

Wisconsin Department of Natural Resources
Lake Planning Grant Program

Lake Planning Grant
Application

Moose Lake Legacy Initiative

Sponsored by the Couderay Waters Regional Land Trust

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Prepared by
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- 1. Authorizing resolution (Exhibit A)**
- 2. Letters of support (Exhibit B)**
 - a. United States Forest Service**
 - b. Rocky Mountain Elk Foundation**
 - c. Loon Watch**
 - d. Wisconsin Department of Natural Resources**
- 3. Map of project location and boundaries (Exhibit C)**

4. Itemized Breakdown of Expenses

Consultant Expenses

- Conduct watershed scale mapping and analysis 50 hours
- Create digital shoreline and island inventory database and maps 75 hours
- Conduct priority islands and shorelines analyses and create maps 34 hours
- Prepare and conduct open house/workshop 25 hours
- Prepare four page educational priority pamphlet 18 hours

Total Consultant Billable Hours 202 hours
@ \$30/hour \$6060.00

Supporting Expenses

- Travel expenses (Estimating three trips @ 381 miles/trip, \$0.485/mile, \$34.00 meals/day, no lodging \$656.36
- Map printing \$600
- Foam core panels and presentation supplies \$200
- 4-page educational pamphlet \$400
- Postage \$500
- Other printing and postage \$76.14

Total Supporting Expenses: \$2432.50

Land Trust Expenses

- Travel expenses (meet with county and DNR officials) 10 trips @ 50 miles, 500 miles @ 0.485/mile \$242.50
- Booth rental at Northwest Lakes Forum \$140
- Grant administration 37 hours @ \$25/hour \$925
- Gasoline for volunteer boat use \$200

Total Land Trust Expenses: \$1507.50

Total Paid Expenses: \$10,000.00

Volunteer expenses:

- Organize preliminary lake educational workshop, 30 hours \$240
- Volunteer boat use 10 trips at \$240/trip = \$2,400
- Volunteer field inventories 10 boat trips with 5 volunteers x 8 hrs = 400 hrs \$3200
- Volunteer administrative duties (i.e., coordinator, word processing, writing, editing, postage) \$300
- Travel for meetings, open house and workshop (8 individual trips @ 50 miles/trip @ \$0.42/mile \$168.00
- Printing \$200

Total Volunteer Expenses: \$6508.00

Total Project Expenses \$16,508.00

5. For projects that entail sending samples to SLOH

Not Applicable

6. Project scope/description

a. Description of project area

The Moose Lake Legacy Initiative will analyze landscapes within the West Fork of the Chippewa River Watershed, with particular attention focused on the islands and shorelines of Moose Lake.

The West Fork of the Chippewa River Watershed (WFCR) is located within the Upper Chippewa River Basin and three counties – Ashland, Bayfield, and Sawyer. The watershed is 182,401 acres and predominantly forested. Land within the watershed is predominantly held by the United States Forest Service (USFS) with private in-holdings scattered about the watershed, but clustered mainly adjacent to water bodies.

Moose Lake is located within the Town of Round Lake in Sawyer County. The lake has a water area of 1,703 acres, holds 81 islands consisting of 64 acres, and has 50.27 miles of shoreline. Twenty-four percent or 11.87 miles of shoreline are born from the islands. Moose Lake is a high quality reservoir with a self-sustaining walleye and musky fishery fed mainly by the West Fork of the Chippewa, Big Moose River, and Little Moose River. Moose Lake drains into the West Fork of the Chippewa River and into the Chippewa Flowage. Both are designated outstanding resource waters by the Wisconsin Department of Natural Resources (DNR).

Moose Lake and the WFCR watershed are also significant components of two Legacy Landscapes recognized by the DNR. The watershed is predominantly within the Chequamegon National Forest Legacy Landscape. Sixteen miles of Moose Lake shorelines are owned by the USFS. The Chippewa Flowage Legacy Landscape is in close proximity to Moose Lake and is connected by the West Fork of the Chippewa River. From the dam on Moose Lake, the West Fork connects Moose Lake to the Chippewa Flowage, approximately 8 miles away if traveling by water, or 6 miles, as the crow flies.

The WFCR watershed and Moose Lake are within the North Central Forest ecological landscape that provides habitat to many important and unique species. Local residents confirm Land Legacy Report findings that this landscape provides habitat for wolves, fishers, elk, and bear as well as birds like loons, eagles, and osprey, plus numerous other significant flora and fauna.

