Strategic planning for Climate Change

Presented by Seth Moore, PhD
Grand Portage Band of Chippewa using examples from the Grand Portage Climate Change Adaptation Plan

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Outline

- Science of strategic planning
  - Structure of a strategic plan
  - Developing key components
  - Measuring performance

- Techniques for developing strategy
  - Process for developing a plan
  - Trigger points and management thresholds
  - Paradigm shifts
  - Political action

- Swinomish tool box
Strategic Management Terminology

Vision
Where are we going?

Goals
What do we hope to do?

Objectives
What will we specifically do?

Measures
How are we doing?

Strategy
How will we get there?

Mission
Why do we exist?
Strategic Management Terminology

<table>
<thead>
<tr>
<th>Components</th>
<th>Definition</th>
<th>Key Questions Answered</th>
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<tr>
<td>MISSION</td>
<td>A comprehensive statement covering the major functions and operations of the agency¹</td>
<td>What is our purpose? For whom are we here?</td>
</tr>
<tr>
<td>VISION</td>
<td>An inspirational, forward-thinking view of what the organization wants to become</td>
<td>What do we want to be in the future? What is our ideal state?</td>
</tr>
<tr>
<td>GOAL</td>
<td>The top priorities that would achieve the vision</td>
<td>What high level priorities can help us realize our vision and deliver against our mission?</td>
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<tr>
<td>OBJECTIVES</td>
<td>A set of measurable and realistic outcomes that collectively support goal attainment</td>
<td>How can our goals be broken down into measurable outcomes?</td>
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<tr>
<td>PERFORMANCE INDICATORS</td>
<td>A description of how the objectives are to be achieved, including resource requirements¹</td>
<td>What areas of focus can we identify within our objectives to achieve measurement targets?</td>
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<tr>
<td>STRATEGIES</td>
<td>Specific and justifiable projects that have direct linkage to strategies, objectives, and goals</td>
<td>What projects/activities support our strategies in achieving measurement targets?</td>
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</table>

¹ Source: Government Performance Results Act

USDA CFO Strategic Plan 2007-2012
Common Attributes of a Good Mission Statement

- Define Success
- Achievable
- Measurable
- Results-Oriented
- Identify Customer
- Show Value Added to Customer
- Unique to Organization
A Mission derives from mandates, and includes the larger social or political needs that the organization seeks to fill.

**Attributes of a “good” Mission Statement include:**

- States why your Organization exist
- Describes what your Organization does
- States what “outcomes” you are attempting to create for your customer
- Provides guidance for strategic and operational decision making to get the whole organization focused to meet the customers needs
Mission Statement

Strategic Plan for Wildlife and Environmental Management
Grand Portage Band of Lake Superior Chippewa

“Our mission is to ensure the health of the region’s ecosystem, namely air quality, water, forests, water, fisheries and wildlife.”
Common Attributes of a Good Vision Statement

- Show where organization is going in future
- Inspire and energize the workforce
- Helps create a mental image of the idealized state
- Usually has summary statement for the organization to rally around
“Good” Vision Statements

A Vision is a description of the desired future state of your organization.

Attributes of a “good” Vision Statement include:

– Represents consensus concerning what the organization can accomplish; or can be

– Provides a beacon; giving organizational members direction

– Is brief, communicates in simple language

– Challenges and inspires organizational members to put forth their best efforts
Vision of the Grand Portage Climate Change Adaptation Plan

“Demonstrated leadership in Tribal Environmental and Natural Resources Management in the face of a changing climate”

We will honor Ojibwe practices and principles in the creation and implementation of our Plan. Fundamental to Ojibwe philosophy are the understanding of the connectivity between all living elements in the world and the practice of Seventh Generation Planning, which will guide the development and execution of our Plan. To complement our understanding of the Ojibwe worldview, we will base our restoration projects on the basis of sound science, incorporating tools and protocols established and accepted by the scientific community. As the Grand Portage Ojibwe are one of the earliest and longest established inhabitants of this region, we aim to ensure their continued existence for their future generations.
“Good” Strategic Goals

A **General (Strategic) Goal** is an elaboration of the mission statement and vision statement.

