

## Chapter 7 Information and Education Strategies

### 7.1 Information and Education Strategy

The following information and education (I/E) strategy is a result of LCWC's determination that the crux of activity needed to protect water quality in the Les Cheneaux watershed is voluntary behavioral change. To foster that change, the Les Cheneaux watershed project will focus on helping the local community understand watershed concerns and how their individual activities can help protect the quality of their water. The goal of this I/E strategy is to increase public participation in watershed management and to provide information to those who are most likely to have an impact on water quality and motivate them to make necessary changes. Suggestions for protecting water quality were formulated at several steering committee meetings and through many consultations with the local community and technical advisors.

### 7.2 I/E Strategy Goals

Upon reviewing the steering committee goals and objectives, as well as the pollutants, their sources and causes, the following I/E goals and objectives were formulated:

*Establish education and information programs that promote the conservation, education, protection, restoration, and sustainability of aquatic resources within the Les Cheneaux watershed.*

### 7.3 I/E Strategy Objectives

The objectives of the I/E plan focus on realizing this goal:

- *Raise awareness and knowledge about water quality concerns in the watershed, pollutants, their sources and causes, and strategies to reduce pollution and realize water quality protection.*
- *Increase community involvement in the implementation of the management plan, the reduction of pollutants and guaranteed designated uses for future generations.*
- *Motivate the community to develop a positive stewardship ethic towards the protection of aquatic resources and natural systems in the watershed*

### 7.4 Target Audiences

The Les Cheneaux community can be divided into the following general audiences so that specific I/E activities can be directed accordingly:

**Households** - The general public.

**Homeowners** - Those who own homes or are responsible for rentals, buildings, etc.

**Riparian/Shoreline Owners** - Residents living within creek corridors or on the shores of inland lakes or Lake Huron - includes Island residents. An important group since increased activity will be toward the water.

**Tourists** - The area population increases significantly during the summer months as people travel to the Islands area to enjoy aquatic resources, especially our aesthetic qualities. Since tourists help sustain the community and sometimes impact the environment, it is imperative to educate and inform them of their role in protecting water quality.

**Contractors/Developers/Realtors** - This group consists of all involved in the process of developing land including carpenters, excavators, and those promoting land sales and development. As awareness of this beautiful area increases, so will the development of priority habitats that will affect our water quality.

Awareness, knowledge, and appreciation of healthy aquatic resources will have to be promoted to sustain the watershed through this growth.

**Students of Les Cheneaux Community Schools (K-12)** - Here is the future of the Les Cheneaux watershed. Fostering an appreciation of natural systems now will pay water quality dividends in the future.

**Township Officials** - Area township government personnel, such as supervisors, clerks, trustees, and planning commissions. They administrate regulations and lead certain initiatives. We will work closely with them toward land use planning that accommodates our natural resources.

**Table 7.4.1 Targeted Audiences**

<b>Watershed Pollutant Sources</b>	<b>Target Audiences</b>	<b>Priority Target Audiences</b>	<b>Priority</b>
Failing septic systems	Homeowners	Riparian homeowners with non-compliant well/septic systems	1
Development and human disturbance	All	Township officials, building inspector; local contractors; local realtors	2
Hazardous waste (roads, machinery, motors, recreation, etc.)	All	Marinas, shoreline businesses, boating enthusiasts, dock and dredge companies, and landowners	3
Invasive Species	All	All	4
Municipal waste water discharge	Clark Township Officials	Clark Township Supervisor; wastewater program manager	5
Stormwater	All	Chippewa/Mackinac Road Commissioners; Clark, Marquette, and Raber Township Supervisors; local contractors	6
Erosion/ Sedimentation (stream banks, road crossings)	Riparian landowners, county road commissions	Riparian landowners, Chippewa and Mackinac County Road Commissions	7
<b><i>Desired Use</i></b>			
Low impact recreation	All	All	N/A
Promote natural character	All	All	N/A
Protect threatened and Endangered Species	All	All	N/A

## 7.5 Public Participation Summary

The Les Cheneaux Watershed project has been bringing people together to protect water quality for many years. Through a partnership including the Chippewa/East Mackinac Conservation District, The Nature Conservancy, and community representation from the Natural Resource Task Force (NRTF)<sup>19</sup>, a Section 319 grant proposal was submitted on behalf of many concerned citizens. The project was funded in November 2002, and a steering committee was developed from an initial public meeting in January 2003. The steering committee met every month during the planning project (MDEQ tracking code 2002-0078) and will continue to meet regularly to coordinate the implementation of the management plan. The steering committee formally became a certified non-profit 501(c)(3) group, the Les Cheneaux Watershed Council, in July 2004 in order to work more effectively at water quality management.