Moose Lake shorelines largely exist in a natural state, but the tenure of this resource is fragmented. Ownership is dispersed among private, public and quasi-public ownership. Although the USFS is the single largest landholder, measured in miles of Moose Lake shoreline, the majority or 31.96 miles of shoreline are owned privately.

b. Description of problem to be addressed by project

The Moose Lake Legacy Initiative, funded by a Lake Planning Grant, offers a vehicle to plan for and manage the unique opportunities and special characteristics that surround the Moose Lake area. Many of Moose Lake's private lands remarkably still remain in a natural state. If protected, these lands would form a linear environmental corridor between the two Legacy Landscapes. Connecting and preserving this corridor offers to protect shorelines in a natural state, maintain large un-fragmented habitats, preserve natural scenic beauty, and maintain a self-sustaining, high quality fishery and high water quality. These opportunities coincide with goals outlined in the Land Legacy Report (C1-C4).

The Couderay Waters Regional Land Trust intends to use information derived from this project to augment anticipated lake protection and land conservation efforts within the watershed. To capture these opportunities this initiative proposes to address the following problems.

- 1) A systematic analysis has not been conducted for the WFCR watershed to determine potential threats and opportunities for lake and watershed planning. Potential, but unknown threats might include water runoff and pollution resulting from development build-out. Analysis will also identify unique opportunities to identify and protect properties that maintain healthy fish and wildlife habitats, maintain high water quality, and have exceptional natural beauty. Information about land use, land cover, topography, impervious surfaces, sensitive features, and natural resources are undocumented. Local residents and decision-makers, including the Couderay Waters Regional Land Trust, do not have access to information in a comprehensive format to make well informed lake, land, and watershed management decisions.
- 2) The characteristics that make the Moose Lake area unique are not documented systematically. Residents and tourists alike acknowledge that this area has special characteristics and exceptional beauty, but a definable set of attributes does not exist to confirm or document perceptions. Characteristics that add to the aesthetic experience and ecological productivity need to be defined and documented.
- 3) The introduction and spread of aquatic invasive species is a genuine threat, but their presence or absence is unknown on Moose Lake. An unaccounted infestation has potential to degrade recreational and aesthetic opportunities as well as impact natural reproducing fish spawning and wildlife habitats. Currently, no mechanism is in place to identify the potential existence of aquatic invasive species.
- 4) Moose Lake's remaining undeveloped shorelines are at risk of change with potential to significantly alter habitats, water quality, aesthetics, and recreational opportunities. Sixty-four percent of all shorelines are privately owned. Conservatively, hundreds of new residences are possible on the shoreline. A land use and build-out analysis and

documentation of existing land use regulations are needed to confirm future development scenarios and to develop an informed management strategy.

5) A management strategy does not exist for Moose Lake nor are mechanisms in place to deal with future or existing threats. This project will guide the Couderay Waters Regional Land Trust to refine their conservation strategy to preserve significant portions of the natural heritage of this region for the benefit of present and future generations. The Couderay Waters Regional Land Trust is also prepared to work with other local stakeholders to identify other management strategies for protecting lake and land resources.

c. Description of project goals and objectives

First and foremost this project will champion the Wisconsin Public Trust Doctrine to safeguard navigable waters for all its citizens, and recognize the public's right to use and enjoy these waters for navigation, recreation, fishing, hunting, boating, swimming, and natural beauty. The Wisconsin Public Trust Doctrine provides the guiding principle to achieve the following project goals and corresponding objectives.

Goal 1. Develop a Watershed and Lake Information System (WALIS) appropriate for natural resources and land conservation decision-making, planning, and management.

Related Objectives.

- Delineate the watershed boundary and map existing land uses and acreages. Analyze land uses, impervious surfaces, and forest covers to illustrate the relationship of land use to water quality.
- Inventory the conditions of mainland and island shorelines as an indicator of healthy wildlife and fish habitats.
- Inventory mainland and island shorelines for indicators of threatened, rare, endangered and invasive species.
- Define and inventory mainland and island shorelines for characteristics that provide a sense of place and natural scenic beauty.
- Identify and delineate environmentally sensitive and ecologically important areas in the watershed including, wetlands, wildlife habitats, steep topography, and riparian buffer zones.
- Inventory and review the adequacy of existing institutional programs, plans, and ordinances affecting land conservation and water quality.