**Attributes of a “good” Strategic Goal Statement include:**

- Expressed so as to facilitate future assessment as to whether the goal was or is being achieved.
- Is open-ended.
- Is outcome or results oriented.
- Maybe difficult to measure directly.
- They are results-oriented (e.g., reducing workplace accidents) rather than output or process oriented.
- They are measurable, i.e., quantitative or otherwise expressed in a way that will permit assessment of whether they have been achieved.
A Format for Your Goals

Suggested Format for Organization General (Strategic)

Goals:
To be __________
To provide___________
To ensure____________
To deliver___________

- **Fisheries**: To support through sound natural resources management sustainable populations of native fish species, in particular those fish species used for subsistence.
- **Water Quality**: To maintain Lake Superior as a healthy drinking water supply.
- **Wetlands**: To maintain native flora and fauna communities within our wetlands.
- **Forestry**: To manage Grand Portage’s forest resources in a long-term sustainable manner providing for the needs of the Grand Portage Band and preserving ecological integrity.
“Good” Strategic Objectives

A **General (Strategic) Objective** is an elaboration of the general (strategic) goal. Each general (strategic) objective should provide greater specificity of the general (strategic) goal that your organization is working to achieve.

**Attributes of a “good” Strategic Objective include:**

- Expressed so as to facilitate future assessment as to whether the supported strategic goal was or is being achieved.
- Is closed-ended (contains an achievement date)
- Is outcome oriented or is output oriented, results may be intermediate
- Is directly measurable
A Format for Your Objectives

Suggested Format for Organization General (Strategic) Objectives:

• Performance Measure, Indicator, or Metric
• Direction of Change (e.g., increase, reduce)
• Target to be achieved or amount of change desired
• Date by which change is expected to be achieved

Examples:

– Brook Trout: To restore brook trout to their native range and to develop potential for a sustainable subsistence harvest.

– Moose: To manage for self-sustaining moose herd that can be harvested for subsistence.

Are these good objectives using the criteria above?
SMART Objectives

Brook Trout: To restore brook trout to Trout Lake, Swamp Lake, and Taylor Lake at minimum populations of 10 fish/electrofishing hour by 2017.

Moose: To manage for self-sustaining moose herd of at least 50 animals on the reservation that can be harvested for subsistence into perpetuity.
Strategies

What is to be accomplished?

Tied to:
The mission statement
vision statement
strategic goals
strategic objectives, and performance measures
must articulate how to accomplish objectives.

How are the strategic goals and strategic objectives to be achieved?
Examples of Strategies

Grand Portage Climate Change Adaptation Plan

- **Water Quality** – Vulnerability: Increased extreme weather will lead to high intensity rain storms and extreme runoff and sedimentation will result.
  Strategy: Culverts and drainage ditches must be scaled upward by at least one order of magnitude. We will incorporate the use of bottomless culverts using best management practices.

- **Taylor Lake** – If brook trout CPUE (fish per fyke net) in the fall averages less than 1 for three consecutive years, **OR** if water temperatures of the hypolimnion exceed 20 °C during summer stratification we will discontinue our brook trout management (stocking), and will consider transitioning the lake to warmer water species like yellow perch and walleye. If brook trout CPUE averages greater than 1 per fyke net **AND** hypolimnion water temperatures in the summer remain lower than 20 °C, we will continue management for brook trout.
“Good” Performance Measures

A Performance Measure is an indicator, statistic, or metric used to gauge program performance.

Attributes of a “good” Performance Measure include:

- Can be measured
- Can be used for benchmarking
- Will help identify success or failure in a timely manner
- Drive the desired behaviors

Lagging Indicator: Performance measures that represent the consequences of actions previously taken are referred to as lag indicators. They frequently focus on results at the end of a time period and characterize historical performance.

Leading Indicator: These measures are considered the “drivers” of lagging indicators. There is an assumed relationship between the two that suggests that improved performance is a leading indicator will drive better performance in the lagging indicator. For example, lowering absenteeism (a leading indicator) is hypothesized to drive improvements in employee satisfaction (a lagging indicator).
Performance measure example

**Trout Lake Walleye Management**

If spring walleye CPUE (fish per lakewide survey) is lower than 5, we will continue stocking walleye fingerlings, and restrict walleye harvest by anglers. If spring walleye CPUE is between 5-30, we will continue stocking walleye fingerlings and place no restrictions on walleye harvest by anglers. If walleye CPUE is > 30 for multiple years, we will discontinue our stocking efforts and conclude that the lake is self-sustaining for walleye.
Adaptation strategies

• Identify vulnerabilities
• Conduct baseline sampling
• Identify measurable points at which strategies should be implemented
• Define thresholds and strategies and intended effects
• Have plan supported by leadership
Acute Trigger points

- Air quality – BAM..
- Water quality - ...
- Wetlands – N:P ratio and total N exceed..
- Fisheries - Trout lake example
Acute - Wildfire in Airshed

• When BAM monitor exceeds 41-65 ug/m$^3$ unsafe for sensitive parts of population, 65-150 ug/m$^3$ unhealthy

• Alert school, Clinic, Community Center, Headstart, Elder complex

• Put up flyers, mass email, call public radio station, newspaper

• Continue monitoring and updates, similar notification when level drops
Management thresholds

