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Modified by batch , 04/20/2021

Header  1

General Information Contact Default Values Discount Document Information Clarification Request

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Responded By User ID: MichelleBardis	Total of Header Attachments: 1
First Name: Michelle	Total of All Attachments: 1
Last Name: Bardis	
Email: michelle.bardis@timmon:	
Phone: 804-200-6983	



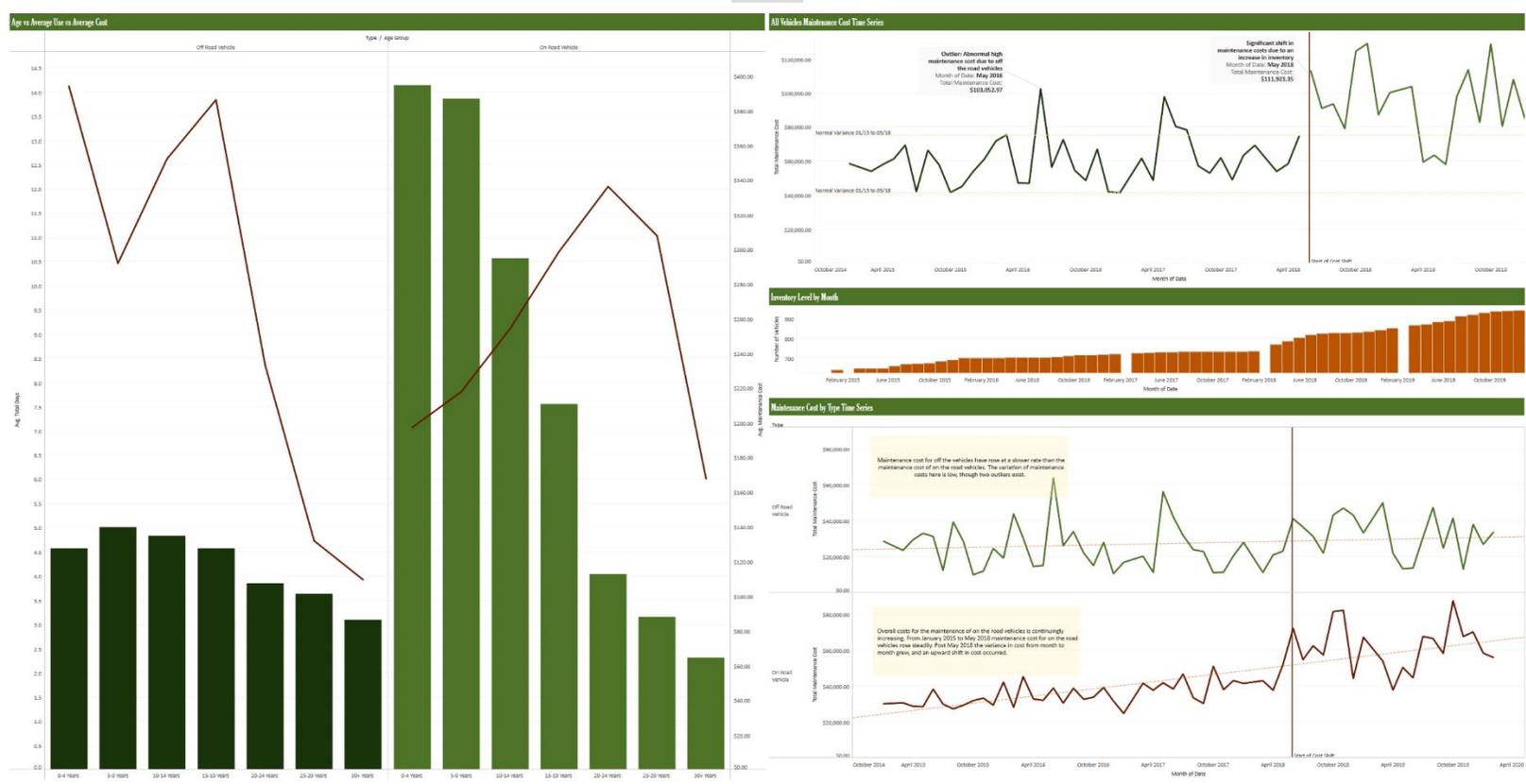
Wildlife Data Systems Assessment

West Virginia Department of Natural Resources

Date Due: April 20, 2021 | ARFQ 0310 DNR210000042

Vehicle Maintenance

Maintenance Costs



Contact: Chris Gerecke | Principal
 1001 Boulders Parkway, Suite 300, Richmond, VA 23225
 804.200.6952 phone | 804.560.1016 fax | chris.gerecke@timmons.com
www.timmonsgis.com



**State of West Virginia
Agency Request for Quote
Consulting**

Proc Folder: 855856			Reason for Modification:
Doc Description: Wildlife-Data Systems Assessment			
Proc Type: Agency Purchase Order			
Date Issued	Solicitation Closes	Solicitation No	Version
2021-03-16	2021-04-01 13:30	ARFQ 0310 DNR2100000042	1

BID RECEIVING LOCATION

BID RESPONSE
 DIVISION OF NATURAL RESOURCES
 PROPERTY & PROCUREMENT OFFICE
 324 4TH AVE
 SOUTH CHARLESTON WV 25303-1228
 US

VENDOR

Vendor Customer Code:

Vendor Name : Timmons Group

Address :

Street : 1001 Boulders Parkway, Suite 300

City : Richmond

State : Virginia **Country :** USA **Zip :** 23225

Principal Contact : Chris Gerecke

Vendor Contact Phone: 804.200.6962 **Extension:**

FOR INFORMATION CONTACT THE BUYER
 James H Adkins
 (304) 558-3397
 jamie.h.adkins@wv.gov

Vendor Signature X  **FEIN#** 54-1301413 **DATE** April 19, 2021

All offers subject to all terms and conditions contained in this solicitation



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April 20, 2021

Mr. Jamie Adkins
West Virginia Division of Natural Resources
324 4th Avenue South Charleston, WV 25303

RE: Wildlife Data Systems Assessment

Dear Mr. Adkins:

The West Virginia Division of Natural Resources, Wildlife Resources Section seeks to inventory and assess the large number of databases, processes, and applications currently used by staff across the following Units and Programs: Game Management Unit, Game Research Program, Fish Management Unit, Fish Hatchery Program, Wildlife Diversity, GIS and Technical Support Unit and Environmental Coordination Program. We understand the goal of this project is to better understand the current portfolio of applications, databases, and processes under the Wildlife Resources Section’s oversight and define an action for each based on risk and strategic alignment to the organization.

