, etc. to get them more involved.
- Worked well for the first festival. We need someone to head up this effort.

- Yes – 4 responses
- Very successful. While conducting summer research, I had a total of 3 media contacts between 1988 and 1992. Since then, I have been contacted every year I was there (1994 to 1997), and in 1997, I was contacted by more than 12 media (as a result of a media campaign coordinated by the USFWS).
- The agencies' public affairs offices focus too much on the KW and not enough on biodiversity.

3. Have I&E efforts increased the number of people participating in tours?

Comments:

- No. We could handle more people on the USFWS tours.
- Yes – 2 responses
- No.
- Yes—because of the advertisements.
- I wouldn't know, but they seemed to increase initially.
- I don't know, but I don't think so.
- Probably.
- The majority are from Michigan, so it can be considered a success to get new people each year.

4. Has the KW "Update" newsletter been successful?

Comments:

- Questionable; it has not been helpful to me, but it may be useful for business interests or others.
- Limited success; not newsworthy to me.
- I'm not aware of the newsletter.
- It was good and useful.
- Very good and informative. I noticed a significant in-agency change in attitudes. It informed agency employees about the success of the KW program (some of them had been very negative).
- It hasn't been as successful as it should have been; it's not read or posted as often as I had hoped.
- Yes.
- Probably.
- Yes—it helps with communication.

5. Have the KW slide shows been successful?

Comments:

- Yes. I have used it several times. I also pull the slides to use in other presentations.
- Yes. We use the video version, and are looking forward to using the revised KW video.
- Yes.
- It was very nice to have them.
- Yes, but we are losing the opportunity to use them, as we lose the people to give presentations.
- Probably.

6. How many presentations on the Kirtland's warbler have you given?

Comments:

- At least 20 last year on watchable wildlife, some of which included the KW.
- About six.
- Five to ten.
- About 20 (15 to an academic crowd and 5 to the general public).
- Average of 10 per year.
- About 36.
- 20 to 30 per year.
- Eight to 12.

B. The Jack Pine Wildlife Viewing Tour

1. What overall impact has the tour had on the local community?

Comments:

- Little or none.
- Positive impact—it brings people into the area.
- Positive impact.
- It needs more exposure.
- It is a great asset.
- Very good impact. We need to teach local businesses how to market it better. Develop a co-op of several businesses with marketing guidance from the agencies.
- Local residents don’t really go on the KW tours, but the auto tour benefits them—they can go on it at any time, and they learn from it.
- People who had been on it said they liked it, and businesses were getting calls about it.
- Improved understanding of the ecosystem.
- They haven’t had as many people use it as they had hoped, but it’s a very important asset to the community and I hope they will develop the western loop.
- Some benefit, but not as successful as we’d hoped.
- I know people who went to certain sites, and they really liked the auto tour signs. People also really like the “What’s Happening Here” signs.

2. Do local people see the tour as an economic asset to KW conservation?

Comments:

- We need an evaluation form to get feedback from those who go on the auto tour. This form could be in the shape of a car to draw attention. We should place the tour brochures with evaluation forms all over town, not just in agency offices.
- Yes, a few do.
- No.
- No. They don’t make the connection between the tour and KW conservation; they only relate the tour with potential for more money.
- Those who are involved do.
- New businesses do; older ones don’t, although some are starting to.

- They did, but this is decreasing. We need to re-focus on continued development of the auto tour.
- Probably.
- I only heard positive comments from people who went on it; they had no idea there is that much out there—it really gets the biodiversity message across.
- Yes—it attracts people to the area and keeps them there longer. It also educates them about natural resources. The chamber of commerce promotes it and the “Visitor’s Guide” has more information on the bird and the tours every year.
- Some hopefully do.
- They should. Whenever you have signs and brochures, it will reach a certain percentage of people.
- The town people do.

3. Has the tour helped draw tourists to the area?

Comments:

- No. It is another thing to do while people are here in the area, but I don’t think it really draws people here.
- Yes—the Holiday Inn promotes the auto tour.
- I’m sure it has; people coming to see the KW are aware of the auto tour.
- Yes—it is one more thing for them to plan to do when they come; it has really been helpful
- Yes. People really like the interpretive signs and the simple steps to take the tour.
- Yes – 3 responses.
- No, but it does keep tourists in the area longer.
- I don’t know, but if it does, then it’s a good thing for the area.