- Moose population thresholds
- Trout lake population and water temp
Management Thresholds

Moose population decline from 1990-present

• Thresholds: >60 do nothing
  >10 and <60 active restoration
  <10 for five years: Manage for deer

• Change harvest limits
• Manage for bull only harvest
• Conduct research on moose
• Manage habitat (through forestry)
Acute trigger points – Trout Lake Fishery

• When brook trout population exceeds Catch Per Unit Effort (CPUE) of 15 fish/electrofishing hour - do nothing

• When brook trout population falls between 5-15/e-fishing hour – aggressive restoration – supplemental stocking, limit harvests

• When brook trout CPUE falls to 0-5 for three years, shift to warm water fish assemblage
Trout Lake Fall Electrofishing  Brook trout catch 1998-2012

Healthy population threshold

$y = -2.827\ln(x) + 6.3774$

$R^2 = 0.6904$

Aggressive restoration

Shift to warm water fish assemblage

Brook trout catch

Log.(Brook trout catch)
Paradigm shifts

• Fisheries community
• Invasive species
• Water temperature monitoring
Fisheries Paradigm shifts..

**Fish Community**
Increased water temperatures may force a shift in fisheries management from cold-cool water species to cool-warm water species.

**Aquatic Invasive Species (AIS)**
Warming water temperatures will enhance or expand habitats for invasive species particularly in nearshore areas, and increase the potential for new invasive species to establish a population. Increased AIS surveys are necessary to monitor and detect AIS, which typically outcompete and displace native species.

**Water Temperature Monitoring**
Declines in ice cover and increasing water temperatures will affect biota. It is necessary to closely monitor water temperatures in Grand Portage. Enhanced monitoring of surface waters and the hypolimnion during and extreme weather events or summer stratification periods are needed to evaluate the sustainability of the water body to support its current fish community.
Political action

- NAF/NCAI
- GLRI
- Great Lakes Fisheries Commission
- Binational Program
- Lake Area Management Plans
RESOLUTION NO. 20-13

The Grand Portage Reservation Tribal Council, on behalf of the Grand Portage Band of Chippewa, enacts the following resolution:

WHEREAS, the governing body of the Grand Portage Band of the Minnesota Chippewa Tribe is the Reservation Business Committee (also known as the Reservation Tribal Council (RTC)) pursuant to Article III, Section 2 of the Minnesota Chippewa Tribe Constitution; and

WHEREAS, the Grand Portage Band of the Minnesota Chippewa Tribe (Band) is a federally recognized Indian tribe possessing the inherent sovereign authority of an independent government; and

WHEREAS, the Grand Portage Band members exercise treaty usufructuary rights (or hunting, fishing and gathering rights) off-reservation and over the land they ceded to the federal government in the 1854 Treaty of LaPointe (10 Stat. 1109); and

WHEREAS, there is overwhelming scientific evidence to climate change driven primarily by the release of greenhouse gases into the atmosphere, the effects of which will significantly affect environment, natural resources, and infrastructure on which the Tribes have traditionally relied on; and

WHEREAS, the potential impacts of climate change may include loss of habitat, reduced viability of fish and wildlife species, damage to forest resources, reduced air and water quality and quantity, damage to infrastructure and facilities, and associated risks to human health and welfare; and

WHEREAS, inaction in the present may yield negative social, environmental, cultural, and economic consequences in the future; and

NOW, THEREFORE, BE IT RESOLVED that the Grand Portage Band of Chippewa Reservation Tribal Council recognizes and acknowledges the potential impacts of climate change and declares the intent and commitment of the Tribe to address effects of climate change, and also hereby declares and directs the following actions to be taken under this initiative:

To undertake efforts to determine the potential effects of climate change on or to the Grand Portage Reservation lands, including effects and projected impacts on the local environment, forestry, fisheries, wildlife, air quality and water quality, as well as critical infrastructure and public health;
Potential Adaptation Options

- Incentives/programmatic/non-regulatory
- Regulatory/code controls
- Practical/engineering solutions
- Risk prevention planning
- Emergency preparedness
- Other
Strategies

• “No regrets” strategies: provide benefits now, with or without climate change
• “Low regrets” strategies: provide climate change benefits for little additional cost or risk
• “Win-Win” strategies: reduce climate change impacts while providing other environmental, social or economic benefits
Other things to think about:

• Time horizon for action—near term, long term?
• Will adaptation action help with climate change mitigation or not (does it decrease GHG emissions, does it increase GHG emissions)
• Outreach and education to generate support for specific actions, to get voluntary change at household level
• Building partnerships/collaborations w/in tribe, external to tribe
• Building ecosystem resilience to CC impacts