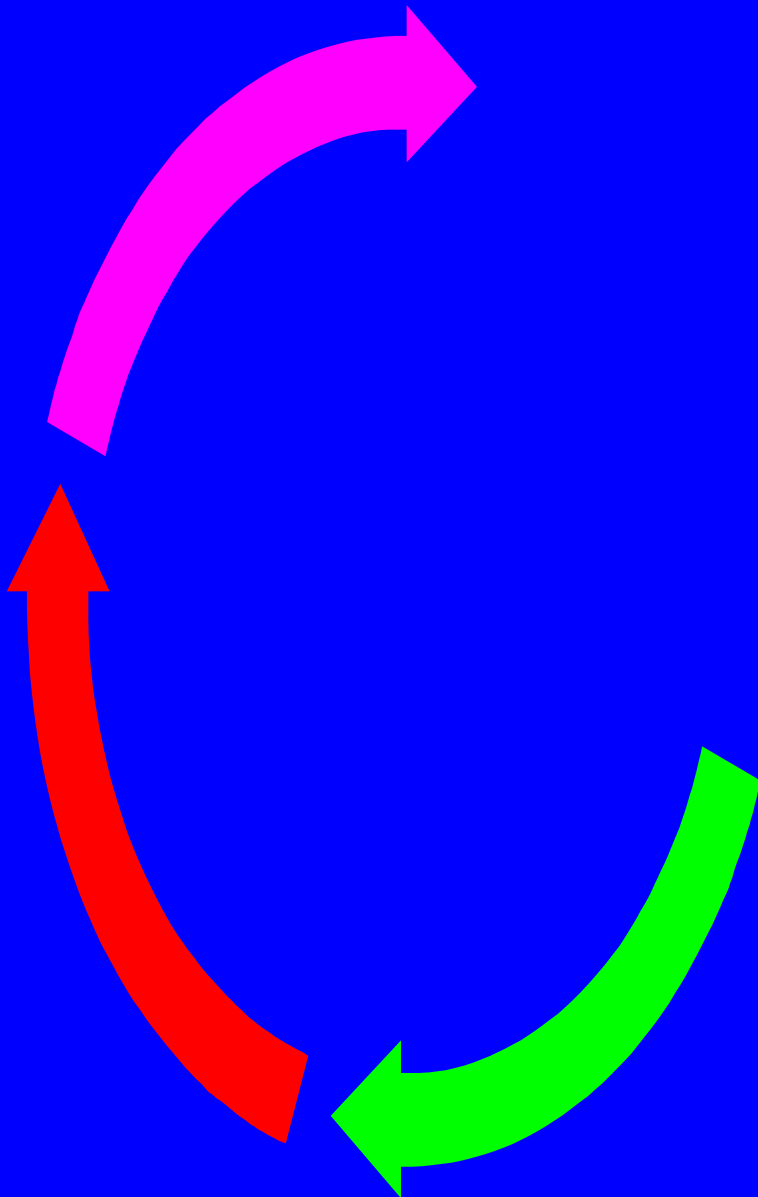


Why Plan?



Basic Planning Process Elements



Goals

Inventory

Analysis

Alternatives

Recommendations

Implementation

Monitoring

Planning Approach for Lakes

Step-wise, iterative process

- 1) **Appraisal** - “Ball parks” lake, provides focus, sets direction and appropriate level of planning.
- 2) **Management Plan** – More details to address a specific need i.e. fisheries or plants
- 3) **Comprehensive Plan** – Ties all management plans together – long term, visionary
- 4) **Action Plans** – short duration, implements management or comprehensive plans

Getting Started

- Advisory Committee or Study Team
- Define the Study Process
- Communication and Education Plan
- General Goals
- Identify Problems



Study Team

Stakeholders

- Lake Residents
- Lake Users
- Watershed landowners
- Government
- Tribes
- Business

Functional Needs

- Science & Technology
- Politics
- Finance
- Law & Enforcement
- Education & Communication
- Social Issues

Goals: Maintain or Improve Existing Conditions?