- Not to a large degree. Once people are here, they use it, but don’t know if they come specifically for the auto tour.

4. To what degree has the tour been successful?

Comments:

- The auto tour has helped get out conservation messages. But what is the real draw? It lacks excitement, and not many people want to drive around.
- The Holiday Inn has gained insight into how to market the tour.
- Many comment that they really liked the tour; they like the accessibility; they come up here to see nature and to enjoy the peaceful atmosphere; they like the peaceful drive in the country.
- It has been great for schools.
- It has achieved many of the I&E objectives.
- Limited success.

5. Do you think promotion of the tour should be increased?

Comments:

- Yes, it will need to be promoted.

- Yes. We could make available a kit with binoculars, field guides, and songbird tapes that people can check out to use along the tour. We could also hold special events at one of the sites to bring people there.
- Yes. The low participation is because of low promotion.
- Yes—we used to have posters, but are all gone now; would like more.
- Yes—provide bus tour companies with information on the auto tour; get involved with Governor Engler's campaign to increase tourism into Michigan.
- Definitely. It should be promoted to a broader range of audiences other than just birders.
- No—it's doing pretty well as it is.
- Yes. More on the auto tour and less on the festival.
- Yes. People should know about it before they come to the area. The agencies are concerned about the risk that too many tourists might be a detriment to the KW, but this risk is small compared with the benefits increased tourism would bring.
- I think the residents would vote it down because it's not a high priority.
- I know it is being promoted locally; if it's not being promoted on a wider scale, it should be.
- If we think we can do it cost-effectively (based on the survey, we need to take a hard look at this).
- Yes—we need to work on this.
- Yes.
- We would probably benefit from national coverage of the KW and all that surrounds it.
- Yes, target promotion to birders.

C. Actions Not Addressed

The following actions have *not* been addressed; do you think they should be?

1. Develop "what's happening here" interpretive signs for harvesting and planting operations.

Comments:

- Yes – 5 responses.
- Yes--these should be placed at all areas, whether owned by USFS, DNR, or private owners.
- Yes, for highly visible areas.
- Yes, this could help, but don't put too many signs up.
- Yes—it's important that people recognize the purpose of these activities.
- Yes. And some that are already up can be moved to new areas.
- Very beneficial.
- Good idea; would alleviate complaints.
- This is always good, especially in areas with many large cuts.
- This has been done, but some of the signs aren't very accurate now. It would be nice to have signs at all sites, but this isn't very practical.
- Yes, this would be interesting for anyone.
- Excellent idea.
- Yes. We need to continue educating the people in the areas. But we shouldn't use the USFS' old style of signs.
- Yes—state and federal agencies underutilize this. It is worth the time and money to prevent

problems later on. We should do it at more sites.

- This would really help; these signs explain the jack pine.

2. Conduct tours out of the Huron Shores District through Lumbermen Monument.

Comments:

- No, unless the USFS alternated between this location and their present Mio location. The 2 warbler tours aren't at full capacity yet.
- I don't think it would go over very well, because those who go there are vacationers, not birders.
- This would be OK.
- This may bring more people to the auto tour, but how could we fund it?
- No—this wouldn't increase tourism in the Grayling area because it's too far away.
- No. It's too remote, and there aren't any KW management areas there.
- Very beneficial; a good project to have in the general area—more potential to draw in tourists; the Sunrise Side tourist association would be interested in this.
- If there's enough interest.
- A great idea. Involving the coastal area would increase their potential for tourism and gain more support for the KW management program.
- This would be nice—it's a beautiful area.
- I wouldn't want to see the Mio or Grayling tours replaced with this one that's farther away.
- A good idea on a limited basis to see if there's enough interest.
- Yes.
- Could start with weekend tours to see if there's enough interest.
- May not be worth doing.