During the development of the planning process, the project manager presented the watershed project to many civic groups and discussed their watershed concerns, desired uses for the watershed, and requested support and participation from respective members. Since the community consisted of only 2,500 full time residents and a little more than twice that for seasonal residents, a good representation of the community was accommodated through these group and one-on-one contacts. This process helped prioritize and match I/E strategies with appropriate audiences, and the specific messages to convey to these audiences (Table 8.4.1). This process demonstrated that basic education about water quality was needed throughout the planning process and continued through implementation. Consequently, project partners published and distributed several newsletters to targeted audiences throughout the planning process to provide basic water quality information and solicit involvement in the project. The project manager provided several informational tours throughout the watershed to help stakeholders become aware of the many influences on water quality in the watershed. Several articles concerning the project were published in *The St. Ignace News* and the Chippewa/East Mackinac Conservation District newsletter. Project information was displayed at several annual home shows in Chippewa and Mackinac County, the Chippewa County Fair, and the very well attended Hessel Antique Wooden Boat Show.

The watershed project involved the community throughout the pollution inventory process. Local volunteers assisted with a stream crossing watershed survey. Les Cheneaux Community Schools assisted the project with chemical and biological surveys, as well as creating a web page for the project. Lake Superior State University assisted the project with several chemical analysis projects, and with analysis of water samples by other local volunteers. The project steering committee, which formally organized into the Les Cheneaux Watershed Council midway through the project, met every month to direct the project and evaluate its progress. Technical advisors including local, state, and federal agency personnel assisted the project and the final editing of the management plan.

## 7.6 Completed Planning Project Information/Education Activities

In order to publicize the watershed project and provide basic education in watershed management, project partners enjoyed the following I/E successes:

- Newsletters: Quarterly newsletters were published and distributed to the watershed community.
- Project Brochure: A brochure describing the project steering committee (LCWC) and project inventories was distributed to stakeholders and the general public.

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<sup>19</sup> NRTF was a committee formed out of the Les Cheneaux Economic Forum, “a voluntary coalition of concerned residents, business owners and local leaders created by the Les Cheneaux Chamber of Commerce in 1996 (continued on next page footnote), with the goal of creating ‘a plan for economic development that preserves the beauty and nature of the Les Cheneaux area, and that inspires those who live here and those who will come in the future to maintain and enhance the quality of life in the community’” (Plan for Les Cheneaux) NRTF was charged with investigating the importance of natural resources in the area and how they could be improved and preserved for the benefit of present and future residents.

- Focus/Civic Groups: Obtained watershed concerns and presented watershed project logistics to several business and civic groups throughout the community. Groups included:
  - Les Cheneaux Islands Association
  - Les Cheneaux Islands Wildlife Association
  - Chamber of Commerce
  - Lions Club
  - Clark Township officials
  - Les Cheneaux Community Schools
  - Chippewa and LMAS Health Department
  - Lake Superior State University
  - Mackinac County Commissioners
  - EUPRC&D
- Project Website: LC Community Schools developed a project website that will be placed on the Chippewa/East Mackinac Conservation District website during the implementation phase of the project.
- Steering Committee Meetings: Each month, steering committee members met to organize the LCWMP. Group members discussed concerns, pollutants, sources, and causes, as well as BMP's and evaluation. The meetings also facilitated the establishment of the Les Cheneaux Watershed Council.
- Public Meetings: The project began with a public meeting which helped gain support for a steering committee, introduced the project to the public, and discussed watershed concerns. The planning phase ended with a public meeting to enable the public to discuss the first draft of the management plan with LCWC and provide final evaluation of the planning phase.
- News Articles: Articles were published in the *St. Ignace News* a widely read local newspaper servicing much of Eastern Upper Peninsula
- Civic Event Presentations: LCWC and CEMCD presented project information and education at several annual events, including the Sault Home Show, Mackinac Home Show, Chippewa County Fair, Binational Public Advisor Council annual summit, Hessel Antique Wooden Boat Show, LC Artisans Coop *Art Dockside*, Les Cheneaux Area Frog Fest.
- Community Education Projects: Several watershed tours were conducted to provide opportunities for the project manager, LCWC, and other technical advisors to help provide information and education to local residents. Tours included Mackinac County Karst Tour, Michigan Limestone Operations Tour, Elderhostel Alvar Tour, several road/stream crossing tours, stream bank erosion tour, shoreline surveys, and chemical and biological analysis trainings.

