

Field Guide To Environmental Sustainability

Michigan Department of Natural Resources and Environment
Recreation Division



Michigan Department of Natural Resources and Environment Mission

“The Michigan Department of Natural Resources and Environment is committed to the conservation, protection, management, use and enjoyment of the State’s natural resources for current and future generations.”

Recreation Division Mission

“The Recreation Division’s Mission is to acquire, protect, and preserve the natural and cultural features of Michigan’s unique resources, and to provide access to land and water based public recreation and educational opportunities.”

Table of contents:

Introduction	4
Principles of Sustainability for RD.....	5
<i>Principle 1: Waste and Energy Reduction.....</i>	5
Waste Reduction.....	5
Hazardous Product Reduction.....	5
Energy Optimization	5
<i>Principle 2: Living Systems.....</i>	6
Management Zoning.....	6
Maintain Ecosystems.....	6
Nuisance and Invasive Species.....	6
<i>Principle 3: Education and Outreach.....</i>	6
Employee Education.....	6
Visitor and Stakeholder Education.....	6
Outreach to Others.....	7
Sustainability Vision.....	7
<i>Principle 1: Waste and Energy Reduction.....</i>	7
Waste Reduction.....	7
Hazardous Product Reduction.....	8
Energy Optimization.....	9
<i>Principle 2: Living Systems.....</i>	11
Management Zoning.....	11
Maintain Ecosystems.....	12
Nuisance and Invasive Species.....	14
<i>Principle 3: Education and Outreach.....</i>	15
Employee Education.....	15
Visitor and Stakeholder Education.....	16
Outreach to Others.....	18
Action Plan.....	19
<i>Waste and Energy Reduction.....</i>	19
<i>Living Systems.....</i>	20
<i>Education and Outreach.....</i>	20
Conclusion.....	21

Introduction

For the purpose of this document, sustainability is defined as the preservation of the natural and cultural features administered by the Michigan Department of Natural Resources and Environment (MDNRE), Recreation Division (RD) for future generations. With 23 million visitors a year to our 98 state parks, 1000 boating sites and 15 State Harbors, the potential environmental impacts of operating these facilities is significant. Minimizing the environmental impacts of our programs and operations will contribute to environmental sustainability and the preservation of our natural resources. While dealing with diminished financial resources and personnel, RD staff is called upon to expand conservation efforts and to include sustainability principles in their daily tasks.

The RD Field Guide for Environmental Sustainability has been developed by identifying specific tasks RD staff can do to improve the environmental sustainability of our operations. These specific “What we can do” recommendations are organized into three basic categories (or principles) that relate to natural resource preservation:

1. Waste and Energy Reduction
2. Living Systems
3. Education and Outreach

Additionally, inclusion of these principles in the Annual Work Plan of the Recreation Division Strategic Plan will assist with stimulating and tracking progress.

As a result of a partnership developed in 2003 between DNRE and DEQ, the RD Green Initiatives Team (GIT) was developed. This team is charged with researching and testing environmentally preferred management practices and products for use at state parks, recreation areas, boating access sites, and state harbors and administrative buildings.

The GIT, composed of personnel from various job classifications, leads the division’s efforts to become more sustainable through conservation, pollution prevention and energy efficiency. The piloting of specific conservation, pollution prevention and energy efficiency initiatives has resulted in the adoption of many successful strategies as standard RD operating procedures. The GIT is charged with:

- Designating test units for implementation of trial initiatives
- Coordinating and implementing RD initiatives
- Serving as a point of contact for the field concerning various programs
- Identifying educational opportunities for staff and the public
- Researching and identifying funding sources to support various programs

- Serving as contact with the Department of Management and Budget (DMB) related to the contracting of green products and services
- Recommend 'Green Policy' for RD field operations based on sustainability plan
- Evaluating and quantifying success of initiatives

Our commitment to sustainability derives specifically from RD's management team, state directives, department and division mission statements, and from our employee's desire to act responsibly. RD will use this field guide to improve sustainability in development, operations and business practices.

1. Principles of Sustainability

The following principles represent RD's attempt to modify and adapt sustainability concepts as division operational principles. Three principles are supported in the Field Guide for Environmental Sustainability: waste and energy reduction, living systems, and education and outreach.