For more than 25 years, Timmons Group has consulted on, assessed, and developed technology and geospatial-based solutions for fish and wildlife and natural resource clients. **Our staff includes a broad range of subject-matter experts (SMEs) across all areas of database consulting, application development, and geospatial technologies.** From our business systems SMEs to our geospatial consultants, business analysts, mobile developers, DevOps, data scientists, systems engineers, consultants, and project managers, our award-winning team prides itself on its unique ability to understand your vision and create a solution tailored to your mission-critical business requirements.

Timmons Group has delivered several similar wildlife data systems assessments for similar agencies to WVDNR like the Missouri Department of Conservation, the Pennsylvania Game Commission, the Utah Department of Wildlife, and the Nevada Department of Wildlife. We have the experience, technical expertise, and depth of resources to assist WVDNR with this important project and to help you alleviate risk and unnecessary costs from managing and maintaining a growing number of databases and applications.

We have a corporate emphasis on client satisfaction that is demonstrated through 60+ years of business. We realize that no two clients are exactly alike, and work to create unique and engaging experiences for each one. We are open to providing more detailed information on any facet of this proposal, either in person or on the phone / Zoom.

We appreciate your consideration and hope to work with you on this important project. If you have any questions regarding the materials presented in this proposal, please feel free to contact me directly at 804.200.6962 or at chris.gerecke@timmons.com.

Sincerely,

Chris Gerecke | Principal





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COMPANY OVERVIEW

PROPOSAL CONTACT

Chris Gerecke, CSPO
Principal in Charge

☎ 804.200.6962

✉ Chris.Gerecke@timmons.com

OUR MISSION

To achieve unparalleled understanding of our clients, their businesses and their visions resulting in unrivaled customer service and shared success.



WE HAVE 15 OFFICES NATIONWIDE IN:

- Virginia (Richmond HQ)
- North Carolina
- Maryland
- Texas
- Arizona

AND 8 FIELD OFFICES IN:

- Washington, D.C.
- Georgia
- Tennessee
- Missouri
- Iowa
- Colorado
- Nevada
- Oregon

110 DEDICATED TECHNOLOGY STAFF

WHO WE ARE

Timmons Group is a well-established professional consulting firm with over 700 employees, providing information technology and consulting services to public and private clients throughout the U.S. and Canada since 1989. Our team develops across multiple technologies and platforms, including open-source, proprietary, and hybrid solutions. From our web and mobile developers to our database managers, systems engineers, consultants and project managers, **our award-winning team provides the unique ability to understand your vision and offer a solution tailored to your mission-critical business requirements.** We pride ourselves in being technology experts that care deeply about conservation and providing solutions to further the sustainment of the environment and our shared natural resources. Our Technology group has the experience and capability to provide a wide range of services:

PLANNING

- Requirements Definition
- Strategic Planning
- Implementation Planning
- Data Assessments

DESIGN

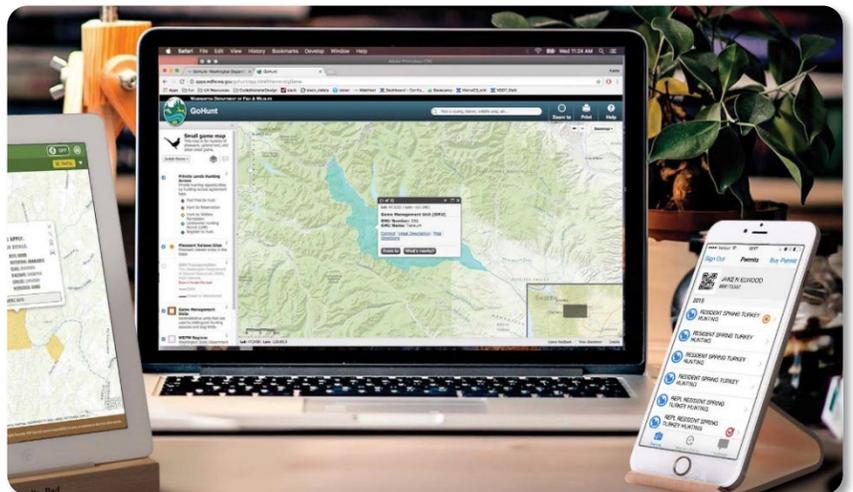
- Infrastructure Design
- Database Design
- Data Model Design
- Application Design
- GIS Infrastructure Design

DEVELOPMENT

- Application Development
- Data Conversion
- Field Data Collection
- Mobile & Web Development
- System Integration

IMPLEMENTATION

- Installation
- User & Admin Training
- Support





REFERENCES



CLIENT
Missouri Department of Conservation
Information Technology Division

CONTACT
Doug Fees
Chief Information Officer
573.522.4115 x3112
Douglas.fees@mdc.mo.gov

CONTRACT PERIOD
2018 - Ongoing support

MISSOURI DEPARTMENT OF CONSERVATION DATA MANAGEMENT CONSULTING

Missouri Department of Conservation (MDC) contracted with Timmons Group to consult on data management, data inventory services, and to implement a dashboard based on key agency performance measures our team helped develop in coordination with upper management. As part of the project, Timmons Group developed a web-based dashboard that helped visualize each of MDC's performance measures that align to outcomes and back to its strategic plan.

Timmons Group created automated data pipelines with existing systems to feed the dashboard visualizations. The visualizations are fed from disparate systems that are aggregated through Extract, Transform and Load (ETL) data pipelines to feed a contract data warehouse. The ETL pipelines transform data into usable information that is dynamically accessed to update agency performance measures.