## 7.7 The Future of LCWC

Several activities listed above will continue in the implementation of the I/E strategy. All civic groups will be continuously updated and solicited for involvement and support of the project. Newsletter publishing will continue, contingent upon sufficient funding. An additional project brochure is being prepared through a grant from Boat US Foundation (spring 2005) that will help secure support from additional stakeholders. The I/E strategy includes plans for several community education and training events with local contractors, realtors, and government officials. The project website will be updated with the management plan upon MDEQ approval. LCWC will continue its success presenting project updates and education at local civic events as well as public presentations. The LCWC submitted grant proposals to host a watershed summit to be held the summer of 2005 in Cedarville, Michigan to publicize the finished Les Cheneaux Watershed Management Plan and to provide comprehensive updates of current research taking place in the Les Cheneaux watershed.

## 7.8 Information/Education Strategy

The Les Cheneaux Watershed Council feels that the most priority necessity of the I/E strategy and for sustainability of the watershed project will be to create an information resource in the community, housing a library of research, baseline data, and a staff resource professional able to provide the local community with natural resource management technical assistance. Many of the activities described in the I/E Plan will be daily tasks for the project manager and costs will be incurred in the manager's salary including those tasks described below that will be the sole responsibility of the lead organization.

Milestone:	Continue operating out of the project office and secure funding program to pay a full-time project manager by 2006.
Estimated Cost:	\$150/month office; \$50,920/year staff (Includes \$1000/year mileage, \$8,320 in fringes (20%))

The Les Cheneaux Watershed Council or project lead agency will attempt to perform the following activities continuously over the course of the project. Many of these activities were started in the planning phase by CEMCD and adopted by the council as vehicles for distributing information and education.

### Summary of LCWC Responsibilities:

- LCWC will continue to publish the quarterly newsletter *The Watershed News*.  
Estimated Cost: \$3,000/year
- LCWC will publish an annual report of water quality conditions throughout the watershed, including baseline water chemistry data from groups collecting information, new research findings, and other information influencing water quality.  
Estimated Cost: \$1,000/year
- LCWC staff person will provide watershed information and news to the local regional media on a regular basis in the form of press releases, public service announcements, feature stories, story ideas, editorials, etc.  
Estimated Cost: Cost included in resource professional salary
- Develop TV and radio ads, public service announcements, print ads, etc., focusing on relevant water quality issues and basic watershed messages.  
Estimated Cost: \$10,000/year
- Maintain and promote a comprehensive website containing the watershed management plan, information about the watershed, project participation information, and links to other relevant information and organizations. Project Plan will be posted on CEMCD website in 2005 and LCWC will construct and maintain a website by 2006.  
Estimated Cost: \$1,000/year

- LCWC will host an annual information and education symposium to inform the community of the latest research and other information regarding water quality each summer.  
Estimated Cost: \$250/year
- LCWC will develop and distribute informational signage throughout the watershed, including stenciling stormdrains with LCCS, kiosks at boat launches with Clark Township, road crossing creek signs with Mackinac County Road Commission, lake signs with local landowners, and information boards at scenic and biological unique and priority areas with local landowners and land trusts.  
Estimated Cost: \$90/sign \$1800 total
- LCWC will host a series of watershed tours for the community several times/year to highlight natural features and build support for preservation. Quarterly tours will be hosted to highlight projects, natural features, issues, etc.  
Estimated Cost: \$200/tour
- LCWC will facilitate the development of an educational video about the watershed project, including priority watershed issues and pollution prevention and water quality protection tips by 2006.  
Estimated Cost: \$6,000/video