1.1. PRINCIPLE 1: WASTE AND ENERGY REDUCTION

1.1.1. Waste Reduction

It is important to understand the entirety of the environmental impacts caused by the products used by RD staff. To that end, RD will incorporate a life cycle approach in the use and selection of products, operational and maintenance activities, and in design concepts. Product life cycle refers to the raw materials required, production methods, waste generated, use of the product, ability to recycle or reuse the material, and the disposal of the product at the end of its usable life.

Major progress toward zero waste is possible through the use of standard operating procedures, techniques and systems that reduce or eliminate waste, facilitate recycling, and promote the creative use and re-use of products, materials and facilities.

1.1.2. Hazardous Product Reduction

The goal of "zero hazardous substances" as a principle demonstrates a commitment to finding and using better techniques, products and materials to minimize impacts on the environment. In order to demonstrate a commitment to "zero hazardous substances", RD staff will use products and materials which are the most environmentally benign in both production and use, while maintaining product effectiveness.

1.1.3. Energy Optimization

RD will demonstrate a commitment to responsible and efficient energy usage to minimize our operational contribution to global climate change and to produce long term energy cost savings for the division.

Utilizing evolving strategies and technologies, RD will reduce its carbon footprint and serve as an example of responsible stewardship. Major progress toward these goals will be achieved through responsible use and conservation of energy, water and fuel.

1.2. PRINCIPLE 2: LIVING SYSTEMS

1.2.1. Management Zoning

Through broad collaboration and with input of internal (RD and DNRE resource programs) and public involvement opportunities, RD will develop and implement General Management Plans. These plans identify and map out the natural and cultural resource conditions of the park; and in reflecting sensitivity to ecosystem needs, prescribe how they will be managed to retain their integrity in balance with 'appropriate' levels and types of recreation, development, and use.

1.2.2. Maintain Native Ecosystems

RD is both a steward of natural resources and a bridge between visitors and their interactions with nature. Sustainability requires long-term management and development of operational practices that support ecosystem needs. RD staff will strive to educate themselves on issues that impact ecosystems and follow established guidelines to minimize impacts to or protect sensitive ecosystems.

1.2.3. Invasive Species

Invasive species are one of the greatest threats to the integrity of native ecosystems and their component native species of plants and animals. In the context of managing native ecosystems, RD will strive to control invasive species of plants and animals on its lands and water in the most cost-effective, efficient, and sustainable manner possible.

1.3. PRINCIPLE 3: EDUCATION AND OUTREACH

1.3.1. Employee Education

RD will seek to educate its employees on environmental sustainability to reduce the negative impacts RD operations have on natural resources and ecosystems. RD will establish standardized operational and development practices that incorporate environmental sustainability.

1.3.2. Visitor and Stakeholder Education

DNRE staff located in RD facilities staff will provide educational opportunities to visitors on the principles of environmental sustainability and the impacts of violating these principles. Over time, effective education will build appropriate user expectations and reduce user related impacts.

1.3.3. Outreach and Others

RD staff will seek to establish relationships with outside agencies to share management practices that uphold the principles of environmental sustainability. This effort will expand the use of sustainability practices outside RD, further reducing impacts to natural resources and ecosystems.

2. Sustainability Vision

To institute change, specific direction must be provided to all RD staff on how to improve the sustainability of our operations. This section describes what measures staff can undertake to stimulate this change and progress at their work location.

2.1. PRINCIPLE 1: WASTE AND ENERGY REDUCTION

2.1.1. Waste Reduction

RD encourages the reduction of waste in design, operations, and management of our facilities and staff will provide educational opportunities on waste reduction principles for our visitors.

- Planning and design concepts will continue to seek ways to extend building life by using durable building materials and explore adaptive reuse of buildings where appropriate.
- RD employees will reduce waste by utilizing a life-cycle approach to operations and maintenance activities
- Visitors will be encouraged to participate in reduce, reuse and recycle initiatives.

Strategic Goals

Waste reduction is a defined strategic process within the RD Strategic Plan (2009), reflecting the following Goal and Objective:

- Goal 5, Objective 5.3: “Develop and implement environmental sustainability in RD systems.”