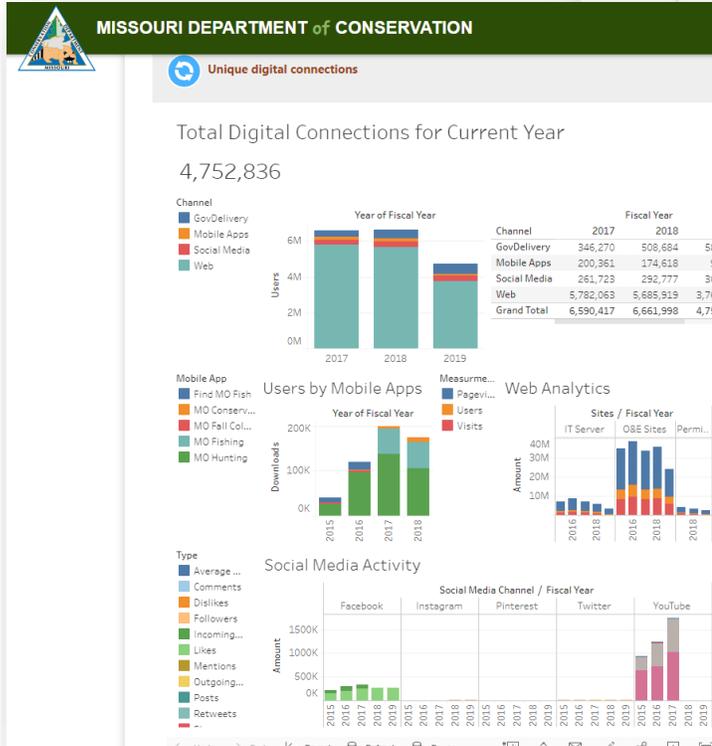
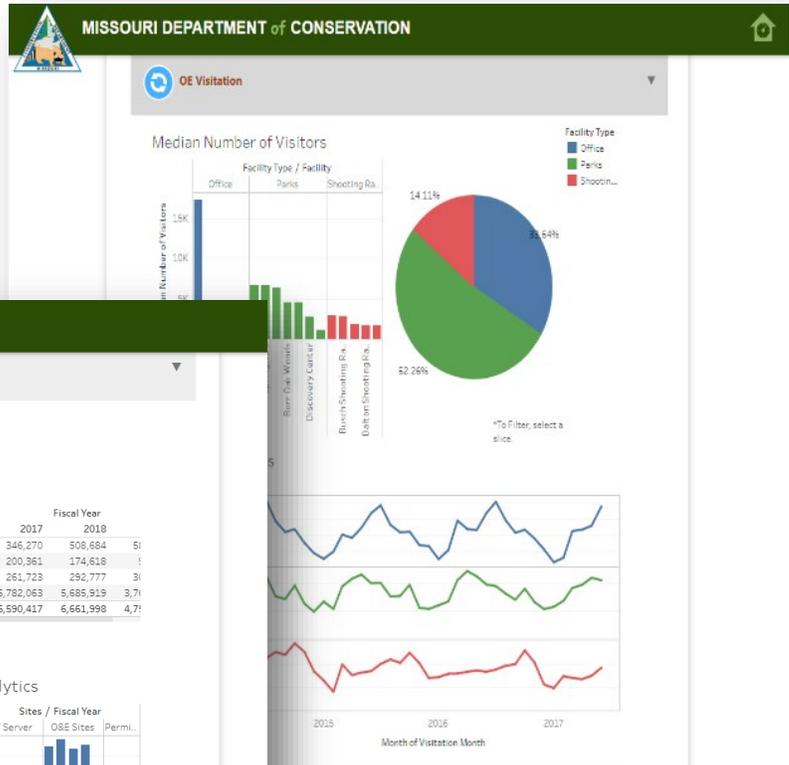
In addition to the data pipelines, Timmons Group also created a manageable dashboard portal that allows the agency to configure the performance measures and various levels to those measures including Goals, Outcomes, Strategies and Measures. Measures are the most granular-level of reporting and drive agency work plans and prioritization of on-the-ground activities and investments.

This effort is part of the larger Enterprise Data Stewardship (DSP) program for the Agency. The DSP is designed as a method used to define and manage the critical data (spatial and non-spatial) of an organization to provide, with data integration, a single point of reference. The data that is mastered may include reference data - the set of permissible values, and the analytical data that supports decision making. MDC has made the distinction between DSP and MDM in that DSP relates to the overall program, whereas MDM is very specific to unique data sets that need to be included in a formal MDM solution. The DSP program will also be set up to deal with data that are not destined for an MDM solution but still have great value to the organization.

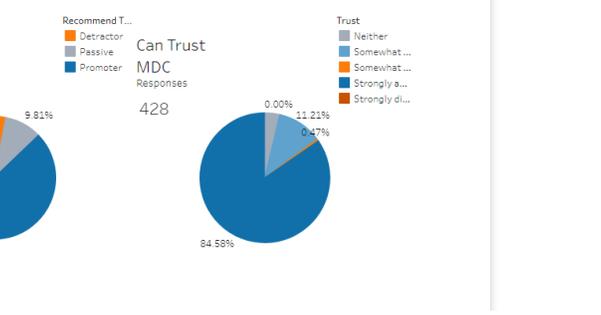
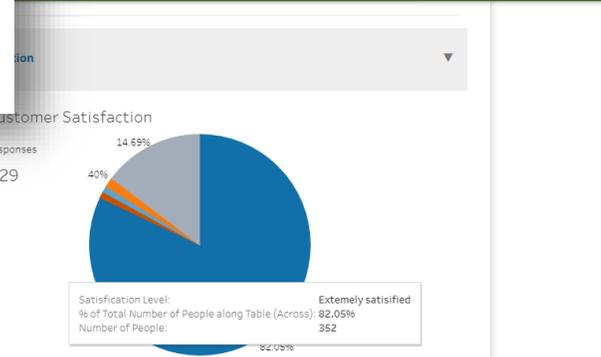
A planning project was undertaken to define the goals of MDM, success criteria, stakeholders, roles & responsibilities, and the overall approach for implementation. This project will leverage the results of that planning effort.



TECHNOLOGY
 Tableau Server
 Oracle
 SQL Server
 Leaflet.js
 Esri ArcGIS Enterprise



of CONSERVATION





CLIENT
Nevada Department of Wildlife

CONTACT
Matt Maples
Fisheries Biologist
1100 Valley Road
Reno, Nevada 89502
775.688.1677
mmaples@ndow.org

CONTRACT PERIOD
January 2017–December 2017

“ROADMAP” COMPREHENSIVE DATA MANAGEMENT STRATEGY

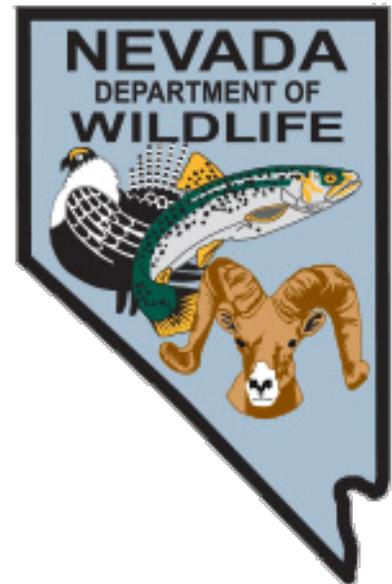
The Nevada Department of Wildlife (NDOW) sought to create a Comprehensive Data Management Strategy, or “RoadMap,” to organize data, applications, workflows, stewardship/governance, and maintenance. The agency desired a solid plan to establish improved data management system (to include GIS) that served all divisions equally and represented all current and future business needs.

This effort was a two-phased approach. Phase 1 included a needs assessment and review of existing NDOW data needs and management capacity, and Phase 2 included a comprehensive road map for meeting those needs and expanding existing capacity.