## 7.9 LCWC I/E Plan

The following I/E strategy is a combination of educational and informational events and outreach materials geared toward empowering the Les Cheneaux community to protect and enhance their aquatic environment. Tasks include delivery mechanisms, responsible organizations, milestones, timeline, and estimated costs, where available. They are organized by pollutant source.

**1. Objective by Source: Pathogens, nutrients, and toxins from on-site septic systems.**

### Task A

Reduce the input of pollutants (pathogens, nutrients, and toxins) reaching groundwater and surface water by assessing the occurrence of noncompliant systems through landowner survey and GIS information. Discuss OSS maintenance and regulatory codes with landowners not serviced by municipal wastewater treatment. Distribute OSS technical I/E literature and complete OSS compliance plans with landowners to initiate process of voluntary compliance with current and/or future OSS regulations. Assist interested landowners with financial planning to gain LMAS OSS compliance.

Responsible Party: LCWC, LCIA, LMAS, MGSP  
 Milestones/ Timeline: Literature distributed/consultation with targeted audience/year 10. LMAS Environmental Health, MDEQ, MSU Extension, MGSP, and LCWC will develop a locally based, comprehensive public education/awareness program dealing with on-site septic systems. Meet with individual OSS owners. (\$7,200 consultant/part-time employee; and \$2,800 for materials and research)  
 Estimated Cost: \$10,000 per year

### Task B

Continue focus meetings with LMAS Health Department to devise funding, personnel, and training strategies for local OSS problems as needs are assessed. Continuous meetings will also evaluate present OSS regulatory and I/E activities performed by project partners.

Responsible party: LCWC, LMAS, MDEQ, LCIA  
 Milestones/Timeline: Ongoing  
 Estimated Cost: Manager's salary/ \$250 meeting

**Task C**

Work with LMAS, MDEQ, township officials, and other appropriate parties to develop and distribute education and information materials to the community to protect drinking water. Project staff will “ground truth” existing maps with consultation with USGS, MDEQ, MDNR to identify priority groundwater discharge and recharge areas, groundwater flow, and aquifer characteristics, produce local aquifer maps, and distribute I/E to community through video summary, brochures, etc. News articles, brochures, newsletter articles will be designed, printed, and distributed. The product will be a groundwater protection I/E campaign that provides the community with knowledge to protect groundwater.

Responsible parties: LMAS, CEMCD, TWP’s, MDEQ, MGSP  
Milestones/Timeline: Media distributed to watershed residents (1,500) by year 5.  
Estimated Cost: Manager’s salary; \$6,500

**Task D**

LCWC will work with LMAS to hold annual workshops for local contractors, township official, developers, and realtors regarding current OSS installation codes/suggestions/certification as well as trends and suggestions for future real estate development. LMAS would have the opportunity to discuss problems, logistics for current OSS codes and procedures and update contractors on future legislation, procedures, etc.

Responsible Party: LCWC, LMAS, MDEQ, TWP’s  
Milestones/Timeline: Workshop organized and held by year 3  
Estimated Cost: Manager’s salary; \$500/workshop

**Task E**

LCWC, LMAS, MDEQ, and MGSP will promote voluntary comprehensive testing of individual water wells throughout the watershed. Assist landowners in interpreting results, and recording information on their wells. Work with MGSP to create management plans with landowners to protect existing wells from contamination and promote financial planning for updating noncompliant shallow wells. The project will record the number and types of wells and surface water intakes throughout the watershed.