Goal 2. Develop a watershed and lake conservation strategy that prioritizes the most critical, threatened, aesthetic, or ecologically important shoreline and island resources.

Related Objectives.

- Prioritize and highlight critical shorelines and islands that:
 - Require invasive species management.

- Harbor rare, endangered, and threatened species.
- Provide important wildlife and fish spawning habitats.
- Provide unique or exceptional opportunities to view natural scenic beauty.
- Are appropriate for permanent conservation using conservation agreements, fee simple purchase, or land gifting from willing benefactors.

Goal 3. Build awareness and partnerships among local stakeholders, conservation organizations, professionals, and others regarding project results, methods, issues, watershed conditions, and land conservation strategies.

Related Objectives.

- Include local stakeholders, conservation organizations, professionals, and others in the project whenever appropriate.
- Work with other entities to identify appropriate land and water conservation strategies beyond those typically used by the Couderay Waters Regional Land Trust that will accomplish critical habitat protection.
- Share and widely distribute project results, maps, and other information to local stakeholders, conservation organizations, professionals, and others that leads to a mutual understanding of issues and promotes shared action and implementation.
- Share project methods and results with other land trusts, conservation organizations, professionals, and others interested in land and water conservation.
- Share WALIS with all land trusts in Wisconsin, local lake associations, and the Wisconsin Association of Lakes so they have an opportunity to benefit by repeating the process.
- Share WALIS with the Lac Courte Oreilles Band of Lake Superior Chippewa and Lac Courte Oreilles Ojibwe Community College.

Goal 4. Enhance Couderay Waters Regional Land Trust's capacity to conserve and protect critical lands in perpetuity.

Related Objectives.

- Utilize WALIS as a template for future lake and watershed planning efforts conducted by the Couderay Waters Regional Land Trust.
- Identify shoreline and island resources that are appropriate for protection through conservation agreements, fee simple purchase, and gifts from willing benefactors.
- Use the results of this planning effort to support the Couderay Waters Regional Land Trust's ongoing efforts to conserve critical lands, waters, and habitats in perpetuity.

d. Description of methods and activities

1) Preliminary Education Concerning Lake and Watershed Issues and Opportunities

Preliminary education will provide a launching pad to:

- Build awareness of local lake and watershed issues and opportunities.
- Build partnerships with local and regional stakeholders, organizations, and professionals.
- Share project goals and objectives.

This event is anticipated to complement ongoing Sawyer County comprehensive planning efforts. Project partners will work with the North West Regional Planning Commission (NWRPC), the county's planning consultant, to schedule preliminary education at an existing or anticipated comprehensive planning venue. Project partners will assist the NWRPC to develop an educational agenda. Project partners will encourage educational topics that include:

- Rare, endangered, or threatened species, invasive species, and native species.
- Managing wildlife and fish spawning habitats.
- Managing recreational opportunities.
- Sustaining natural and scenic resources.
- Sustaining high water quality.

Project partners will present the Moose Lake Legacy Initiative and share its objectives and methodologies. The presentation will also share the results of a complementary project conducted in 2007, called the Moose Lake Islands Legacy Initiative. This project compiled data sets from local, state, and federal sources that established a foundation for a working Watershed and Lake Information System (WALIS). The presentation will illustrate the utility of WALIS to inventory lake and watershed resources and support well informed public participation and decision-making.

2) Analyze the West Fork of the Chippewa River Watershed.

The WFCR watershed will be systematically analyzed to:

1. Reveal the important landscape patterns that establish this area as a Legacy Landscape.
2. Delineate the watershed boundary and map existing land uses and acreages.
3. Analyze land uses, impervious surfaces, and forest covers to illustrate the relationship of land use to water quality.
4. Identify and delineate environmentally sensitive and ecologically important areas in the watershed including, wetlands, wildlife habitats, steep topography, and riparian buffer zones.

The analysis will provide an information foundation to establish a sound rationale for protecting Moose Lake islands and shorelines. Information collected will be made available to ongoing and future land use, natural resources, and lake planning efforts in the region.