This plan included all elements of a highly functioning data management system and GIS—from people to process—accompanied with a reasonable plan of execution respectful of agency funding and capacity.

The data that were assessed included, but were not limited to the following:

- Wildlife resource and/or habitat data
- Hunting and fishing license data
- Administrative and special permit data
- Fish and game harvest data
- Boating registration data
- Fish stocking data
- Aquatic invasive species data
- Law enforcement contact data
- Fiscal and other administrative data





Initiative Icon	Initiative Name	Initiative Goal
DATA MANAGEMENT PROCESSES & TOOLS		
	Establish Data Governance	The goal is to inventory PGC data, assess how it's being used and identify any gaps that exist. Define and establish best practices for identifying and vetting GIS data priorities, establishing a standardized data model, data security, data ownership and best practices for loading, protecting, using and maintaining spatial information. Need an Agency mandate that GIS is the system of record for spatial data.
	Leverage Data Analytics	The goal is to define, architect, scope and build an Agency data and Business Intelligence/Data Analytics platform to streamline the reporting of license data, grants and other accomplishments to staff, partners, the federal government and citizens. Satisfy the need for automated, integrated statewide reports and deploy a tighter integration of GIS with the Information and Education Bureau to enable PGC Marketing staff to leverage integration tools, data warehousing, business intelligence, data analytics and capabilities. This effort will be aligned to the pending Agency Strategic Plan.
	Establish GIS Data Collection Processes	The goal is to define and establish GIS data workflows and deploy data collection tools that will ensure field data makes it to the central office consistently, accurately, and will include the development of standard approaches for field and mobile collection.
	Access GIS Data	Remove "data silos" and establish a centralized, authoritative GIS database and user-friendly method for staff to find out what GIS data layers and tools exist and access/view/use them, especially while mobile in the field. This would involve breakouts for data layers and core tools for staff including printing, searching and sharing.
	Establish Data QA/QC	To leverage GIS data maintenance best practices and tools to improve PGC data quality and consistency. This would leverage priority data sets, once defined, to improve quality objectives. The project would look to define what makes "good data" and implement COTS tools to identify data quality issues for initial cleanup. Ongoing steps for continual data maintenance would be implemented to ensure data are maintained through time.

CLIENT
 Pennsylvania Game Commission (PGC)

CONTACT
 Deana Vance, Director/CIO
 Automated Technology Services Bureau
 717.787.4076
 dvance@pa.gov

CONTRACT PERIOD
 2019 (Ongoing Implementation Planned)

DATA NEEDS ASSESSMENT AND ROADMAP IMPLEMENTATION PLAN

PGC wanted a detailed GIS RoadMap plan to guide it through the next three to five years, and which would deliver an effective and efficient Enterprise GIS with high-quality results and align with the organization's current operational plans and initiatives. Our team reviewed current GIS use, documented current and future needs, established governance, and built consensus among PGC stakeholders for a unified view of its Enterprise GIS Program. The project produced a tactical RoadMap implementation plan that optimizes the benefit of PGC's GIS to the organization as a whole, while ensuring that it encapsulates the most immediate goals. Those high-level project goals were to:

- Strengthen the GIS organization
- Establish role-based GIS training
- Establish data governance
- Establish data QA/QC
- Establish application governance
- Access GIS data
- Establish GIS data collection processes
- Facilitate work planning, collaboration and management
- Leverage data analytics
- Integrate documents with GIS
- Migrate to ArcGIS Enterprise
- Improve small mammal data and reporting
- Improve property acquisition tracking
- Improve Right-of-Way (ROW) management
- Implement a GIS-based Oil, Gas, Mineral Lease Management solution





ENTERPRISE DATA ROADMAP PLANNING AND IMPLEMENTATION PROGRAM SERVICES

The Missouri Department of Conservation (“MDC”) wanted a comprehensive Geographic Information System (GIS) RoadMap plan and implementation services to design, deploy and support a world-class GIS solution from the ground up. At the beginning of this project, GIS was being done in “silos” throughout the Agency in an uncoordinated, ad hoc fashion. The purpose of this project was to conduct a review of MDC’s GIS use, document current and future needs, establish governance, and build consensus among Agency stakeholders for a unified view of its Enterprise GIS Program. The project goal was to produce a tactical RoadMap implementation plan that optimized the benefit of GIS to the organization as a whole.

Timmons Group has played a central role in helping MDC design, deploy and maintain their Enterprise GIS data repository at MDC using a phased approach of logically-sequenced projects. Using GIS industry standards and best practices, the GIS repository infrastructure (computer hardware and software) has been designed, procured, installed, tested and verified. The system and relevant standard operating procedures were fully documented to establish a knowledge baseline for the Agency. MDC divisions were engaged to identify and document their spatial data and functional (application) requirements and priorities. Timmons Group followed its own highly successful approach illustrated in the diagram below for developing and implementing a RoadMap plan that addressed the needs of MDC staff, partners and constituents.

Timmons Group has partnered with MDC to define and establish GIS practices for all aspects of its Enterprise GIS, including:

- 1. Project Management, Implementation Support, Reporting, and Administration:** Timmons Group provides professional project management support for the MDC IT Unit. This includes, but is not limited to, developing and managing project plan(s) and timelines; coordinating project governance; providing reporting; providing support to the MDC project team as requested; supporting internal change control activities; developing an internal, stakeholder communication plan; and soliciting and managing the prospective systems development and integration.
- 2. Detailed Functional Requirements Development:** Timmons Group has developed and managed functional requirements for supporting the development of internal and external facing web, mobile and desktop solutions.
- 3. Data Governance:** Our GIS team was responsible for developing and supporting the deployment of procedures and standards for MDC’s GIS data model, metadata, data collection and maintenance, QA/QC tools and workflows.
- 4. Security and Technical Design:** Timmons Group has developed technical requirements, maintains compliance with geographic information systems (GIS) requirements, develops other technical requirements documents from subject matter experts (SMEs), and helps ensure technology and information security compliance for MDC systems.
- 5. Analysis of Alternatives:** Timmons group has performed an analysis of alternatives (AoA) to determine the efficacy of leveraging existing COTS systems or developing custom/hybrid solutions.
- 6. GIS Application Portfolio Management:** This include the development of recommendations for COTS GIS software deployment and the design, implementation and ongoing support and enhancement of custom GIS-based applications for forestry, research, and wildlife management and protection.
- 7. Testing:** Timmons Group has created use cases for testing, develop acceptance criteria, and conducted testing to ensure the accuracy and functionality of each component of new MDC systems.
- 8. Training Materials & Outreach for MDC Systems:** Timmons Group supports change management with the MDC user community, developed training materials, conducted training, and developed additional documentation as required.