Responsible Party: LCWC, LMAS, MDEQ, MGSP  
Milestones/Timeline: Advertising campaign designed and distributed by year 3  
Estimated Cost: Manager’s salary; \$600/brochure

**2. Objective by Source: Reduce pollutants originating from Clark Township municipal discharge.**

**Task A**

Design, print and distribute informational literature educating the community regarding the present municipal wastewater treatment system. Include any alternatives considered by Clark Twp, LMAS, and MDEQ, which have been developed through the Les Cheneaux planning project (2002-0078) and future focus group meetings. The community will be informed of general schematics, historical information, threats, and future efforts of the LCWP to promote ecologically sound wastewater treatment for the watershed community. LCWC, LCIA, will work with Clark Township Public Works Department to develop a small informational brochure detailing the municipal wastewater treatment system in order to create awareness about the system’s capacity, management, impacts on water resources, benefits of the system, and pollution preventative measures. Purpose will be to increase awareness of system’s pollution potential and the continued threat of non-point nutrient sources within Cedarville Bay and Pearson Creek.

Milestones/Timeline: Brochure developed and distributed to watershed population 1,500 by year 3.  
Estimated Cost: Manager’s salary; \$2,000/printing and design

**3. Objective by Source: Reduce the input of pollutants (pathogens, nutrients, and toxins) from urban and rural stormwater.**

**Task A**

Provide general stormwater education for local units of government, contractors, realtors, and local students that defines the cause and effect relationship between several factors influencing stormwater problems. Provide general stormwater education program for local community, including BMP's that homeowners, and businesses can do on site to limit stormwater runoff. Programs like MSU Extension's *Home\*A\*Syst* will be used as a guide. Activities include:

- Host presentations to civic groups
- Publish articles in newsletter focusing on stormwater education
- Present stormwater education events with local schools
- Implement a storm drain stenciling event at local school

After initial development of media materials and mode, LCWC will present stormwater education to different civic groups and students. Student presentations will include a tour of stormwater routes, including a stenciling event. Project activities will be implemented within the first five years of the project.

Responsible Party: LCWC  
Milestones/Timeline: Complete comprehensive civic group and school presentations by year 3  
Distribute newsletter articles within 1<sup>st</sup> year.  
Complete a storm drain stenciling event at school by year 3.  
Estimated Cost: Manager's salary; \$10,000

**4. Objective by Source: Improve hazardous waste management**

**Task A**

Reduce the input of toxins (gases, oils, hazardous wastes) reaching groundwater and surface water by educating the public to the appropriate disposal and management of hazardous waste. Provide I/E to community, especially aquatic recreationists and businesses, regarding toxin sources and pollution controls.

Work with local MSU Extension offices to increase *Home\*A\*Syst*, *Farm\*A\*Syst*, and *Lake\*A\*Syst* presentations to appropriate individual homeowners, businesses, and civic groups. Possibly create an incentive program to increase presentations. Present appropriate "A\*Syst" program to all civic (focus) groups in watershed within the first three years of project. Work with marinas and all automobile service stations, golf courses, and area resorts to inform customers of hazardous waste management and to install and promote BMP's (spill response kits, bilge sponges, etc.) that will reduce the amount of pollution coming from automobile, boat, snowmobile fuels, and wastewater. Correspond with all businesses dealing with hazardous waste within the first three years of project. Provide education regarding groundwater threats from underground fuel tanks. Provide a resource for reporting tanks, managing them to prevent pollution, and assistance with their removal. Issue will be addressed in newsletters within the first three years of the project. An inventory of all existing tanks and their conditions will be completed. Prepare correspondence with owners.

Responsible Party: LCWC, MSUE  
Milestones/Timeline: Develop incentive plan by year 2; Present "A\*Syst" program to all civic Groups by year 5. Correspond with all businesses handling hazardous Wastes by year 3; Publish newsletter article within the first 3 years; Inventory and provide status reports of existing tanks within 5 years.  
Estimated Cost: Manager's salary

**5. Objective by Source: Reduce development and other human disturbance impacts to warm/coldwater fishery, threatened and endangered species, and other indigenous aquatic and terrestrial wildlife.**

**Task A**

Educate local governments, developers, contractors, students, and the community on the ecological significance of developing wetlands, shorelines, riparian areas, and other priority wildlife habitats, especially near coastal marshes, groundwater recharge areas, and near threatened and endangered species habitats. LCWC will coordinate regional environmental experts, state and federal agency personnel to hold occasional educational events, including workshops, tours, and other information media to educate and inform landowners as to wildlife habitat management, habitat enhancement and protective measures, the importance of maintaining diverse wildlife habitat, and the impacts of land and marsh fragmentation on wildlife habitat. Two seasonal tours will be provided each year along with accompanying workshops and workshop materials. LCWC will address all members of the target audience within the first five years of the project. (1500).