Water Quality



Near Shore Habitat



Fisheries & Wildlife



Recreation



Aquatic Plants

INVENTORY

Data Collection

- Lake Natural Features
- Water Quality and Limnological Data
- Watershed Conditions
- Fish and Wildlife
- Institutional and Social Information
- Historical Information
- User or Opinion Surveys

Problem Identification

Assessing Current Conditions

Water Quality

Problem

Algae Blooms
Runoff Pollution
Threats
Fish Kills

Data

Trophic State Index
Loads/lbs/acre
Land uses/trends
Watershed size
Temperature &
Dissolved O₂

Problem Identification

Assessing Current Conditions

Recreation

Problem

User Conflicts

Data

Accident rates

User surveys

Boat per acre

Piers and access sites per
acre



Problem Identification

Assessing Current Conditions

Aquatic Plants

Problem

Too many - impairs
navigation or recreation

Too few - limited
habitat

Exotics/invasives

Data

Percent Area Coverage

Species Composition

Density/Diversity

Floristic Quality Index

Biomass lbs/acre

Problem Identification

Assessing Current Conditions

Fisheries

Problem

Unbalanced Fisheries
Stunted Growth
Rough Fish Dominance
Poor Success

Data

Species composition
Age length ratio
lbs. or fish per acre
Catch per effort

Problem Identification

Assessing Current Conditions

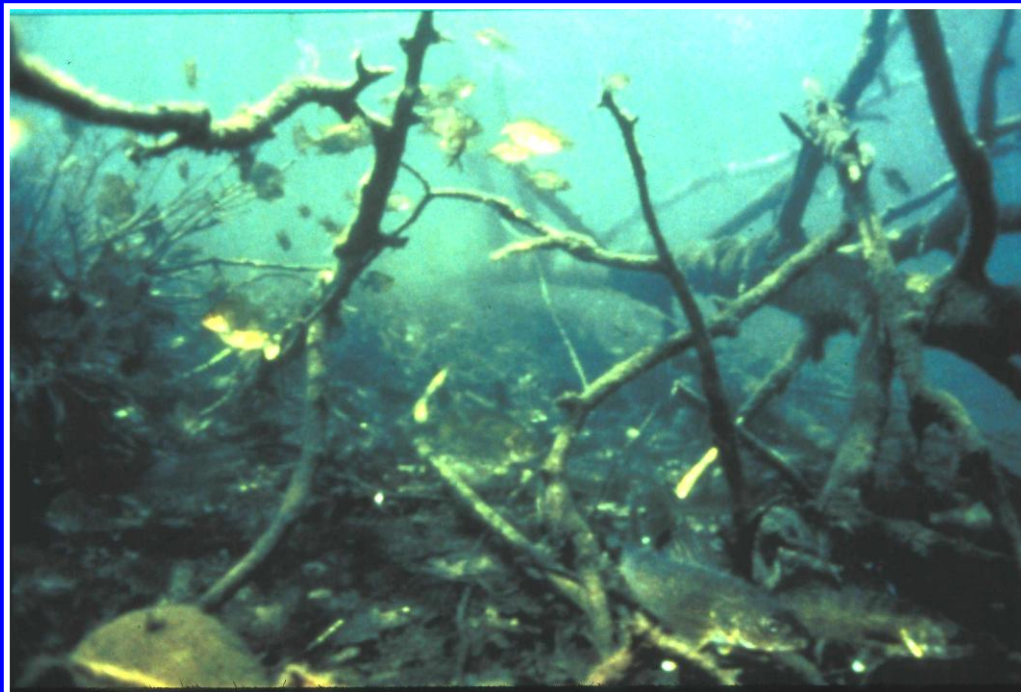
Near Shore Habitat

Problem

Limited habitat
Aesthetics

Data

Substrate
Woody Cover
Structure of Vegetation
Structures/mile
Variation in Depth and
Gradients
Species Lists, Community
Structures



Analysis

Determining Management Potential

Compare Current Conditions to a Reference

- Historical Conditions - Paleo Cores
- Established Standards or Guidelines
- Comparison to Similar Lakes in Ecoregion
- Expected or Predicted Conditions Using Models

Lake Appraisal Report

Preliminary Analysis

- Characterize the lake's conditions
- Identify beneficial and desired uses
- Problems, impairments or threats
- Potential causes or sources
- Possible actions to be taken or evaluated
- Determine if protection, management or restoration mode