CLIENT

Missouri Department of Conservation

CONTACT

Douglas Fees, Chief/CIO
Information Technology Unit
230 Commerce Drive, Suite 201
Jefferson City, MO 65109
573.522.4115 x3112

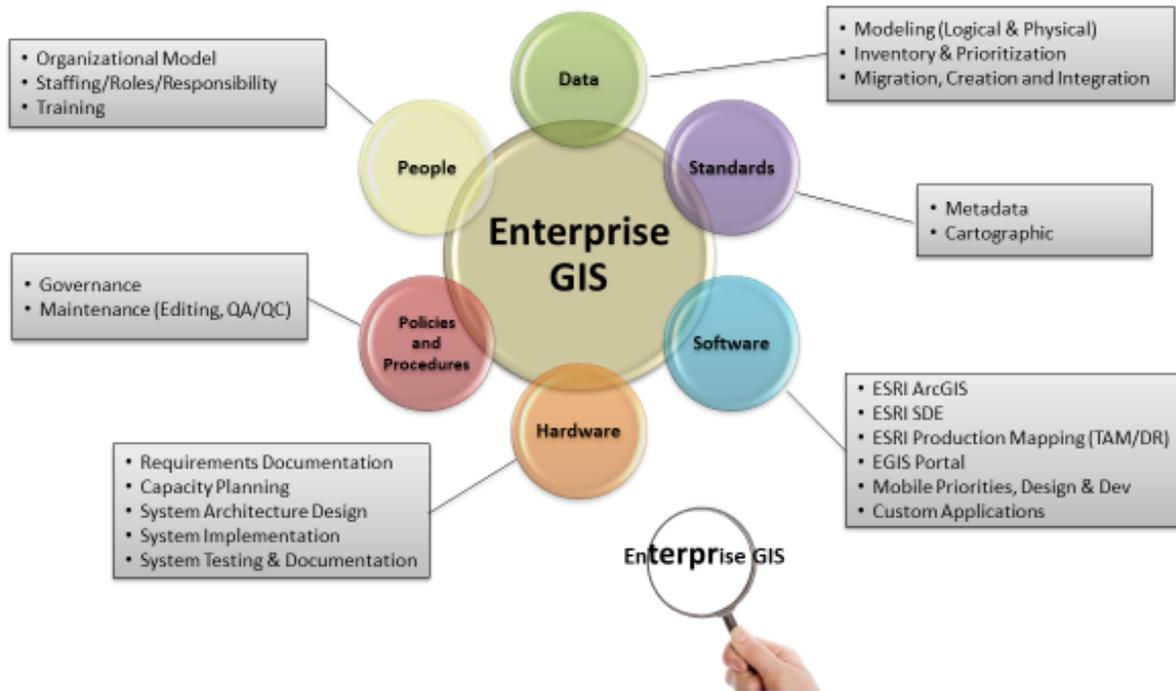
Douglas.Fees@mdc.mo.gov

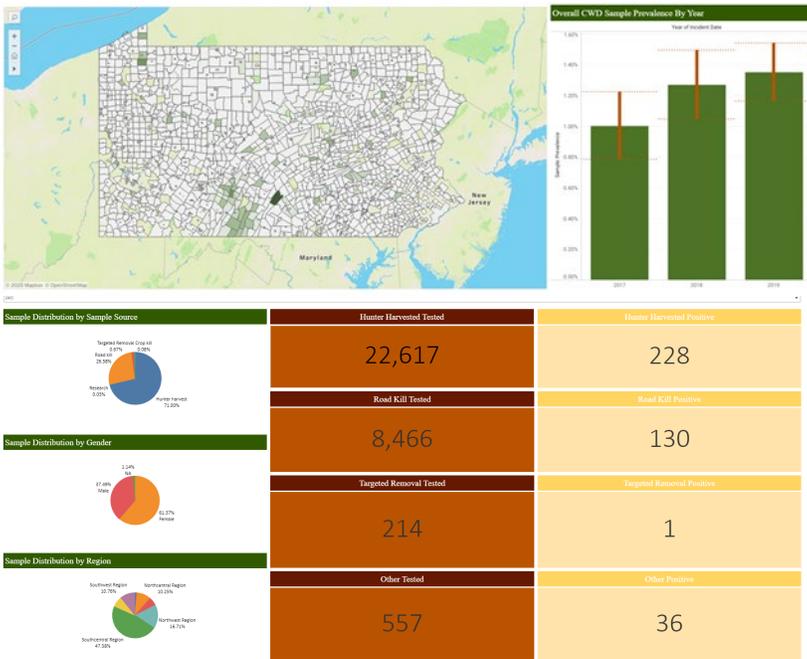
CONTRACT PERIOD

2011 – Present (Ongoing Program)



The Primary Components of an EGIS and What Has Been Done for Each





CLIENT
Pennsylvania Game Commission

CONTACT
Deana Vance
Director, Bureau of Automated Tech Services
717.787.5996
dvance@pa.gov