What we can do:

- Participate in related Green Initiative Program
 - Camp Green
 - In-House / Visitor Recycling
 - Product Metering
 - Grow Not Mow
 - Paperless Meetings
 - Materials Reduction
- Develop and promote a comprehensive recycling program for RD visitors and employees at all facilities.
- Work with partners to develop recycling opportunities where it is currently limited or not available

- Select recyclable materials and reuse materials when appropriate
- Incorporate energy efficient components such as motion and light sensors, sky tubes, insulation, lighting, on demand water heaters, etc.
- Conduct Pollution Prevention and Energy Efficiency (P2E2) assessment's, make changes annually to reduce waste
- Use long-life, high quality, easy maintenance materials
- Use windows and doors with the greatest insulating value available
- Buy products in bulk packaging as needed from the preferred purchasing list
- Implement product metering and product use training
- Review waste management contracts and negotiate to include recycling programs, compact waste and reduce number of trash pick-ups
- Adaptive reuse of buildings, materials, and structures
- Offer metered water and electrical components, timers, occupancy sensors, push button or timed showers for visitors and staff
- Educate visitors on the impacts of dumping grey water
- Provide education and presentations on waste reduction to staff and customers
- Install low flow urinals, toilets and plumbing fixtures
- Use life-cycle design in structures and utility systems
- Use rechargeable batteries
- Paper reduction best practices identified and employed
- Incorporate double sided copying and printing
- E-documentation and email use instead of hard copies
- Implement standard paint colors

2.1.2. Hazardous Product Reduction

In order to reduce hidden costs of storage, training, handling, health risks, and disposal, RD will reduce the use of hazardous products and the use of environmentally preferred products should be standard practice.

- Design concepts will use materials that complement use of environmentally preferred maintenance products.
- Operations staff will use products and materials that are the most environmentally benign both in production and application while maintaining effectiveness.
- Visitors will be encouraged to use environmentally preferred products and adopt practices that reduce hazardous waste.

Strategic Goals

Hazardous product reduction is a defined strategic process within the RD Strategic Plan (2009), reflecting the following Goal and Objective:

- Goal 5, Objective 5.3: "Develop and implement environmental sustainability in RD systems."

What we can do:

- Participate in related Green Initiative Program
 - Camp Green
 - Green Cleaning Products
 - P2E2 Self Assessment
 - Materials Reduction
 - Clean Marina's
- Ensure proper disposal of compact florescent lamps (CFL)
- Ensure paints & stains meet low VOC standards
- Use Green Seal, Environmental Protection Agency (EPA) certified, or bio-based products at all locations.
- Ensure proper use, storage and disposal of hazardous substances
- Look for multi-purpose Green Seal products that will help you reduce the variety of chemicals used
- Specify phosphorus-free fertilizer
- Restrict burn materials to natural materials only: no treated materials, trash, plastics, paints or railroad ties. Educate visitors on safe burning
- Participate in community hazardous waste days
- Eliminate use of products in aerosol cans
- Implement standard paint colors and 'as needed' purchasing
- Ensure cleaning of spraying equipment does not drain to waterways
- Use materials that minimize need for wood preservatives.
- Use proper asbestos abatement during demolition
- Educate visitors on recreational vehicle (RV) dumping with formaldehyde treatments, antifreeze and other hazardous chemicals
- Develop purchasing contracts for green products.
- Design structures and utilities that use environmentally preferred and benign in construction products and materials that are easy to maintain
- Install iron removers or other filters to reduce the need for harsh chemicals to remove stains

2.1.3 Energy Optimization

RD will implement the use of evolving strategies and technologies to continually improve energy efficiency.

- Planning and Design process will explore alternative energy sources and emerging technologies to be incorporated into future construction and rehabilitation projects.
- Implement new and innovative operational methods to reduce energy consumption and incorporate responsible alternative energy sources.

- Stewardship will look for opportunities to decrease carbon footprint by restoring native grassland ecosystems where appropriate.
- Visitors will be encouraged to reduce energy consumption, reduce waste, and utilize alternative energy while at the park or boating facility and to take home the lessons learned.