The consultant will utilize Geographic Information Systems (GIS) and data available from local, state, tribal, and federal sources. Many GIS data have previously been compiled during the Moose Lake Island Legacy Initiative, conducted in 2007 (see section F). These data and other sources compiled in this project will be further exploited to create a series of useful maps, statistics, and other informational products to create a fully functional WALIS. These products will include:

- Land cover/use
- Tree cover
- Impervious surfaces
- Outstanding water resources
- Protected and managed lands
- Original vegetation
- Environmental corridors
- Glacial deposits

The products will be distributed and available in hardcopy and electronically. To fully exploit these resources for local and regional decision-making, project partners will convene with regional stakeholders to consider a strategy for incorporating these findings into the Sawyer County planning process and in other planning efforts. Stakeholders will include the Sawyer County Land Records Department, the Soil and Water Conservation Department, the Zoning Department and the Forestry Department, North West Regional Planning Commission, the Lac Courte Oreilles Ojibwe Community College, and other appropriate stakeholders. This effort is intended to build upon previous discussions regarding GIS data use and accessibility.

3) Inventory Island and Shoreline Characteristics and Inhabitant Species

Moose Lake shorelines and islands will be systematically inventoried for

1. Indices of healthy wildlife and fish habitats.
2. Indices of threatened, rare, endangered, native, and invasive species.
3. Characteristics that provide a sense of place and natural scenic beauty.

The shoreline and island inventory will be electronically documented using GIS and a shoreline database developed previously during the Moose Lake Islands Legacy Initiative in 2007. Shorelines and islands were documented using 2005, 1-meter resolution orthophotography from the National Agricultural Inventory Program. This data documented additional shorelines, and 21 more islands than the DNR Hydrography V database. The shoreline and island database will serve as a framework to compile and maintain a detailed inventory of island and shoreline characteristics for this project. The inventory will include:

1. Ownership
2. Natural beauty characteristics
3. Woody debris
4. Native species
5. Rare, threatened or endangered species
6. Invasive species
7. Mature timber

8. Wildlife habitats
9. Fish spawning habitats
10. Natural and developed shorelines

The consultant will develop and provide volunteers with a straightforward protocol for conducting physical inventories of mainland and island shorelines. Volunteers from the Couderay Waters Regional Land Trust, Moose Lake Improvement Association, and other interested individuals will be employed to conduct the inventory. The consultant will provide volunteers with education about how to conduct the inventories and how to collect critical shoreline information. Volunteers will be equipped with a hardcopy map of the lake, Global Positioning System (GPS) receiver, camera, various indicator checklists, and log book. They will also be equipped with instructions and pictures of species to document in the survey. Volunteers will physically explore Moose Lake shorelines by boat and document shoreline characteristics. Characteristics will be documented via the checklist and log and supported with digital photographs. The GPS and hardcopy map will be used to document the locations of the survey.

Volunteer inventories and photographic journals will be entered into the GIS shoreline database by the consultant using ArcGIS 9.2. The documented characteristics are expected to provide a rich database. GIS-based linear referencing tools will be utilized by the consultant to manage the dataset. Linear referencing tools allow for documenting multiple characteristics without creating multitudes of line segments.

4) Critical Shorelines and Islands Analysis

The consultant will facilitate a meeting among the Couderay Waters Regional Land Trust and other interested stakeholders to systematically prioritize island and shoreline resources for management and conservation. Members of the Moose Lake Improvement Association and its Ad Hoc Committee on Natural Resources, plus conservation professionals from the USFS, the Department of Natural Resources, Loon Watch, and the Rocky Mountain Elk Foundation, among others, are expected to participate in this event.

Participants will utilize information collected from the WFCR watershed analysis and the shoreline inventory to target critical or high priority shorelines and islands for management and conservation. Participants will define criteria that rank island characteristics. The process will engage participants using suitability modeling techniques and ArcGIS weighted overlay and Model Builder. The result will identify high priority islands and shorelines worthy for conservation and critical shorelines in need of management.

5) Educational Open House and Workshop

To disseminate project results and to spawn understanding of available implementation strategies, an educational open house and workshop will be conducted. A half-day open house will begin the event by introducing attendees to project objectives, methods and results. The goal of this event is to build an understanding of the project and interest in implementing similar procedures elsewhere. Project partners will deliver a presentation

to fully describe project objectives, methods and results. Large format maps will be on display to illustrate project work and small format maps will be available for attendees to take home. Time will be reserved for attendees to ask questions and browse project materials. Project partners will be available to address questions.