Lake Conditions

Good

Bad



Protect

Improve

Restore

Management Strategy

Protection Strategies

Good to excellent conditions, public is satisfied with resource conditions

Focus on maintaining existing conditions as the management objectives

Manage threats

Watershed planning, critical sites, most protective zoning class, enforcement, education strategies to promote stewardship, baseline monitoring to detect changes

Protection Strategies

The background of the slide is a photograph of a natural landscape. It shows a dense forest of tall, thin trees, likely pines or cypresses, with some deciduous trees in the foreground. The trees are reflected in a calm body of water in the foreground. The sky is a pale, overcast blue. The overall scene is peaceful and natural.

Good to excellent conditions, public is satisfied with resource conditions

Focus on maintaining existing conditions as the management objectives

Manage threats

Watershed planning, critical sites, most protective zoning class, enforcement, education strategies to promote stewardship, baseline monitoring to detect changes

Improvement Strategies

Generally good conditions - few signs of decline or problems to be addressed

Include protection strategies to halt degradation, manage specific problems

Additional inventory and analysis work to diagnose problems and develop specific management plan and objectives



Restoration Strategies

Poor conditions, nuisance algae blooms
aquatic plants, unbalanced fishery, not
meeting beneficial uses. Complex lakes

Recommend protection and aggressive
improvement strategies

More detailed planning to diagnose problems
and determine feasibility of management
actions.

JUL 29 2004

Design Study Needs to Complete the Plan

- Lake and tributary monitoring
- In lake and tributary modeling
- Sediment
- Plant and animal surveys
- Detailed mapping
- Follow up surveys



Alternative Generation & Selection

List All Possible Protection, Improvement or Restoration Actions and Conduct Achievability Analysis

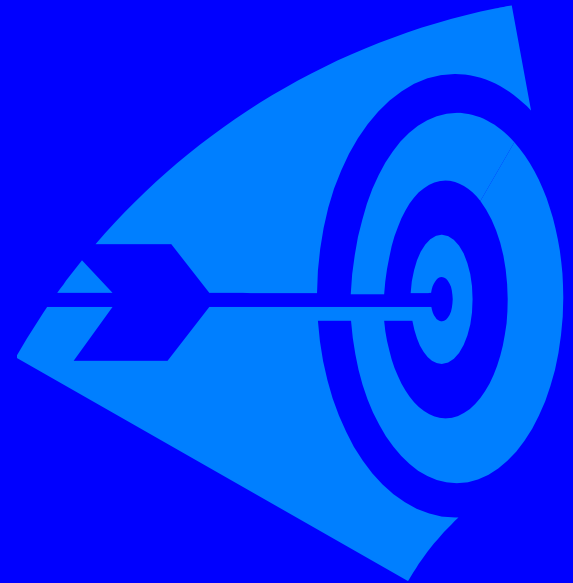
- What is reasonable given lake potential?
- What management activities are feasible?
- Will the water quality and habitat objectives achievable?
- Will action be effective?
- Will it be cost effective?
- Will it be acceptable to public?
- Legal and practical constraints

Recommendations Plan Development

- Appraisal Report - Lake Conditions & Goals
- Water Quality & Habitat Management Objectives
- Analysis and Methods
- Alternatives Considered
- Recommendations
- Implementation - Action Plan/Timeline
- Financial Plan

Adoption and Approval

- Public Input Throughout
- Public Comment on Draft Plan
- Consider Comments
- Finalize
- Adopt locally
- DNR review



Implementation

- Priorities/ Action Plan
- Schedule/time line
- Funding
- Roles & Responsibilities
- Admin
- Legal
- Finance
- I&E