Strategic Goals

Energy Optimization is a defined strategic process within the RD Strategic Plan (2009), reflecting the following Goal and Objective:

- Goal 5, Objective 5.3: “Develop and implement environmental sustainability in RD systems.”

What we can do:

- Participate in related Green Initiative Program
 - Camp Green
 - Grow Not Mow
 - Chief’s Energy Challenge
 - Radiant Floor Use Reduction
 - P2E2 Assessment
 - Clean Marina’s
 - Visitor Energy Challenge
- Apply proper insulation, windows, doors, and weather stripping
- Install high-efficiency, energy star appliances, furnaces and heat pumps
- Consider wind, solar, or geothermal energy
- Install efficient lighting and controls – passive (e.g., skylights), CFL’s, high-efficiency fluorescent ballasts, light emitting diode (LED) lighting, occupancy sensors, photo-sensors, and timers
- Reduce light fixtures and/or put lights in same room on different circuits
- Encourage staff use of bicycles, utility tricycles, golf carts, and Segways
- Educate visitors through special events, voluntary “pull the plug” hours, signage (e.g., “Johnny” signs), and hand-outs about how to participate in reducing energy consumption
- Install low flow toilets, low-flow or waterless urinals
- Revise design manual prints to incorporate energy conservation
- Design energy conservation features into future facilities
- Computer monitors will be turned off at breaks, lunch, at night and on the weekends
- Expand and employ phone/web conferencing in lieu of travel
- Incorporate energy conservation into remodeling, renovation, routine maintenance and replacement projects.
- Encourage employee car pooling, alternate work schedules and remote work locations
- Consolidate trips for materials, supplies, and meetings
- Encourage non-motorized travel by visitors and staff by providing accessible paths with access to bike racks and park amenities

- Re-order the smallest, most fuel efficient vehicle for operations and maintenance activities
- Convert to on-demand water heaters
- Install programmable thermostat controls
- Deploy passive cooling, such as window location, heat reflective materials, landscaping, green roofs
- Evaluate ways to reduce stacking time for visitors at registration and sanitation stations to reduce emissions
- Utilize energy tracking database, analyze annually and make appropriate changes
- Expand gas storage savings program for campers
- Participate in regional non-motorized trail projects
- Encourage bus stops near or within facilities
- Purchase alternative/green energy credits for RD facilities
- Offer campers an opportunity to purchase alternative/green energy credits for their campsite
- Seek partnerships with companies to provide, at a minimum or no cost, alternative energy equipment

2.2. PRINCIPLE 2: LIVING SYSTEMS

2.2.1. Management Zoning

RD will develop Management Plans and establish Management Zones for all park and recreation areas. Please refer to the “Park Management Plans” tab on the RD web pages on the internet for more information on management planning.

- Through collaboration, Planning will seek partners and stakeholders to assist RD in the management planning process.
- Planning and Operations staff will consider elements of stewardship plan, wildfire plans, Michigan Natural Features Inventory (MNFI), Biological Stewardship Areas (BSA), and property acquisition funding source in the management planning process.
- Stewardship will provide resource guidance to Operations and Planning staff through all phases of management planning.

Strategic Goals

Management Planning is a defined strategic process within the RD Strategic Plan (2009), reflecting the following Goals and Objectives:

- Goal 1, Objective 1.2: “Strengthen, update, and implement Management Plans.”
- Goal 3, Objective 3.1: “Perform landscape level assessment of recreation opportunities in decision making.”
- Goal 3, Objective 3.2: “Manage recreation use to maximize opportunity and minimize resource impacts.”
- Goal 7, Objective 7.4: “Manage user conflicts.”

- Goal 8, Objective 8.1: “Continue to use the CCMSP, MSWC, NRC, SWC, and Ecoregion Teams and partners to advise in RD planning, policy development, and issue resolution.”