The second half of the event will provide an educational workshop that describes potential protection strategies. The Couderay Waters Regional Land Trust will deliver education specifically about land trusts, conservation agreements, and options to secure conservation funding. Other partners will describe how the Moose Lake project fits into the larger picture of county comprehensive planning and other region-wide efforts. Attendees will have an opportunity to ask questions and provide feedback as well as suggestions for other land and lake protection strategies. Project partners and attendees will brainstorm next steps to address the opportunities and threats that the project plan identifies. These are expected to include a number of educational, regulatory, incentive-based, and other lake protection strategies to protect shorelines, natural beauty, wildlife and fish spawning habitats, control invasive species, and protect native, rare, endangered, or threatened species.

e. Description of products and deliverables

1) Moose Lake and West Fork of the Chippewa River Watershed Atlas

Geographic analyses conducted and maps created for Moose Lake and the Chippewa River Watershed will be compiled into a full color atlas available for download over the internet. Efforts, in addition to this grant, will be made to fund printing and distribution of hard copy atlases. The atlas is expected to include the following maps:

- Land cover/use
- Tree cover
- Impervious surfaces
- Water resources
- Protected and managed lands
- Original vegetation
- Environmental corridors
- Glacial deposits
- Moose Lake island and shoreline inventory
- Moose Lake island and shoreline ownership
- Moose Lake critical and priority places

2) Island and Shoreline Inventory

The island and shoreline characteristics and inhabitant species inventory is expected to yield many associated products. These products will include maps, text descriptions, and photographic logs that document the presence of various shoreline characteristics, resources, and species. Each island will have its own inventory and complementary digital GIS data record. The mainland shoreline will also have a complete inventory and a GIS database constructed using linear referencing tools. A complete inventory describing characteristics and species will accompany the final plan as will a summary of findings. A GIS database of the inventory will also be available.

3) *Critical Island and Shorelines Summary*

The results of the priority islands and shorelines analysis will be summarized both in text and map form. The text will fully describe the methods used and the criteria applied to prioritize islands and shorelines. In addition, the text will recognize participants. The accompanying map will showcase islands and shorelines, indicating their priority status for conservation or management.

4) *Educational Open House and Workshop Report*

A proceedings report will be crafted that describes the activities of the open house and workshop. The report will recognize project partners and active participants, as well as document attendees. The report will summarize the results of the event.

5) *Educational Pamphlet*

A four-page, full color pamphlet will be crafted that summarizes project results and describes strategies for protecting important Moose Lake islands and shorelines.

6) *Moose Lake Legacy Project Final Report*

A final report and plan will be crafted to finalize the Moose Lake Legacy Initiative. The report will fully document all activities and include products created as a result of the project. The report will utilize information gleaned from maps, analyses, presentations, and public input to introduce a strategy or strategies for managing, protecting, or preserving Moose Lake's most sensitive or valuable island and shoreline resources. The document will also outline proposals for conducting future work in regard to Moose Lake and the watershed.

f. Description of data to be collected

Data collection efforts are required to analyze the WFCR watershed and to inventory island and shoreline characteristics and inhabitant species indicators.

Data for Analysis of the West Fork of the Chippewa River Watershed

Much of the data needed for the watershed analysis has been compiled previously. The Moose Lake Improvement Association, Couderay Waters Regional Land Trust, Land Information and Computer Graphics Facility, and the Center for Land Use Education have compiled the following data for each watershed connected to Sawyer County. These data were made available and accessible to the public at the Sawyer County Land Records Department. These data will be clipped to the WFCR watershed. Other data, such as rare and endangered species will be collected as they are available.

- Minor Civil Divisions, 2000. U.S. Department of Commerce.
- County Boundaries. Wisconsin Department of Natural Resources.
- Public Land Survey System. Wisconsin Department of Natural Resources.
- Lakes, Ponds, and Flowages, 2006. Wisconsin Department of Natural Resources.
- Rivers, Streams, and Shorelines, 2006. Wisconsin Department of Natural Resources.