CONTRACT PERIOD
2020 - Current

CHRONIC WASTING DISEASE DATA VISUALIZATION DASHBOARDS

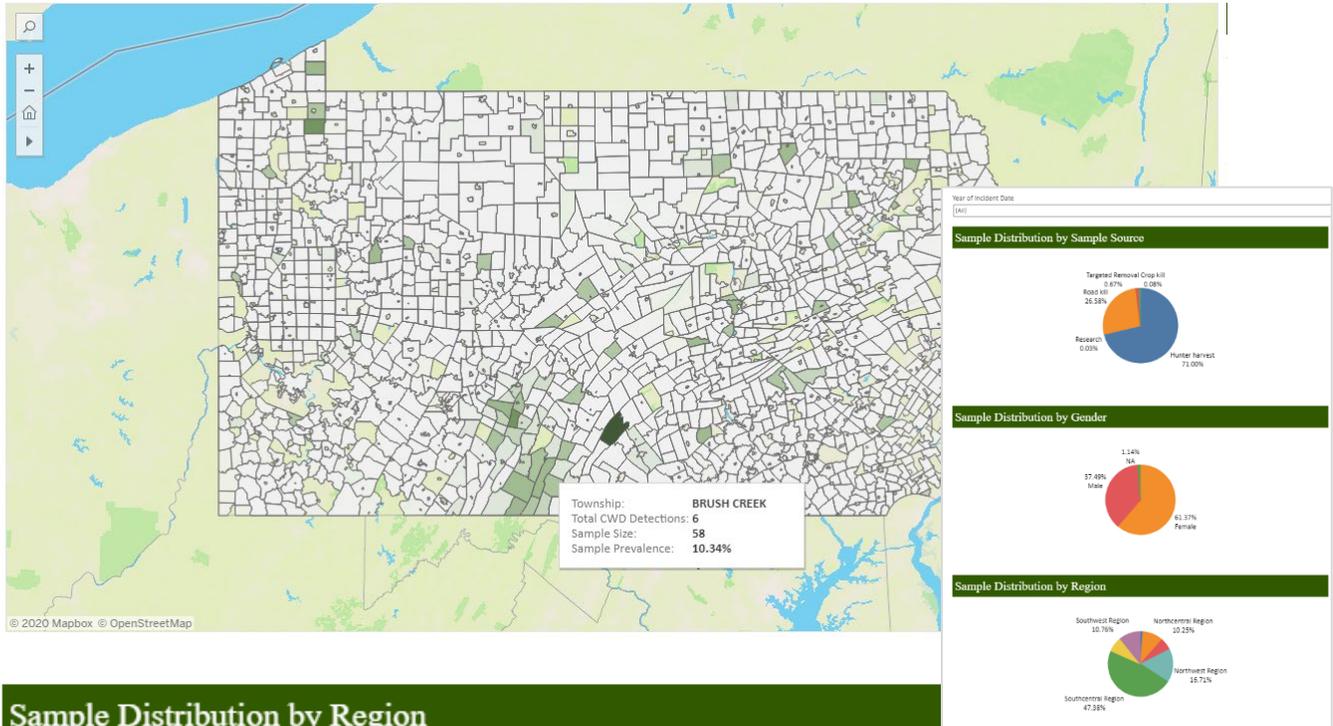
In spring of 2020, the Pennsylvania Gaming Commission (PGC) worked with Timmons Group to build five prototype dashboards for different use cases within the agency. One of the dashboards focused on visualizing data from Chronic Wasting Disease (CWD) sampling done in Pennsylvania. It has been decided that further development should be done to the dashboard and to place it in production for public consumption.

The first iteration of the dashboard prototype contains two pages. The first page was built to focus on providing information and context in relation to the CWD sample prevalence rate. This dashboard provides several bar charts that depict the total samples, positive samples, and sample prevalence. A series of maps are provided to show geographic context at a range of different aggregation scales (ex: County, Township, Disease Management Area, etc.). Based on feedback these maps would need some further development. For example, coloring choropleths by total number of samples instead of sample prevalence as it is shown now. This page also include space for additional text that will be used to guide the story on CWD prevalence and sampling techniques as well as visuals depicting confidence intervals on the sample data.

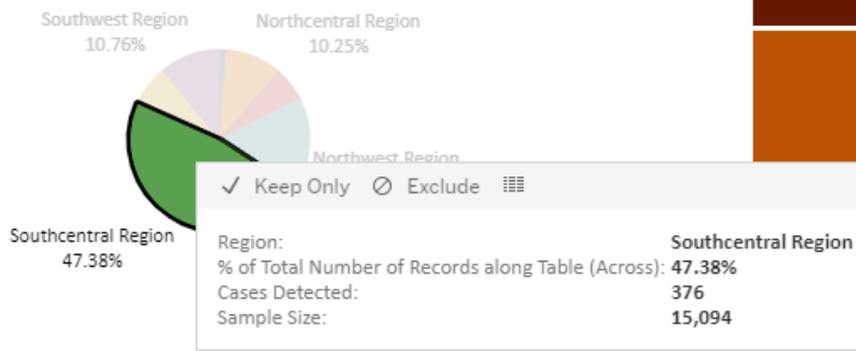
The second page in the current dashboard provides basic descriptive statistics of the sample population based on categorical data such as the gender of the species, or how the sample was sourced.

The next phase of development will look to expand this dashboard. The current dashboard used a sample extract of data, the next phase will look to utilize more historical data, going back to 2013. It will also include adding Elk (current data extract just contained White Tail Deer samples). The goal is to automate dataflows from the data source to dashboard in order to more rapidly depict the current state of data collection and provide data transparency.

An additional page will be added to the dashboard to address total samples collected and spread of area for collection, and number of positive samples throughout the years with the use of time series charts. This will be utilized to help measure agency progress against planned goals and initiatives.



Sample Distribution by Region



tableau

Filters

Year of Incidence: [All]

Sex: [All]

Species: [All]

Sample Source: [All]

Switch Map: [WV] New View

Text Box:

This is some space to show the text box feature in Tableau. Directions for how to use filters can go here, as well as high-level narrative about what is being conveyed in this dashboard.

Please provide text to insert. We will adjust the location and size of the text box once we have a narrative to place in here.

CWD Sample Prevalence for All:

1.24%

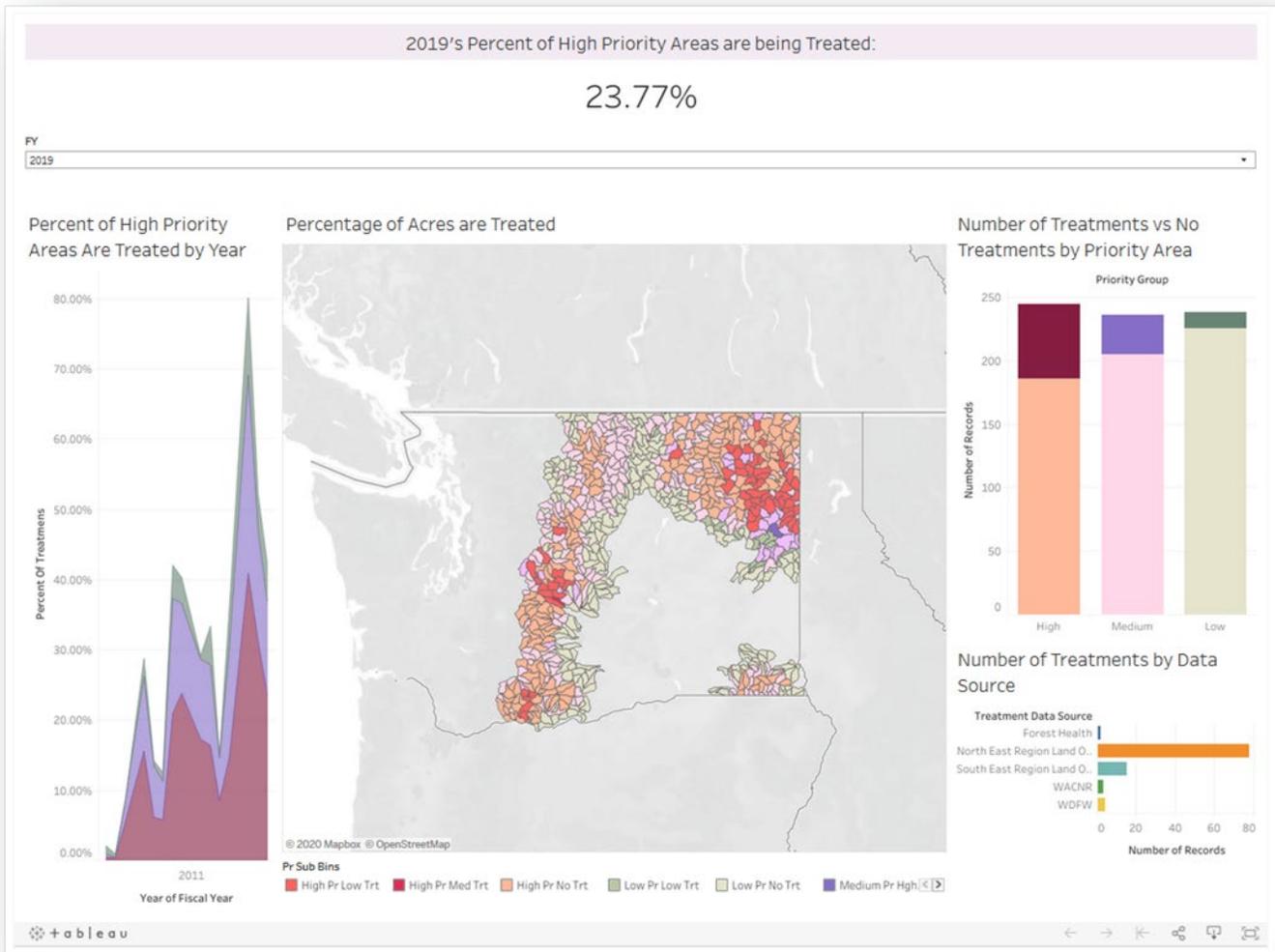
Number of Deer Tested & CWD Positives for All