What we can do:

- Participate in related Green Initiative Programs:
 - Grow not mow
 - Clean Marinas
 - P2E2 Self-Assessment
- Participate in management planning process
- Keep stakeholder lists current
- Establish a “Friends Group” that represents the spectrum of stakeholders, and help facilitate on-going interaction with them for purposes of developing and sustaining long-term support for RD.
- Incorporate green ideas in management planning
- Follow management zone guidelines
- Follow BSA management practices
- Review wildfire plans annually
- Complete Phase II and Phase III action plans as specified
- Complete Phase IV – “Annual Work Plans (and Report)” per the Management Planning process and the new RD Strategic Plan process
- Routinely assess status of private ownerships within and adjacent to park and boating units for purposes of land acquisition
- If properties are found for sale or if there is interest in other means of conveyance, notify RD land liaison

2.2.2. Maintain Native Ecosystems

RD will protect and preserve native ecosystems and heritage landscapes through long-term management, responsible development and operational practices, as well as provide recreational, educational and interpretive opportunities that are in balance with ecosystem management.

- Planning, through broad collaboration of internal (RD and DNRE resource programs) and public interests, will lead development and implementation of General Management Plans. These plans identify and map out the natural and cultural resource conditions of the park; and in reflecting sensitivity to the ecosystems, prescribe how they will be managed to retain their integrity in balance with ‘appropriate’ levels and types of recreation, development, and use.
- Planning and design of recreational projects shall be site sensitive and appropriately placed in order to minimize or negate impacts to native ecosystems. Furthermore, certain projects should include restoration or enhancement of previously impacted ecosystems from ongoing recreation activities or prior land-uses.
- Operations will develop and implement best management practices to maintain eco-system viability. Operations will incorporate the

guidance of the Management Plans in their management of our parks and recreation areas.

- Stewardship will facilitate monitoring and control of invasive and nuisance species and facilitate restoration of areas damaged by visitor overuse.
- Visitor services and educational opportunities will be provided and encouraged by methods congruent with sound resource management.

Strategic Goals

Maintaining Ecosystems is a defined strategic process within the RD Strategic Plan (2009), reflecting the following Goals and Objectives:

- Goal 1, Objective 1.3: “Strengthen, update and implement Stewardship Plans.”
- Goal 1, Objective 1.4: “Enhance stewardship of natural resources.”
- Goal 8, Objective 8.3: Expand volunteerism and partnerships outside of friends groups.”

What we can do:

- Participate in related Green Initiatives Program
 - Growing Not Mowing
 - Clean Marina’s
 - Permeable Paving
- Maintain Biodiversity Stewardship Areas according to guidelines established by ecoregional plans.
- Establish and follow prescriptive management guidance provided in the ‘General Management Plans’ and ‘Stewardship Plans’
- Complete at least one stewardship project a year
- Refer to the Stewardship Unit’s web page for guidance when planning projects
- Eliminate user created trails and use public education to curtail improper trail development
- When planting, use only species native to your area as documented by Stewardship Unit
- Restore habitat damaged by misuse or overuse
- Encourage clean boating practices through the use of signs, interpretive programs, and handouts
- Promote the use of local firewood
- Encourage public participation in stewardship activities through interpretive programs, special events and training for stakeholder groups
- Participate in local watershed management and other regional ecosystem initiatives
- Collaborate with other agencies to enforce rules and regulations that impact native ecosystems, such as trespass and illegal dumping

- Review Michigan Natural Features Inventory report annually for updated information related to your location
- Create an annual project checklist for staff
- Create wetland buffer zones of at least 100' when mowing where appropriate
- Create 25' buffer zones for all lakes and streams where appropriate
- Use best management practice (BMP) for erosion control on trails, shorelines, campsites, new developments, etc.
- Identify potential storm water management issues and include in the park and boating annual inspection
- To help manage storm water, use permeable surfaces where feasible to replace hard surfaces on roads, trails, parking lots and build green roofs
- Rotate and rest popular sites to restore grass and control erosion

2.2.3. Nuisance and Invasive Species Management

Invasive species are one of the greatest threats to the integrity of native ecosystems and the existence of native plants and animals. In the context of managing native ecosystems, RD will strive to control invasive species of plants and animals on its lands in the most cost-effective, efficient, and sustainable manner possible.