- Islands and Uplands, 2006. Wisconsin Department of Natural Resources.
- Outstanding and Exceptional Water Resources, 2007. Wisconsin Department of Natural Resources and Douglas Miskowiak, Center for Land Use Education.
- Dam Locations, 2006. Wisconsin Department of Natural Resources.
- Watersheds, 2003. Wisconsin Department of Natural Resources.
- Native American Lands, 2000. Wisconsin Department of Natural Resources.
- Federal Lands. Wisconsin Department of Natural Resources.
- National Forests, Wisconsin Department of Natural Resources.
- WIDNR Managed Lands, 2002. Wisconsin Department of Natural Resources.
- County Forests, 2005. Wisconsin Department of Natural Resources.
- Forest Crop Program, 2005. Wisconsin Department of Natural Resources.
- Managed Forest Program, 2005. Wisconsin Department of Natural Resources.
- Original Vegetation. Wisconsin Department of Natural Resources.
- Digital Elevation 30 meter. Wisconsin Department of Natural Resources.
- Hillshade. Douglas Miskowiak, Center for Land Use Education.
- Steep Slopes. Douglas Miskowiak, Center for Land Use Education.
- Land Cover, 2001. Multi-Resolution Land Characteristics Consortium.
- Impervious Surface, 2001. Multi-Resolution Land Characteristics Consortium.
- Tree Cover, 2001. Multi-Resolution Land Characteristics Consortium.
- Glacial Deposits, 1976. Wisconsin Geological and Natural History Survey.
- Railroads. Wisconsin Department of Transportation.
- Roads and Highways, 2004. Wisconsin Department of Transportation.
- Orthophotography, 2005. National Agricultural Inventory Program.
- Hydric Soils. Natural Resources Conservation Service.

Data from the Island and Shoreline Characteristics and Inhabitant Species Inventory

Volunteers will conduct physical observations of island and shoreline characteristics and inhabitant species by boat. They will collect the following information based on their observations. Observations logged on hardcopy maps and written journals will be digitized and transcribed into a digital GIS database.

- Observation locations using a map and Global Positioning Systems
- Descriptions of exceptional natural beauty based on USFS Visual Management System procedures
- Existence of woody debris
- Indices of native species
- Indices of rare, threatened or endangered species
- Indices of invasive species
- Existence of mature timber
- Observed wildlife
- Natural or developed shoreline

g. Description of existing and proposed partnerships

Town of Round Lake Plan Commission (proposed)

The Town of Round Lake is currently preparing a comprehensive plan. The Moose Lake Legacy Initiative is expected to produce informational products useful to this group for developing goals, objectives, recommendations, and policies for the natural, agricultural, and cultural resources element of their comprehensive plan. Project partners will encourage this group to become involved with inventory and analysis efforts. Project partners will introduce this project and share its findings, products, and results with this group. Our findings and project work are anticipated to help this group develop an informed comprehensive watershed and lake management strategy.

Moose Lake Improvement Association (existing)

The Moose Lake Improvement Association's Ad Hoc Committee on Natural Resources and the Couderay Waters Regional Land Trust have worked together in 2007 to initiate the Moose Lake Islands Legacy Initiative. That project created the information framework to conduct this project. The project had compiled many GIS databases and created a shoreline database for Moose Lake shorelines and islands. Moose Lake Improvement Association members have already committed themselves to participating as volunteers for this project. These currently include: Ron and Mary Ann Churchhill, Sue and Ben Niemann, Cindy and Gary New, Marsha and Ray Whaley, Mary Kay and Richard Carlson, Jan and Don Kluxdal, Jenne and Ken Boyd, and Chris and Bill Czeskieba.

United States Forest Service (USFS) (proposed)

The USFS will be an integral partner to this project. They are the largest single landowner within the watershed with the largest amount of shoreline on Moose Lake. This project will work with them to help realize goals outlined in this project as well as goals and objectives outlined in their 2004 Land and Resource Management Plan. We anticipate that the USFS will be involved in the shoreline inventories and the critical islands and shorelines analysis.

Sawyer County (proposed)

Several departmental entities within Sawyer County have the potential to become involved with this project. First, we propose working closely with the County and their consultant to link project results and products with the Sawyer County Comprehensive Plan. Second, project partners intend to share GIS databases and maps with the County Land Records Department for public access.

h. Discussion of role of project in planning and/or management of the lake

1) Protect significant portions of the natural landscape.

One important goal of the Couderay Waters Regional Land Trust is to work with landowners to help preserve significant portions of the natural heritage of this region for the benefit of present and future generations. We are particularly interested in protecting

land that has exceptional biological diversity and provides green space and natural habitat. We are also interested in protecting forests that have been managed for sustainability and reduced impact on surrounding lands. Protecting natural shorelines and wildlife and fish spawning habitats in perpetuity is closely associated with our organizational goals. This project will help the Trust identify critical areas in the watershed and surrounding Moose Lake. We will use this information to help focus our conservation efforts and limited conservation funds on the most important landscapes.