Metric	Value
Total Deer Tested	22,803
Total CWD Detectors	895

WMLP
 Year: 2017
 Total Deer Tested: 28
 Total CWD Detectors: 0
 Sample Prevalence: 0.00%

Overall CWD Sample Prevalence By Year

Year	Sample Prevalence
2017	~1.00%
2018	~1.25%
2019	~1.35%



KPI DASHBOARDS AND VISUALIZATIONS

Timmons Group consulted with the Washington Department of Natural Resources to design, develop, and document multiple visualizations and dashboards using Tableau. Timmons Group worked directly with the business users to inventory agency databases and applications, assess the data, prepare it for visualization development, and recommend data pipelines / data engineering to streamline data being fed into the visualizations.

CLIENT

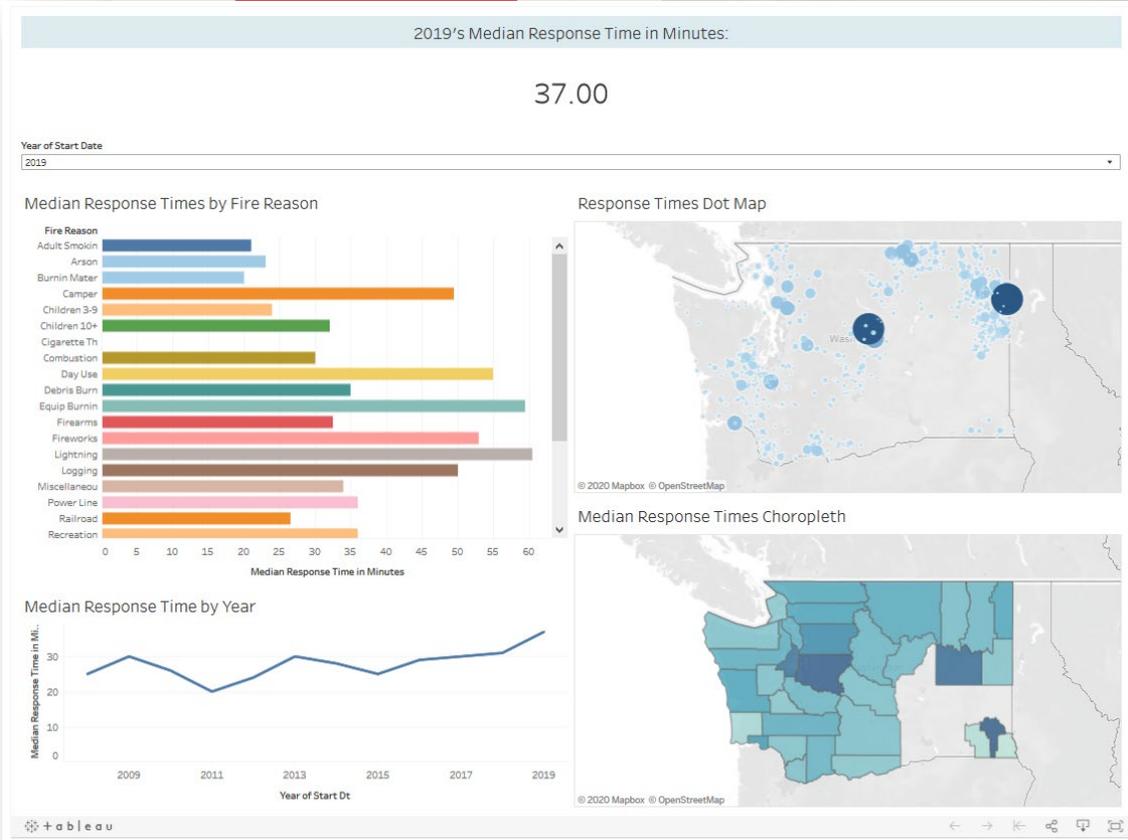
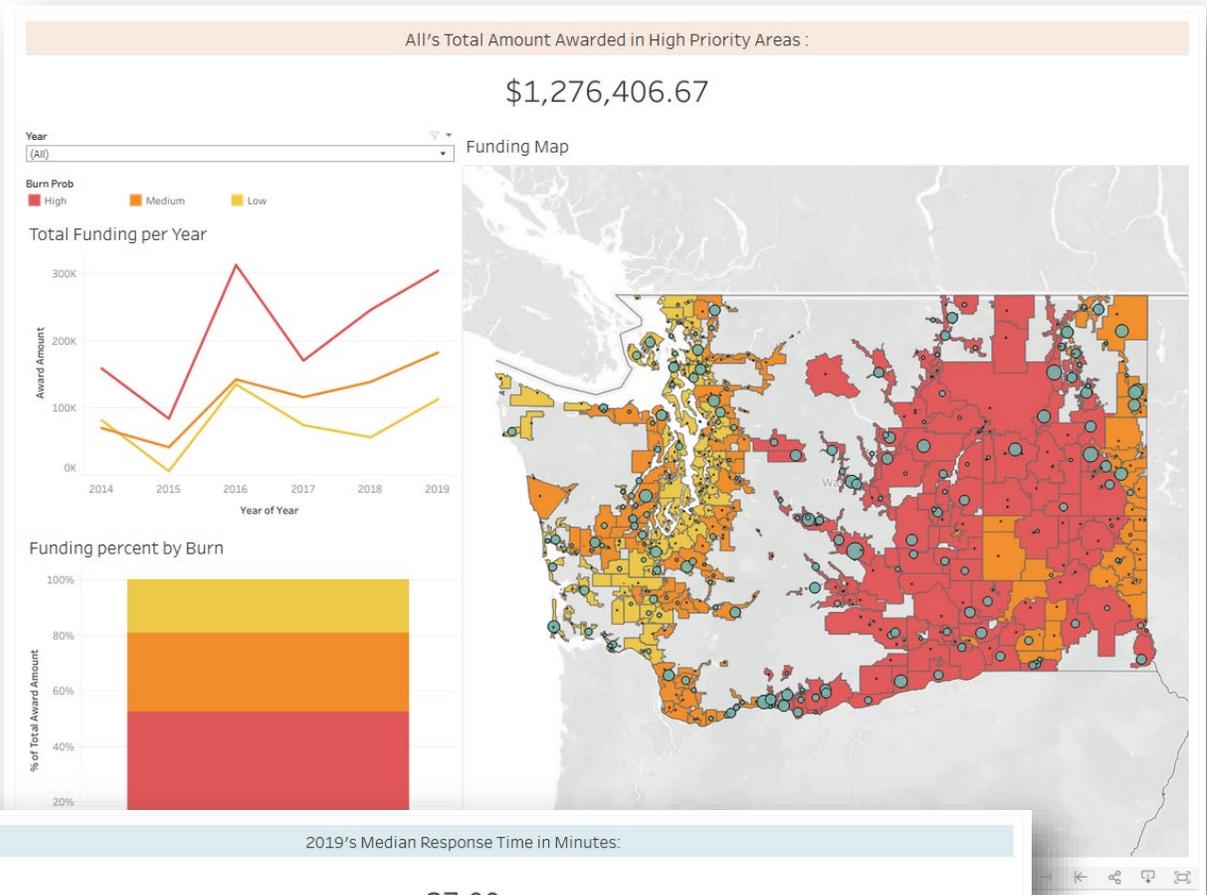
Washington Department of Natural Resources

