Telling your agency's story
“From the Field to the Dashboard”
We are good (now) at collecting field data
We have become good (great?) data analysts
Data <> Information!

AM I THE BEST DATA ANALYST?

YES

NO

STOP BEING MODEST

IF I SAY "FIRST OF ALL"
RUN AWAY BECAUSE I HAVE PREPARED RESEARCH, DATA, CHARTS AND WILL DESTROY YOU.
Does too much data impede us?
Your management
Is it too easy?
You:

“...I need access to all this data so I can tell a more comprehensive story... please...”
How can we tell our story?
WE HAVE A STRATEGIC PLAN. IT'S CALLED DOING THINGS.
How do you measure progress?
Strategic Management Priorities

The State of Missouri’s 16 Cabinet Departments are committed to providing a state government that is more focused, more efficient, and delivers better results for its citizens.

The State of Missouri Cabinet team has developed a management change agenda to improve how our government operates. Like any other organization, improving government performance requires clear priorities.

Each of the State’s 16 Cabinet Departments have developed strategic management priorities. Simple “placemats” summarize these priorities, including:

- **Aspiration:** A department’s overall goal for the next 5 or more years.
- **Themes:** A department’s main “chapters” or lines of effort to achieve the overall Aspiration.
- **Initiatives:** A department’s high priority Initiatives to advance its Themes and Aspiration. These priority initiatives are usually completed in 1 year or less. Departments will launch new initiatives as needed.

To understand our Department’s strategic management priorities, please see their placemats below.
Strategic Management Priorities

Department of Conservation

MISSOURI
Department of Conservation
2019 Version 1.0

ASPIRATION
A Missouri with healthy fish, forests, and wildlife where all citizens appreciate nature

THEMES
Take care of nature
- Missouri has healthy land, water, and forests
- Missouri has sustainable fish and wildlife

Connect people with nature
- Missourians have places to go to enjoy nature
- Missourians value nature

Maintain public trust
- Missourians are confident their investments are used wisely
- Missouri is a recognized leader in conservation

INITIATIVES

- Implement our Comprehensive Conservation Strategy (CCS) to prioritize and tier our approach to water and land management in Missouri
- Maintain and improve the ecological functions of Missouri’s watersheds and wetland systems
- Prevent, where possible, and control the impacts of priority invasive species and diseases
- Manage harvestable fish and wildlife species at biologically and socially acceptable levels
- Recover and maintain species of conservation concern (SOCC) to sustainable levels
- Increase voluntary compliance with the Wildlife Code of Missouri through outreach and education

- Use our Land Conservation Strategy (LCS) to focus future acquisitions, disposals, and resource protection
- Implement a Community Conservation Strategy
- Expand opportunities for outdoor recreation activities on MDC and partner lands and facilities
- Implement a tiered approach to area maintenance and infrastructure development
- Develop a statewide relevancy campaign to showcase the importance of nature in our economic vitality and quality of life
- Deliver efficient and effective nature-based educational programs to diverse audiences
- Cultivate partnerships with school districts and other organizations