Monitor & Modify

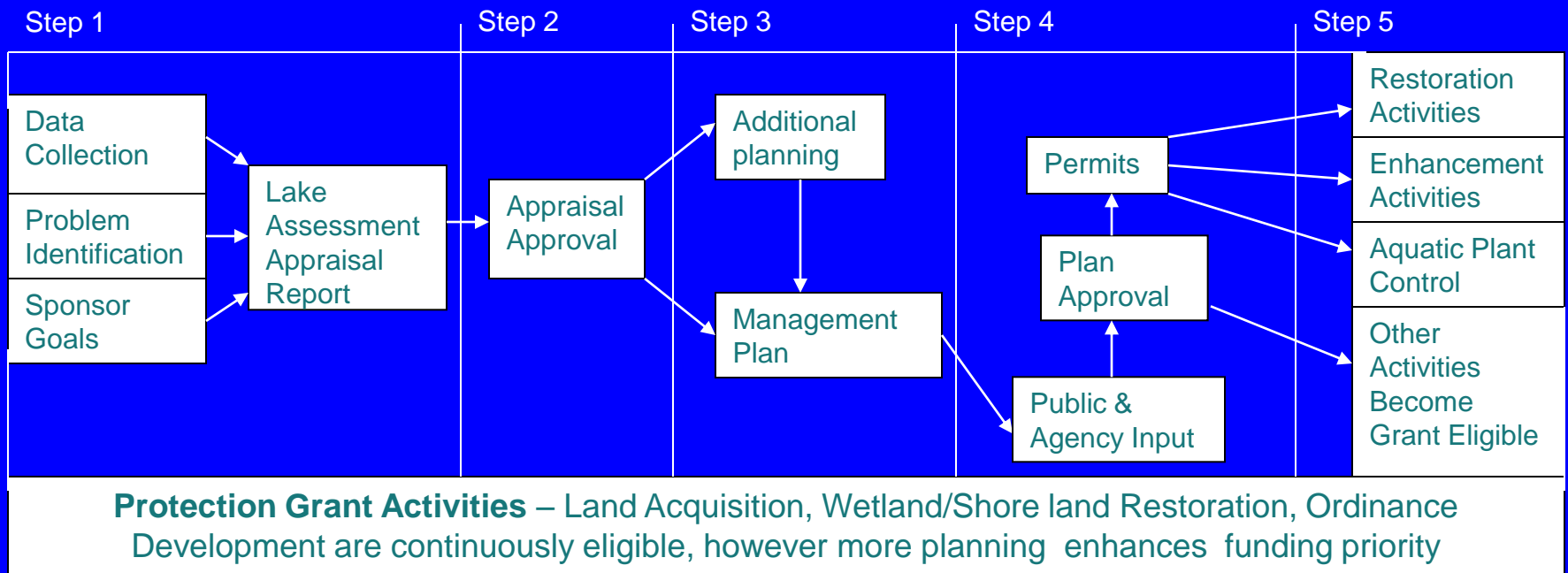
- Long term monitoring plan
- Evaluation how to track meeting objectives
- Update periodically



How the process fits lake grants

- Small Scale Planning Grants - \$3,000
 - Organize, Prepare, Monitor and Augment
- Large Scale Planning Grants - \$10,000
 - Appraisal Report
 - Phased Plan Development
- Lake Protection Grants - \$200,000
 - Diagnostic/Feasibility

Planning Framework Flow Chart



Step 1. Appraisal - Collect existing easy to obtain data including one year of basic water quality data. ID what is known about the lake, perceived problems and what people desire. An assessment characterizes the resource, determines ecological potential and sets general management strategy. Lays the groundwork for all future activities.

Protection Activities are continuously eligible - do not require plan approval. However, some data for application requirements
Step 2. Appraisal Approval - DNR & partners agree on general lake management directions. Sets foundation for future management and avoids unnecessary planning. Check point for data entry into DNR system. Approved study plan including a commitment to phased planning grants.

Step 3. Management Plan - Creation of a management plan with specific management objectives. May proceed on single track i.e. APM, water quality, lake use, habitat or be comprehensive. Level of additional planning dependent on complexity of issues.

Step 4. Plan Approval - The sponsor adopts the plan after public and DNR and other agency's input. Environmental Assessments and permits issued if required. Sponsor may apply for protection grants for implementation.

Step 5. - Implementation

Key Guidance

- Vilas County Lake Resource Guide
- Hale Lake Model Plan - UWEX
- Managing Lakes and Reservoirs - EPA
- How's the Water ? - UWEX