3. Incorporate KW management into fall color tours.

Comments:

- I'm ambivalent about this--jack pine aren't colorful.
- KW habitat doesn't have any fall color.
- I think this should be a lower priority.
- Yes—the Mack Lake area is good.
- Good idea—anything that will bring people into the area would be good.
- This would be a limited attraction for people who go on fall color tours. Someone like Eve Rolandson could develop wildlife viewing tours, and incorporate KW management into them.
- Not a bad idea; we conduct fall color tours out of the Holiday Inn.
- Great idea. Also, maybe bill the auto tour as a fall color tour.
- This would bring people to areas that wouldn't be visited in the spring.
- Useful to educate a different group—may bring them back in the spring.
- Yes – 3 responses.
- Yes, take any opportunity that's there, but this should be a lower priority.
- This would be a low priority.
- No—the attraction would be the bird, and we can't show them the bird then.

- It would be good to incorporate ecosystem management into these tours.

4. Send package of information to each person or family that buys a home or property in the area.

Comments:

- Great idea. The chambers of commerce could incorporate this into materials they already have, such as welcome wagons.
- Yes, but realtors should give some of this information to potential buyers before they buy.
- This would be a good thing to do. Colorado and Montana do this to inform newcomers about grizzly bears and mountain lions.
- Great idea.
- A good way to reach the new people, who are usually negative because they don't understand.
- Yes. We could use some too. New people can bring a fresh perspective and an open mind that can be positively influenced before they hear the negative opinions.
- Yes, but make it brief and not too costly; target residents near jack pine areas.
- Excellent idea.
- Yes. Send to members of the Mack Lake Homeowners Assoc. or other small groups; send to the average person, not figureheads. This would be good for realty sales, too.
- Good idea. New people learn from the people already there, and can be negatively biased right away. Chambers of Commerce or realtors could use the KW as a selling point; could give information about fire, too.
- A really good idea. Explain the KW management program, fire as part of the ecosystem, the need to protect their homes, etc.
- Excellent idea. Realtors would like this, too.
- This would help build relationships between agencies and residents.
- This may not be the most effective way to get information to the residents. Instead, we should target the schools and get information to the chambers of commerce so they can provide information to businesses that are looking to move into the area.
- Yes. We need to develop a stronger rapport with realtors. Work with them to develop ways to give the buyer accurate information—or at least let them know where they can get more information.
- Yes – 2 responses
- Yes. Give them sources of information if they want to know more.
- Wonderful idea.

5. Develop an interpretive hiking trail in the Mack Lake area.

Comments:

- Only concern would be that a hiking trail might conflict with trail riders and ATV users.
- This is questionable, since the auto tour was a failure.
- If it would be beneficial for the Mack Lake residents, but there may be better ways to reach them.
- Light interpretation such as plant identification might be nice.
- Important—brings people in and improves awareness.

- The USFS is committed to developing a hiking trail in the Mack Lake area
- Yes. They have taken pride in what has been done in the past there; they would appreciate and use a trail.
- As long as it could be maintained and regulated for foot travel. It would help them understand better and give them ownership.
- If they want one.
- Yes. Good educational opportunity; similar to auto tour.
- They put one in on the north side of the lake, but no one really uses it.
- Neat idea.
- No. I don’t think the trail is being used enough by the residents to justify more expense.
- Yes.
- Low priority and not in or adjacent to occupied habitat.
- Not used by the residents enough to justify the expense. But it might be worth it for the campground to do.

V. Overall

A. Has the Kirtland's warbler I&E effort been worth the money and time?

Comments:

- Yes – 5 responses.
- Yes. It has benefitted more than just the warblers. It has educated many diverse groups of people about the jack pine ecosystem.
- Yes, it is always a good thing.
- Yes—certain aspects, such as brochures, slide show, and revising the video. Not so sure I’d do the auto tour over again; we should promote it more to see if numbers increase. Don’t add more sites at this time.
- Maybe no. KW’s are now going to the UP; if they are moving north anyway, it is more difficult to justify all the management activities here. Plus, the management of the KW creates barriers—there have been two instances of conflict recently (protected habitat versus development).
- Yes, it is a very important component to saving the KW.
- As far as the Holiday Inn is concerned, yes—definitely. The bird’s population is increasing, people’s awareness of the bird is increasing, more people understand the positive economic impacts. It’s a good match.
- Definitely. I can see a difference in people’s attitudes up here, and in children’s attitudes.
- Yes. The true success is having something people can come and learn from.
- Yes. It has brought a lot of publicity to the KW and its habitat.
- Definitely. The types of actions given above are very valuable, and the money needs to be spent.
- I’m not sure of spending money on it because I’m not sure it makes a difference. It is good for new residents, but for the old-timers, it might not do any good.
- Yes. It has kept us up to date.
- Yes. It’s been long overdue.