- Anticipate the needs of customers and deliver high-quality products and services
- Promote a culture of continuous improvement
- Recruit, develop, and retain a diverse and skilled workforce
- Support a positive work environment where all people are valued and respected
<table>
<thead>
<tr>
<th>GOALS</th>
<th>OUTCOMES</th>
<th>STRATEGIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDC TAKES CARE OF NATURE</td>
<td>Missouri has healthy land, water, and forests</td>
<td>Implement our Comprehensive Conservation Strategy (CCS) to prioritize and tier our approach to water and land management in Missouri</td>
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<td></td>
<td>Maintain and improve the ecological functions of Missouri’s watersheds and wetland systems</td>
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<td></td>
<td>Prevent, where possible, and control the impacts of priority invasive species and diseases</td>
</tr>
<tr>
<td></td>
<td>Missouri has sustainable fish and wildlife</td>
<td>Manage, through sound science, harvestable fish and wildlife species at biologically and socially acceptable levels</td>
</tr>
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<td></td>
<td></td>
<td>Recover and maintain species of conservation concern (SOCC) to sustainable levels</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increase voluntary compliance with the Wildlife Code of Missouri through a community policing approach to resource law enforcement</td>
</tr>
<tr>
<td>MDC CONNECTS PEOPLE WITH NATURE</td>
<td>Missourians have places to go to enjoy nature</td>
<td>Use our Land Conservation Strategy (LCS) to focus future acquisitions, disposals, and resource protection</td>
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<tr>
<td></td>
<td></td>
<td>Implement a Community Conservation strategy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Expand opportunities for outdoor recreation activities on MDC and partner lands and facilities</td>
</tr>
<tr>
<td></td>
<td>Missourians value nature</td>
<td>Title too long: Develop a statewide relevancy campaign to showcase the importance of nature in our economic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Deliver efficient and effective nature-based educational programs to diverse audiences</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cultivate partnerships with organizations that build MDC’s capacity to deliver conservation</td>
</tr>
<tr>
<td>MDC MAINTAINS PUBLIC TRUST</td>
<td>Missourians are confident their investments are used wisely</td>
<td>Anticipate the needs of customers and deliver high-quality products and services</td>
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<td></td>
<td></td>
<td>Promote a culture of continuous improvement</td>
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<td></td>
<td></td>
<td>Support a positive work environment where all people are valued and respected</td>
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</table>
TELL ME A STORY
...that I can understand
Measures Visualization Project (MVP) Overview

- To prioritize and implement the MDC Strategic Plan Measures

- To have sustainable measures with a reliable source of data from which to generate charts, graphs and outputs

- To improve data management as an Agency priority *knowing* it will take support from all Divisions to attain success
## Measures

<table>
<thead>
<tr>
<th>Measure Number</th>
<th>Measure Title</th>
<th>Measure Champion(s)</th>
<th>Measure Division(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1.1</td>
<td>Number of citizen interactions meets target</td>
<td>Alex Prentice</td>
<td>Fisheries</td>
</tr>
<tr>
<td>1.1.1</td>
<td>External customer satisfaction scores meet target</td>
<td>Chris Cloyd, Tom Treiman</td>
<td>Outreach and Education, Resource ...</td>
</tr>
<tr>
<td>1.1.2</td>
<td>Internal customer satisfaction scores meet target</td>
<td>Audrey Beres, Chris Cloyd</td>
<td>Outreach and Education, Resource ...</td>
</tr>
<tr>
<td>1.2.1</td>
<td>100% staff have achieved white belt status for continuous improvement</td>
<td>Audrey Beres, Kendra Withhaus</td>
<td>Administrative Services, Design a...</td>
</tr>
<tr>
<td>1.2.1</td>
<td>X% of statewide stream monitoring sites meet the threshold for biological integrity</td>
<td>Matt Combes, Brett Landwer</td>
<td>Administrative Services, Fisheries</td>
</tr>
</tbody>
</table>
1. General overview of the data
   • What is being collected and why? (operational, regulatory, other?)
   • What do the fields mean?

2. How are data collected for this measure?
   • Manual input from one user/analysis
   • Automated/updated by multiple users

3. Are these data currently being reported on?
   • Who are the stakeholders?

4. Highlight interesting **data dimensions**
   • Ex: Total revenue vs. total revenue over **time** and by **business sector**
Identify the “Where”!

1. Verify source/format that we have in our tracking spreadsheet
2. Does the format change?
   • New columns, field name changes, etc.
3. Single source or multiple datasets?
Don’t Forget the Metadata

1. Data dictionary available?
   • If no, would it be required?

2. Are there any external sources of the data, if applicable?

3. How often are the data updated?
   • Real-time, daily, monthly, annually, etc.

4. Any considerations for “null” data
   • Interpolate / extrapolate vs. exclusion
Measuring Progress. Decide on Thresholds

- Would like to define a “red/yellow/green stop light” status for each measure

- Measure status score will be normalized and rolled up into outcome scores which will be rolled up into goal scores
“The end product”
"The How"
Decide on Thresholds – Proposed Workflow