- Operations staff will learn to recognize the most significant invasive species in their local area and watch for them in parks and boating facilities
- Operations staff will initiate control of invasive species in consultation with Stewardship Unit staff to determine the highest priority areas and the most effective and efficient techniques.
- Stewardship Unit will facilitate monitoring and control of invasive species.
- Planning will design landscapes with indigenous non-invasive species

Strategic Goals

Nuisance and Invasive Species Management is a defined strategic process within the RD Strategic Plan (2009), reflecting the following Goals and Objectives:

- Goal 1, Objective 1.4: "Enhance stewardship of the natural resources."
- Goal 3, Objective 3.2: "Manage recreation use to maximize opportunity and minimize resource impacts."
- Goal 4, Objective 4.3: "Continually educate the public about how to care for natural and cultural resources."

What we can do:

- Participate in related Green Initiative Program
 - Clean Marina's
- Focus control efforts on keeping high quality natural areas (ecosystems) free of invasive plants – “keep high quality, high quality”
- Working with guidance from Stewardship, participate in the early detection rapid response (EDRR) program for invasive species.
- Educate staff to identify early presence of invasive species
- Attend a workshop or training to keep up to date on identification and management of invasive species in your region
- Establish and follow the management guidance of the ‘Management Plans’ and ‘Stewardship Plans’ when they exist for each unit
- Incorporate invasive species control into daily maintenance
- When planting, use species native to your area, as listed by Stewardship Unit
- Eliminate threats from new invasive species by educating visitors on clean boating practices
- Educate visitors on current forest health issues and encourage the use of local firewood
- Include an ecosystem health survey as part of the annual inspections
- Participate in the native seed collection program with Stewardship Unit
- Provide education on invasive species through signage, interpretive programs and special events
- Use only materials free of invasive seed for trail maintenance and other projects

2.3. PRINCIPLE 3: EDUCATION AND OUTREACH

2.3.1. Employee Education

RD will train and educate employees to understand how we impact ecosystems and the importance of expanding environmentally friendly practices. Employees will communicate to planning, management, and visitors the importance of environmental sustainability.

- Planning and design personnel will continue to participate in training symposiums and networking to expand their knowledge base and relative project examples to apply to future RD projects. In addition, infrastructure decision making will influence visitors and employees for years to come, and will continue to include participation from stewardship and operational personnel.
- Operations will incorporate sustainability practices through employee training. Resources will be provided for continuing education.

Strategic Goals

Employee education is a defined strategic process within the RD Strategic Plan (2009), reflecting the following Goals and Objectives:

- Goal 3, Objective 3.3: “Proactively track and forecast recreation trends and uses.”
- Goal 5, Objective 5.3 “Develop and implement environmental sustainability on RD systems.”
- Goal 6, Objective 6.3: “Expand training of staff and promote professional improvement.”

What we can do:

- Participate in Green Initiative Programs
- Maintain and routinely update the RD inter / intranet sites
- Share stories in the Chief’s Newsletter
- Establish and follow the prescriptive management guidance of the ‘General Management Plan’
- Distribute documentation of BMP’s learned from field tested products
- Training on the principles of sustainability and life cycling thinking should be presented to everyone in the organization
- RD staff regularly schedule meetings to share green message with staff
- Continue to review and develop new opportunities to incorporate green technology.
- Make it part of the annual review requirements of unit supervisor to implement GI.
- Increase geographical information system (GIS) training for resource based planning
- Conduct soil bioengineering workshops, especially for facilities which might have a direct impact on a water body, either at the primary facility or at outlying areas such as Boating Access Sites (BAS)
- Provide resources for continuing education
- Stay current with evolving technologies and innovation
- Test and implement successful environmental sustainability practices and standards based on testimony from the field and best management practices.
- Volunteer to pilot new initiatives and adopt successful programs at applicable RD facilities
- Tip sharing on a list serve or newsletter to share solutions and what products work or do not work
- Utilize MDEQ’s retired engineer technical assistance program (RETAP) assessment program
- Designate staff time for training sessions
- Demonstrate sustainability in performance management
- Incorporate sustainability concepts into existing training programs such as: seasonal orientation, ranger academy

- Create environmental sustainability training program
- Visit other organizations to view sustainability practices
- Utilize media such as the Intranet to promote sustainability and provide educational resources and links to further information

2.3.2. Visitor and Stakeholder Outreach and Education

RD will disseminate information to visitors about environmental sustainability practices within RD. Effective education will build appropriate expectations with our visitors.