B. What do you think needs to be done in the future regarding the Kirtland's warbler?

Comments:

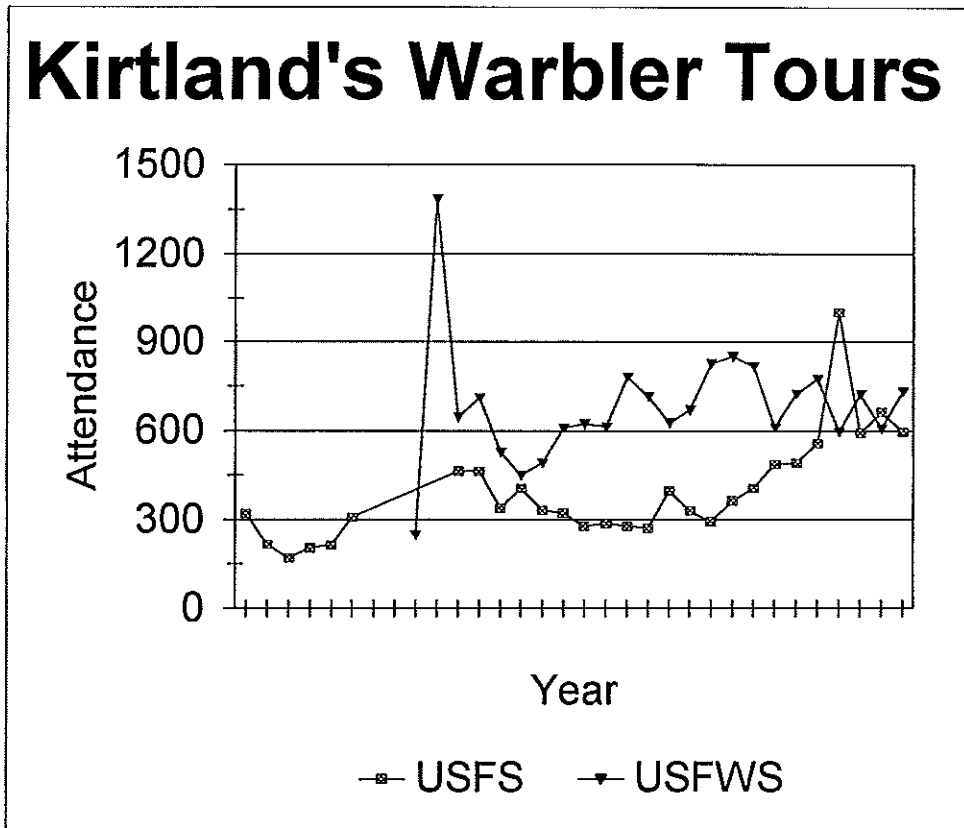
- I&E efforts need to continue; we can't end or suspend them. We need to target the legislature, residents, businesses, and children. The I&E Plan is still good, and we need to continue implementing it.
- We need more evaluation of the KW tours, the auto tour, and other I&E efforts. The recovery team should consider conducting more outreach efforts. As DNR Promotions Coordinator, I should be closely involved with conducting some of these efforts.
- Keep targeting groups and disseminating information. Develop a KW education tool box with a week-long lesson plan, where kids visit a cutting site, planting site, and KW habitat.
- We need to fix the lack of funding—educate the bureaucrats and agency leaders who make these decisions.
- We need a better handle on the bird's population and distribution so people are aware of it. Keeping people informed is extremely important because the KW is not a very positive issue up here (people joke about it because most of them have never seen a KW).
- Continue current efforts, increase funding efforts, target new audiences with messages that will increase funding; messages such as: 1) the KW is a valuable model for endangered species conservation and recovery that is consistent with economic development, and 2) funding is needed to conserve the KW.
- The KW needs more exposure. Target businesses more. They need to be given the information on how many people come to the area just to see the KW.
- Continue what's being done; things are going well. People would like to have more bike trails—maybe this would be another opportunity to educate on the KW.
- Efforts should be re-focused on continued development of the auto tour, a KW information center, hiking trail, and all other long-term items that will bring people to the area and educate them about the KW and nature.
- Survey local people to see what they do and don't understand; without their support and acceptance of KW management activities, the KW will disappear. Continue I&E efforts as needed.
- Continue I&E efforts.
- I&E efforts need to continue. The auto tour needs to be updated and maintained; developing the western loop would be valuable. Contact a university professor who teaches a natural resource class—the class could develop signage and raise funds (this has been done at the Univ. of Florida-Gainesville).
- I&E efforts need to: 1) focus on children—they are open to new ideas, plus, when you educate the children, you educate the parents, too; involve the Intermediate School District, and use new technology in creative/innovative ways; and 2) focus on partnering—get programs out to the community by using non-government groups that have some education money and sites under conservation easements.
- We need to continue to assess our audiences and communicate using current methods. The highest priorities are: 1) to have appropriate marketing strategies that will bring in funding, and 2) to develop current programs using the latest methods, etc.
- We need to assess where we are, and follow up. Funding management should be a priority in light