<table>
<thead>
<tr>
<th>Custom Calculation</th>
<th>Standard Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal 1</td>
<td></td>
</tr>
<tr>
<td>Outcome 1.1</td>
<td></td>
</tr>
<tr>
<td>Outcome 1.2</td>
<td></td>
</tr>
<tr>
<td>Outcome 1.3</td>
<td></td>
</tr>
</tbody>
</table>

Measures:
- Measure 1.1.1.1
- Measure 1.2.1.1
- Measure 1.3.1.1

Outcomes:
- Outcome 1.1
- Outcome 1.2
- Outcome 1.3
Decide on Thresholds - Example

Measure X Target is **continuous**
- Actual Value: 50,000 units
- Target Met

Thresholds:
- 100,000 units
- 25,000 units

Measure X gets 2 points

Measure Y Target is **binary** (yes/no, met or did not meet)
- Actual Value: 25,000 units
- Target Not Met

Thresholds:
- 50,000 units

Target Met
- Measure Y gets 3 points
Decide on Thresholds - Example

Measure X 2 points

Measure Y 3 points

Normalization to a common percentage scale

Measure X = 0.50

Measure Y = 1.00

Average

Outcome XY = 0.75

Repeat for Goal Calculation Using Outcomes
### How We Worked with Measure Owners - Checklist

<table>
<thead>
<tr>
<th></th>
<th>Define the measure</th>
<th>Draft / Finalize Visualization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Define the measure</strong>&lt;br&gt;• What decision does it inform (value proposition)?&lt;br&gt;• Who is our audience?&lt;br&gt;• What are we trying to measure?&lt;br&gt;</td>
<td><strong>Draft / Finalize Visualization</strong>&lt;br&gt;• Work to develop a compelling visualization&lt;br&gt;• Helps define data transformations&lt;br&gt;• May take several iterations and can change in future&lt;br&gt;</td>
</tr>
<tr>
<td>2</td>
<td><strong>Identify the format and source of the data</strong>&lt;br&gt;• SQL Database – Preferred&lt;br&gt;• Excel&lt;br&gt;• Unstructured&lt;br&gt;</td>
<td><strong>Obtain or create high-level metadata</strong>&lt;br&gt;• How often are these data updated?&lt;br&gt;• Do they change schema?&lt;br&gt;• Can they be retrieved programmatically?&lt;br&gt;</td>
</tr>
<tr>
<td>3</td>
<td><strong>Create a measure threshold calculation</strong>&lt;br&gt;• What can drive a &quot;Low&quot;/&quot;Medium&quot;/&quot;High&quot; progress score?&lt;br&gt;• Define a calculation that can be used to produce this score.&lt;br&gt;</td>
<td><strong>Automate data gathering and score calculation</strong>&lt;br&gt;• Set up automated data flows that will power visualizations and scores as underlying data is updated&lt;br&gt;</td>
</tr>
</tbody>
</table>
MDC Goal: Do it Yourself
Goal 2
MDC Connects People with Nature

Outcome 2.1
Missourians have places to go to enjoy nature
88% complete

Outcome 2.2
Missourians value nature
64% complete

Goal 3
MDC Maintains Public Trust

Outcome 3.1
Outcome 3.2
Strategic Planning Dashboard

GOAL 2
MDC Connects People with Nature

Outcome 2.2 Missourians value nature

Cumulative

64 percent complete

- Number of jobs supported by conservation
- Value of economic impact supported by conservation
- Unique digital connections
Outcome 2.2 Missourians value nature
< back to Goal 2 Outcomes
< back to Dashboard

- Number of jobs supported by conservation
- Value of economic impact supported by conservation
- Unique digital connections
- Public and private schools using formal MDC curriculum
- OE Visitation
Total Digital Connections for Current Year