- Planning and design shall incorporate, where appropriate, interpretive elements into new projects that highlight green components used.
- Operations will educate our visitors and stakeholders about sustainability through a variety of programs and marketing opportunities.
- RD will work in collaboration with the Media and Communications Division to develop and implement desired messages.
- RD will strive for development of on-going relationships with the local community and visitors (e.g. establishment of friends groups) to take ownership in sustainability initiatives.

Strategic Goals

Visitor and Stakeholder Outreach and Education is a defined strategic process within the RD Strategic Plan (2009), reflecting the following Goals and Objectives:

- Goal 2, Objective 2.4: “Pursue gifts, endowments, grants, trusts and other sources for financial development.”
- Goal 4, Objective 4.1: “More actively interpret the full range of DNRE conservation efforts and those of stakeholders.”
- Goal 4, Objective 4.3: “Continually educate the public about how to care for natural and cultural resources.”
- Goal 5, Objective 5.3: “Develop and implement environmental sustainability on RD systems.”
- Goal 8, Objective 8.1: “Continue to use the CCMSP, The MSWC, the NRC, the SWC, the Ecoregion teams and partners to advise in planning, policy development and issue resolution.”
- Goal 8, Objective 8.2; “Expand and more effectively coordinate friends groups.”

What we can do:

- Participate in related Green Initiative Program
 - Camp Green
 - Visitor Recycling
 - Growing Not Mowing
 - Marketing and Education
 - Visitor Energy Challenge Program

- Highlight to the public our use of preferred management practices
- Install Green Initiative Signs and posters and use Johnny Signs
- Encourage visitors to reduce energy consumption, reduce waste, and utilize alternative energy while visiting us and to take home lessons learned.
- Provide education and outreach to visitors about green concepts and programs at each facility via outdoor explorer program
- Incorporate sustainability messages or components within scheduled special events
- Develop a list of successful programs, events, activities, visitors speakers, community partnerships, and related resources that can be shared among RD staff
- Offer a 'Caught Being Green' program
- Participate in seminars to share information on green initiatives and green technologies
- Share information about green initiatives with other DNRE Divisions
- Provide explorer guide programs on sustainability
- Develop press releases
- Keep web site current
- Add green comment section to report cards
- Provide sustainability message on reservation confirmation cards
- Offer sustainability message in public presentations
- Work with Media and Communications Division to develop additional interpretive panels with Green Initiatives messages for RD kiosks
- Increase opportunities for "passive interpretation", i.e. sustainability messages in campground offices, interpretive signs & displays, bulletin boards, green tip of the day postings, etc
- Encourage staff at Visitor Centers to demonstrate green practices and include sustainability messages in school programs, public programs & events, and in building displays & signage
- Use networking sites (Twitter, Facebook) to promote sustainability concepts

2.3.3. Outreach to Others

RD will disseminate information to vendors, outside agencies and contractors about environmental sustainability practices within RD.

- Planning and design shall incorporate interpretive elements into new projects that highlight green components.
- RD staff will reach out to non-users for input on environmental sustainability practices they would like to see in RD.
- Work with the Media and Communications Division and interpreters to include Sustainability message in programming
- Visitors can promote sustainability education and outreach by employing environmentally responsible practices in their everyday lives.

Strategic Goals

Outreach to Others is a defined strategic process within the RD Strategic Plan (2009), reflecting the following Goals and Objectives:

- Goal 2, Objective 2.4: "Pursue gifts, endowments, grants, trusts and other sources for financial development."
- Goal 4, Objective 4.2: "Expand partnership efforts to interpret conservation to a broader range of users and non-users."
- Goal 4, Objective 4.3: "Continually educate the public about how to care for natural and cultural resources."
- Goal 5, Objective 5.3: "Develop and implement environmental sustainability on RD systems."
- Goal 8, Objective 8.3: "Expand volunteerism and partnerships outside of friends groups."
- Goal 11, Objective 11.2: "Improve presence of RD on web site and other media."
- Goal 12, Objective 12.1: "Strengthen and expand "Go-Get Outdoors (GO)."