of decreasing federal funds.

- Keep trying to reach more and more people with all measures available—the new video done by D.J. Case & Associates will be a big help.
- Maintain the base funding and make the planting operation more cost-effective.
- We could add audio cassette tapes to the auto tour; people could check them out at the agency office and listen as they drive from site to site.

Appendix II. Kirtland's Warbler Tour Attendance

Maintaining the Course for Success—An Evaluation of Kirtland's Warbler I&E Efforts
D.J. Case & Associates, February 1998



U.S. Forest Service
Kirtland's Warbler Public Tour Participation
Mio, Michigan, 1966 - 1997

YEAR	NUMBER OF PEOPLE	REMARKS
1966	320	
1967	216	
1968	170	
1969	205	
1970	215	
1971	308	
1972	0	Cannot find data for this year.
1973	0	Cannot find data for this year
1974	0	Cannot find data for this year
1975	0	Cannot find data for this year
1976	464	
1977	463	
1978	339	
1979	406	Does not include 163 YACC enrollees.
1980	332	
1981	322	
1982	278	
1983	287	
1984	278	
1985	270	
1986	397	
1987	330	
1988	294	
1989	364	
1990	405	
1991	486	
1992	491	
1993	556	
1994	1001	
1995	593	
1996	662	
1997	595	

U.S. Fish and Wildlife Service
 East Lansing Field Office

Kirtland's Warbler Public Tour Participation
 Grayling, Michigan, 1974-1997

YEAR	PARTICIPANTS	STATES	FOREIGN COUNTRIES	PERCENT CHANGE FROM PREVIOUS YEAR
1997	733	40	6	21.0
1996	606	38	3	-16.3
1995	724	39	7	21.7
1994	595	39	5	-23.2
1993	775	38	6	6.9
1992	725	35	5	18.9
1991	610	40	2	-25.4
1990	818	32	6	-4.0
1989	852	32	3	2.9
1988	828	33	3	23.6
1987	670	35	2	6.9
1986	627	34	2	-12.3
1985	715	37	2	-8.3
1984	780	29	2	27.2
1983	613	34	2	-1.6
1982	623	32	3	2.3
1981	609	25	3	24.0
1980	491	27	3	9.1
1979	450	26	4	-14.8
1978	528	28	2	-25.7
1977	711	30	4	9.9
1976	647	31	2	??
1975	1386 ¹	34	4	??
1974	250	?	?	NA
Total ²	14,730			
Mean ²	670			

¹ 1975 attendance figure combines USFWS Grayling and USFS Mio tours

² Total and mean are 1976 -1977 only, due to uncertain 1974 and 1975 data