4,752,836

Fiscal Year

<table>
<thead>
<tr>
<th>Channel</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>GovDelivery</td>
<td>246,270</td>
<td>968,684</td>
<td>999,499</td>
</tr>
<tr>
<td>Mobile Apps</td>
<td>200,361</td>
<td>174,619</td>
<td>91,803</td>
</tr>
<tr>
<td>Social Media</td>
<td>261,723</td>
<td>294,777</td>
<td>307,619</td>
</tr>
<tr>
<td>Web</td>
<td>5,782,063</td>
<td>5,685,919</td>
<td>3,764,915</td>
</tr>
<tr>
<td>Grand Total</td>
<td>6,590,417</td>
<td>6,661,990</td>
<td>4,752,836</td>
</tr>
</tbody>
</table>
MDC Strategic Planning Management Tool

Welcome to the MDC Strategic Planning Management Tool

Here, you can edit the information that is displayed to the public on the public-facing Business Intelligence application.

Public Application
# Goals

<table>
<thead>
<tr>
<th>Goal Number</th>
<th>Goal Title</th>
<th>Goal Champion</th>
<th>Goal Active?</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MDC Takes Care of Nature</td>
<td>Mike Hubbard</td>
<td>Yes</td>
<td>View</td>
</tr>
<tr>
<td>2</td>
<td>MDC Connects People with Nature</td>
<td>Aaron Jeffries</td>
<td>Yes</td>
<td>Edit</td>
</tr>
<tr>
<td>3</td>
<td>MDC Maintains Public Trust</td>
<td>Jennifer Battson Warren</td>
<td>Yes</td>
<td>Delete</td>
</tr>
</tbody>
</table>

Showing 1 to 3 of 3 entries

[Image of a webpage showing a table of goals]
Goal: 1

Goal Number: 1
Goal Title: MDC Takes Care of Nature
Goal Champion: Mike Hubbard
Goal Active?: Yes

Notes: N/A

Created By: MDC\Wittik
Created Date: 07/31/2019
Last Updated By: MDC\Wittik
Last Updated Date: 09/30/2019

Associated Outcomes
Associated Strategies
Associated Measures
Associated Actions
## Goal: 1

### Goal Details

**Goal Number:** 1  
**Goal Title:** MDC Takes Care of Nature  
**Goal Champion:** Mike Hubbard  
**Goal Active?** Yes  
**Notes:** N/A  
**Created By:** MDC\Wittic  
**Created Date:** 07/31/2019  
**Last Updated By:** MDC\Waava2  
**Last Updated Date:** 09/30/2019

### Associated Outcomes

1.1 - Missouri has healthy land, water, and forests

### Associated Strategies

1.1.1 - Implement our Comprehensive Conservation Strategy (CCS) to prioritize and tier our approach to water and land management in Missouri

1.1.2 - Maintain and improve the ecological functions of Missouri's watersheds and wetland systems

1.1.3 - Protect, manage, and control the impacts of priority invasive species and diseases
Outcome: 1.1

Goal Number
1 - MDC Takes Care of Nature

Outcome Number
1, 1

Outcome Title
Missouri has healthy land, water, and forests

Outcome Champion(s)
Brian Canaday, Lisa Allen

Outcome Status
Under Development

Notes
N/A

Outcome Active?
Yes

Created By
MDC\Wirthk

Created Date
07/31/2019

Last Updated By
MDC\Wevea2

Last Updated Date
08/04/2019

Associated Strategies

1.1.1 - Implement our Comprehensive Conservation Strategy (CCS) to prioritize and tier our approach to water and land management in Missouri

1.1.2 - Maintain and improve the ecological functions of Missouri’s watersheds and wetland systems

1.1.3 - Prevent, where possible, and control the impacts of priority invasive species and diseases

Associated Measures

1.1.1.2 - X% of ‘Priority Areas’ acres is under conservation management
## Strategy: 1.1.1

**Goal Number**
1 - MDC Takes Care of Nature

**Outcome Number**
1.1 - Missouri has healthy land, water, and forests

**Strategy Number**
1.1.1

**Strategy Title**
Implement our Comprehensive Conservation Strategy (CCS) to prioritize and tier our approach to water and land management in Missouri