What we can do:

- Participate in related Green Initiatives Program
- Collaborate with other agencies and organizations
- Explore opportunities for partnerships with local units of government
- Partner with communities to become collection sites for recycling
- Partner with local interests to streamline recycling and to provide additional recycling markets or opportunities
- Promote Green Initiatives through the Michigan Recreation and Parks Association
- Provide information regarding pilot efforts and green technologies via the internet, and conferences/workshops
- Offer the use of the P2E2 assessment tool to other agencies and organizations
- Provide outreach programs to local communities and local park & recreation programs
- Participate in local and regional events
- Keep internet web site information current
- Conduct surveys to non-users during outreach events
- Provide sustainability message in presentations to non users
- Create new avenues for partnerships with other agencies, organizations and businesses
- Seek reciprocal partnerships to demonstrate energy efficiency equipment at our facilities and provide public education
- Post passive interpretation in local libraries, chambers of commerce, and other community bulleting boards to market RD green efforts

3. Action Plan

Understanding the unique planning and operational aspects of each individual facility will assist the Unit Supervisor in selecting items from the “what we can do” lists to achieve the goals identified below. Specific steps for achieving these goals should be incorporated into the Annual Work Plan of the RD Strategic Plan (page 69 -70) with the expectation of meeting these goals by the dates identified.

3.1 WASTE AND ENERGY REDUCTION

- Using 2006 as a benchmark, Unit Supervisors will reduce operational waste by 5% in 2010, an additional 5% in 2011, and an additional 5% in 2012. One way this can be measured is by quantity of dumpster or trash pick-ups.
- Using 2006 as a benchmark, Unit Supervisors will reduce the number of cleaning products, reduce the materials storage in service areas and garages, and read product labels before purchasing products with the goal of hazard product reduction. Unit Supervisors will have the minimal amount of cleaning products and reduce the materials storage in service areas and garages before the end of FY 2011. Product labels will be analyzed and safer products utilized by 2011 at the latest.
- Using 2005 as a benchmark, Unit Supervisors will reduce their energy use by 5% in 2011, and an additional 5% in 2012, and an additional 5% in 2013. The goal is for energy reduction to be realized in each energy category utilized at the facility, such as electric, gas, propane, fuel, and water.
- Using 2009 as a benchmark, Unit Supervisors will engage visitors in waste and energy reduction through existing programs, such as explorer guide, camp host, or special events, and seek to implement one new program annually.

3.2 LIVING SYSTEMS

- As it becomes available for the facility, Unit Supervisors will participate in the management planning process.
- RD staff will work with the Stewardship Unit to identify and document threats to eco-systems that can be minimized by staff and visitors by 2011. Unit Supervisors are responsible for documenting threats, identifying action taken, and updating assessment annually.
- Unit Supervisors will positively impact living systems by completing a minimum of one stewardship project annually based on the 2010 assessment. Unit Supervisor will document action taken. Record on-the-ground stewardship activities on a **Stewardship Treatment Record** (form R3142) and submit it to the stewardship unit.

- All units will participate in Stewardship Early Detection Rapid Response initiative to control new invasive species.

3.3 EDUCATION AND OUTREACH

- Prior to publication of the 2011 Ranger Guide, GIT will provide a green practices component, in Power Point format, to the ranger guide for training. Responsible person: Chair of GIT, deadline before Ranger Guide is distributed or printed.
- GIT will submit quarterly updates to the web managers and provide case studies to provide education and outreach to employees (intranet) and internet visitors.
- In 2010, GIT will, at a minimum, double the number of facilities participating in the Visitor Energy Challenge. In 2011, strive for 100% participation in the Visitor Energy Challenge.
- GIT will provide program and outreach updates to the RD and DNRE management teams annually.
- GIT will do one 'outreach to others' program annually to promote RD green initiatives.

4. Conclusion

RD has become a leader in Michigan in incorporating environmentally sustainable practices into park, recreation area and boating operations. Including these practices in our everyday tasks will continue to enhanced our customers experience and improve the preservation of our resources and facilities for generations to come. This plan describes the effort RD staff should undertake to minimize operational impacts to our natural resources, improve efficiency, reduce waste, protect living systems and reach out to others. Additionally, with the implementation of a three year action plan, RD staff can set goals and priorities that include specific actions identified in this plan. With the adoption of this plan RD will move toward a more environmentally sustainable operation and lay the groundwork for significant progress in the years to come.