This effort in particular has the potential to connect two Legacy Landscapes, recognized by the DNR – the Chequamegon National Forest and the Chippewa Flowage. Doing so will help to accomplish goals outlined in the Land Legacy Report including: protecting functional ecosystems, protecting areas of exceptional natural beauty, ensuring abundant recreation opportunities, protecting large tracts of land, creating a network of connected corridors, and protecting water resources.

2) *Develop a comprehensive conservation strategy.*

The Couderay Waters Regional Land Trust acknowledges that conservation agreements, purchase of development rights, and fee simple purchases contribute only a portion to a comprehensive conservation strategy. This project not only will help our efforts to promote conservation agreements to protect land in perpetuity, but will also be used by other ongoing planning efforts (i.e. Town of Round Lake Planning Commission and Sawyer County) to help implement comprehensive lake and watershed planning and management. Strategies discussed by these groups using information from this project are anticipated to identify educational, regulatory, and incentives to protect and conserve lake and watershed resources.

3) *Development of a Watershed and Lake Information System (WALIS)*

A showcase of this project will be the development of WALIS to inform decision-making. We anticipate WALIS will be an important model for other lake and watershed conservation projects. For Moose Lake in particular, WALIS will provide an information foundation that can be utilized to monitor changes in the lake, including water quality, habitat loss, loss of natural shoreline, urban development, introduction of invasive species, habitat improvement, etc.

i. Timetable for implementing key activities

1) *Preliminary Education Concerning Lake and Watershed Issues and Opportunities*

Project partners will coordinate with the ongoing Sawyer County comprehensive planning efforts as appropriate. The timeline, shown in Table 1, is flexible to encourage coordination. Preliminary education, however, should be completed prior to completing other project deliverables.

2) *Analyze the West Fork of the Chippewa River Watershed*

Data collection is largely complete as a result of the Moose Lake Islands Legacy Project conducted in 2007. Watershed analysis can begin immediately after receiving award notification. Watershed analysis will be completed prior to conducting the Critical

Shorelines and Islands Analysis. A Watershed and Lake Atlas will be drafted at this time, but will continue to be refined up until submitting the final report.

3) Inventory Island and Shoreline Characteristics and Inhabitant Species Indicators

Detailed instructions and an educational protocol will be developed soon after receiving award notification. Instructions will be completed prior to launching volunteer inventories. Inventories will be conducted in late spring and conclude in fall 2008. Data will be transcribed and digitized into the GIS database as it is gleaned from volunteer surveys. The GIS inventory will be completed prior to conducting the Critical Shorelines and Islands Analysis.

4) Critical Shorelines and Islands Analysis

Critical Shorelines and Islands Analysis will be conducted shortly after the watershed analysis and volunteer inventories are complete. One stakeholder meeting will be scheduled shortly after completing data to define critical shorelines and islands criteria. Maps and summaries will be completed shortly after conducting the stakeholder meeting.

5) Educational Open House and Workshop

The educational open house and workshop will be conducted after completing the Critical Shorelines and Island Analysis. A proceedings report will be crafted shortly after conducting the open house and workshop.

6) Draft Final Report

Components of the final report will be drafted as deliverables are completed. The final report will be drafted for review shortly after completing the educational open house and workshop. After thorough review by project partners, the consultant will complete the final report which will be submitted by the Couderay Waters Regional Land Trust.

Table 1. Anticipated Project Schedule.

Task	2008									2009				
	A	M	J	J	A	S	O	N	D	J	F	M	A	M
1) Grant Begins	Dark Green													
2) Preliminary Education		Light Green	Light Green	Light Green	Light Green	Light Green	Light Green							
3) Analyze WFCR Watershed	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green							
4) Inventory Shoreline and Islands		Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green							
5) Critical Shorelines and Islands Analysis								Dark Green	Dark Green					
6) Educational Open House and Workshop										Dark Green	Dark Green			
7) Draft and Review Final Report											Dark Green	Dark Green	Dark Green	

Light Green: Flexible timeline
Dark Green: Firm timeline

j. Plan for sharing project results

1) Educational Open House and Workshop

The educational open house and workshop will be the culminating event to share project results with local stakeholders, citizens, and resource professionals.