**Strategy Owner(s)**
Michelle Dobbins

**Notes**
N/A

<table>
<thead>
<tr>
<th>Associated Measures</th>
<th>View</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1.1.1 - X% of conservation management (acres) is performed in 'Priority Areas'</td>
<td></td>
</tr>
<tr>
<td>1.1.1.2 - X% of 'Priority Areas' acres is under conservation management</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Associated Actions</th>
<th>View</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1.1.a - Annually evaluate modification to the conservation opportunity area (CIA) network.</td>
<td></td>
</tr>
<tr>
<td>1.1.1.b - Complete the CCS document by the end of FY20.</td>
<td></td>
</tr>
<tr>
<td>Measure Number</td>
<td>Measure Title</td>
</tr>
<tr>
<td>----------------</td>
<td>---------------</td>
</tr>
<tr>
<td>1.1.1.1</td>
<td>X% of conservation management (acres) is performed in ‘Priority Areas’</td>
</tr>
<tr>
<td>1.1.1.2</td>
<td>X% of ‘Priority Areas’ acres is under conservation management</td>
</tr>
<tr>
<td>1.1.2.1</td>
<td>X% of statewide stream monitoring sites meet the threshold for biological integrity</td>
</tr>
<tr>
<td>1.1.2.2</td>
<td>100% of RAM sites in priority watersheds meet the threshold for biological integrity</td>
</tr>
<tr>
<td>1.1.3.1</td>
<td>Number of Feral Hogs Removed from Elimination Zones</td>
</tr>
<tr>
<td>1.1.3.2</td>
<td>X% of landscape resources are saved/preserved from Feral Hog removals</td>
</tr>
<tr>
<td>1.1.3.3</td>
<td>Number of samples testing positive compared to total sampled since 2000</td>
</tr>
<tr>
<td>1.2.1.1</td>
<td>Game Fish Populations are meeting management objectives for priority species</td>
</tr>
<tr>
<td>1.2.1.2</td>
<td>Game Wildlife Populations are meeting priority management objectives</td>
</tr>
</tbody>
</table>
Create Measure

* Outcome Number

Select an Outcome...
1.1 - Missouri has healthy land, water, and forests
1.2 - Missouri has sustainable fish and wildlife
2.1 - Missourians have places to go to enjoy nature
2.2 - Missourians value nature
3.1 - Missourians are confident their investments are used wisely
3.2 - Missouri is a recognized leader in conservation

* Measure Title

* Measure Description

* Measure Champion(s)

Audrey Bokes
Stephanie Giovannetti
Jitendru Iacarza
Max Mauren

Measure Division(s)

Select All Divisions

Administrative Services
Design and Development
Fisheries
Forestry
**Measure Status**
- Under Development

**Measure Active?**
- Yes
- No

**Display measure to public?**
- Yes
- No

**Notes**
This measure will track digital connections to determine if they are meeting their targets.

### Data Visualizations

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>URL</th>
<th>Displayed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital Connections</td>
<td>Digital connections for current year</td>
<td>injections/DigitalConnectionsDash</td>
<td>Yes</td>
</tr>
<tr>
<td>Facebook</td>
<td></td>
<td>injections-social_media/Facebook</td>
<td>No</td>
</tr>
<tr>
<td>Twitter</td>
<td></td>
<td>connections-social_media/Twitter</td>
<td>No</td>
</tr>
<tr>
<td>Instagram</td>
<td></td>
<td>injections-social_media/Instagram</td>
<td>No</td>
</tr>
</tbody>
</table>
Total Digital Connections for Current Year

4,752,836

Channel
- GovDelivery
- Mobile Apps
- Social Media
- Web

Year of Fiscal Year

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Digital connections for current year

Internal Use Only Visualizations
FANS
282,532

REACH
75,194,331

ENGAGEMENT

Month of Date (GMT)
Data Stewardship Program (DSP)
See you in Fort Collins!

CHRIS GERECKE
Principal, Enterprise Solutions

chris.gerecke@timmons.com