Responsible Party: LCWC  
Milestones/Timeline: I/E presented to 1,500 participants by year 5  
Estimated Costs: Manager's salary; \$5,000

**Task B**

LCWC in cooperation with LMAS Environmental Health and MDEQ, will host annual training opportunities for local decision-makers, developers, contractors, realtors, etc., as to habitat protection regulations and recommendations including SESC and wetland regulations, especially near coastal waters, wetlands, and erodable areas. Discuss current regulation requirements and promote ecological stewardship.

Responsible Party: LCWC, LMAS, MDEQ, USACE  
Milestone/Timeline: Annual workshop will be coordinated with others proposed and begin within 3 years.  
Estimated Cost: Manager's salary; \$1,000 per year

**Task C**

LCWC will work with The Nature Conservancy and Little Traverse Conservancy to provide landowner education regarding conservation easements and other land protection activities through civic group presentations, individual consultation, mailings, article publications, etc. LCWC will present goals to all civic groups, township governments and public within first five years of project (1,500 residents). Partnership will publish advertisement campaign and solicit involvement within the first three years of project.

Responsible Party: LCWC, TNC, Little T  
Milestones/Timeline: LCWC will present goals to all civic groups, township governments and public within first five years of project; Partnership will publish advertisement campaign and solicit involvement within the first three years of project.  
Estimated Cost: Brochure \$1,000; Workshop \$500/year;  
Coordination incurred in manager's salary

**Task D**

Provide demonstration seminars, training, or workshops for local contractors as to less ecologically impacting building design, construction, and maintenance activities. Provide information regarding BMP's that can be installed on site to protect against stormwater problems, priority habitat loss, etc.

Responsible Party: LCWC, Contractor vendors  
Milestones/Timeline: Host at least one I/E event within first three years of project. Evaluation based on percentage of local contractors attending.  
Estimated Cost: \$500 per training session

**Task E**

Work with township governing officials and planning commissions to determine deficiencies with zoning, ordinances, and land use planning strategies to protect water quality. Facilitate strategic planning to protect water quality, including stormwater management, land protection, and environmental protective regulation. LCWC will host focus group meetings/presentations on a regular basis within the first three years of project and facilitate an outside consultant to assist government with sustainable development training.

Responsible Party: LCWC, TWP's, Consultants, TNC  
Milestones/Timeline: Develop ordinance/zoning/sustainability plan by year 5  
Estimated Cost: Manager's salary; \$250/meeting

**Task F**

LCWC will work with LSSU and EUPRDC to develop a build out analysis of the watershed and present to township officials for land use planning strategy.

Responsible Party: LCWC, LSSU, EUPRDC  
Milestones/Timeline: Build Out analysis available to township within three years  
Estimated Cost: \$10,000

**Task G**

LCWC will implement a campaign focused on reducing the feeding of waterfowl, deer, and seagulls in the watershed by developing signage, articles, etc. The campaign will include wildlife management principles on which the program is based, including carrying capacity, habitat needs/destruction, and dangers to reliance on artificial food sources. Provide information regarding fecal coliform bacteria, stormwater transport, and pathogen threats. Program will include signage @ \$90/sign; brochure development for shoreline owners @ \$ 600/brochure; and an annual wildlife management training/information workshop @ \$500/year.