2) Educational Pamphlet

A four-page, full color pamphlet will be crafted that summarizes project results and describes strategies for protecting important Moose Lake islands and shorelines.

3) Moose Lake Improvement Association Annual Meeting

The Moose Lake Improvement Association Annual Meeting provides a venue for presenting project results. The Association will utilize the Town of Round Lake Hall or Fire Department to host the event. The Association has 160 members. Pamphlets, final reports and maps will be made available for members to take. Large displays and maps will also be presented.

4) Town of Round Lake Plan Commission and Town Board

The Town of Round Lake Plan Commission and Town Board will be presented with a copy of the final report and other associated project documents to use for comprehensive planning and management, especially in regard to the agricultural, natural, and cultural resources element of the comprehensive plan and other Town of Round Lake programs.

5) Sawyer County Comprehensive Planning Partners

Sawyer County Comprehensive Planning Partners will be presented with a copy of the final report and other associated project documents to use for comprehensive planning and management, especially in regard to the agricultural, natural, and cultural resources element of the comprehensive plan.

6) Lac Courte Oreilles Band of Lake Superior Chippewa and Lac Courte Oreilles Ojibwe Community College

The Lac Courte Oreille Band of Lake Superior Chippewa and Lac Courte Oreilles Ojibwe Community College will be presented with a copy of the final report and other associated project documents. Dawn White, Geospatial Technology Instructor from the Community College will be provided with GIS data created as a result of this project for use by the college or tribe.

7) United States Forest Service Great Divide Ranger District

The USFS Great Divide Ranger District will be presented with a copy of the final report and other associated project documents to help in implementing their 2004 Land and Resource Management Plan. They are anticipated to remain a partner beyond this project and help plan for a coordinated lake protection strategy.

8) Distribute WALIS to Sawyer County Land Records Department

Geographical data and cartographic maps will be shared with the Sawyer County Land Records Department to distribute in the public domain. We anticipate Sawyer County to house and

distribute GIS data via ArcIMS or ArcServer and make project maps available for public access and download.

9) Presentations at Professional and Grassroots Conferences

The consultant and project partners will present project objectives, methods, and results at professional and grassroots conferences, such as the Wisconsin Association of Lakes, Wisconsin Land Information Association, and Environmental Systems Research Institute International Users annual conferences.

10) Gathering Waters Conservancy

Gathering Waters Conservancy will be presented with a copy of the final report and other associated project documents to share with other land trusts in Wisconsin and elsewhere.

k. Other information in support of the project not described above

Moose Lake Islands Legacy Initiative

The Moose Lake Islands Legacy Initiative, conducted in 2007, created a unique partnership to begin planning for the coordinated management of the Moose Lake islands. Partners of this project included: the Moose Lake Improvement Association, Couderay Waters Regional Land Trust, UW-Stevens Point, Center for Land Use Education, and UW-Madison, Land Information and Computer Graphics Facility. This effort was organized by Ben Niemann, Emeritus Professor of Urban and Regional Planning and Past Director of the Land Information and Computer Graphics Facility at UW-Madison. He is a current member of the Moose Lake Improvement Association.

One project deliverable compiled geographic information for each of the watersheds connected to Sawyer County, Wisconsin for use in natural resources or comprehensive planning efforts. Over thirty GIS databases were provided to the benefit of the Moose Lake Improvement Association. The databases were distributed to the Sawyer County Land Records Department for public domain access and the Lac Courte Oreilles Ojibwe Community College for use with their curriculum. It is anticipated that these data will be extensively used in the upcoming Sawyer County comprehensive planning effort.

These data were also applied to conduct a basic inventory of Moose Lake Islands and Shorelines, the second deliverable. The project updated Moose Lake's hydrology data and found 21 additional islands and miles of additional shorelines that the DNR's Hydrology V database had not documented. Citizens on the Moose Lake Improvement Association's Ad Hoc Committee on Natural Resources have begun using this database to solicit land conservation agreements between private land owners and the Couderay Waters Regional Land Trust or the United States Forest Service. Of notable interest, citizens toured Moose Lake with USFS managers to explore interest in land transfers. In addition, Association citizens met with Xcel Energy land managers to ascertain their interest in shifting their ownership of the Folsom Islands Complex to public trust status.