Responsible Party: LCWC  
Milestone/Timeline: Complete I/E project implemented by year 5  
Estimated Cost: \$1,200/year

**Task H**

LCWC, NRCS, MGSP and CEMCD will approach all livestock farmers in the watershed to promote the development of conservation plans, resource management plans, or progressive plans with focus on protecting water quality and wildlife habitat. Plans for interested farmers will be completed to help access resource management cost share programs that are aimed at these goals

Milestones/Timeline: 100% farmers contacted within first year  
Estimated Cost: Manager's salary

**6. Objective by Source: Reduce warm/coldwater fishery, threatened and endangered species, and other indigenous organism habitat impacts from invasive species.**

**Task A**

LCWC will work with MDNR, MNFI, and other appropriate interested groups to develop and distribute locally based brochures, fact sheets, and presentations creating awareness about invasive species, their management and impacts to civic groups, businesses, landowners, and students.

Milestone/Timeline: Print materials and presentation will be designed and distributed within the first three years of the project; All civic organizations will be presented to within the first five years of the project.

Estimated Cost: Literature \$1,000 design and print each brochure; \$500 for each fact sheet; \$6,000/video presentation

**7. Objective by Source: Reduce impacts from erosion/sediment on warm/coldwater fishery, threatened and endangered species, and other indigenous organisms.**

**Task A**

Conduct shoreline and riparian landowner workshops to create awareness of natural ecosystems, priority habitats, and the benefits of riparian buffers to protect water quality. LCWC, LCIA, and CEMCD will establish lakeshore and creek corridor properties landscaped with riparian buffers in order to present workshops to interested landowners.

Milestone/Timeline: At least one shoreline and creek corridor project will be completed by year 5.

Estimated Cost: \$500/workshop; \$1,000/property for native landscaping

**Task B**

See development I/E strategies in objective 6 for building sites and general land use planning/practices.

**Task C**

Develop resources and presentation materials regarding dredging impacts on water quality and distribute to community. Develop alternatives to dredging and promote to shoreline owners, developers, and contractors. LCWC will work with the US Army Corps of Engineers and researchers with the University of Michigan to develop a video documentary along with accompanying booklets describing the negative environmental effects of dredging. Video will be played at LCIA and other civic group meetings and brochures will be distributed to shoreline landowners, realtors, and contractors.

Milestones/Timeline: I/E media complete and available by year 5

Estimated Cost: \$10,000

**Task D**

Develop a road stream crossing demonstration project for road commissioners, landowners, and other interested parties. Project would highlight a priority concern road/stream crossing and its impacts on the respective water body and the process of remediating it. Improvements in stream ecology would be presented upon remediation of the crossing. Project would be used to promote accommodating stream ecology in crossing design and installation.

Responsible Party: LCWC, contractors, MDEQ

Milestones/Timeline: Demonstration Project funded by year 3; two demonstrations (before and after restoration) complete by year 5

Estimated Cost: Three workshops during construction phase - \$750  
Restoration cost \$50,000

**8. Objective by Source: Water quality monitoring**

**Task A**

Provide ongoing information to stakeholders regarding research and monitoring efforts conducted by project partners in the watershed. Information will be publicized through newspaper articles, newsletters, radio and t.v. and the LCWC and CEMCD website

Responsible Party: LCWC, CEMCD, LSSU

Milestones/Timeline: Publish quarterly newsletter; monthly submission of press releases, articles, etc.

Estimated Cost: Manager's salary

**9. Objective by Source: Create appropriate low environmental impact recreational opportunities and access to the enjoyment of aquatic and terrestrial resources.**

**Task A**

LCWC, LCIA, LCTA, and LCCC will create and implement a tourists and seasonal visitor I/E campaign with focus on promoting low impact recreational ideas and local opportunities to enjoy natural features.

Milestone/Timeline: Create brochures, radio and television adds and distribute through local chamber of commerce and tourism association and realtors within first five years of project.

Estimated Cost: \$30,000 for the outreach package

**10. Objective by Source: Promote the preservation of existing environmental and social features that defines the character of the Les Cheneaux Islands area.**

**Task A**

Work with local historical society to create and present historical perspective of development and resource impacts to community and local resources. Presentation may be a video or presentation material appropriate for presentations at summer festivals, civic groups, public meetings, and schools.

Milestones/Timeline: LCWC and LCHS will develop a historic video and presentation format by year 3. Present to community over years 4 & 5.

Estimated Cost: Manager's salary: \$10,000