CONTACT

Karen Zirkle, Wildfire Division Manager
360.528.0450
Karen.Zirkle@dnr.wa.gov

STATUS

Completed

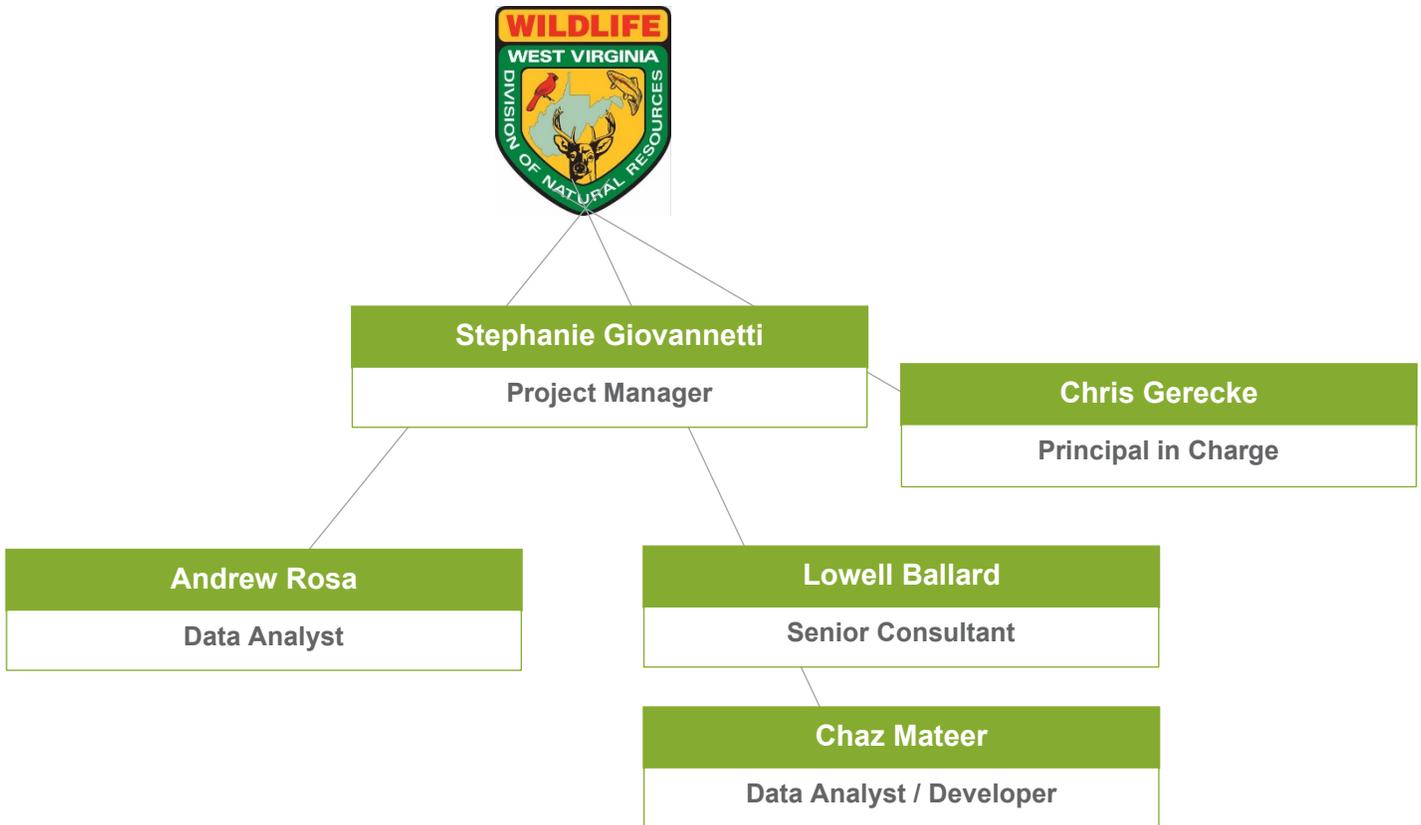




OUR TEAM

For this project, Timmons Group assembled a team of professionals that meet the qualifications outlined in the RFP. Timmons Group has a deep bench and is happy to provide additional resumes as requested by the DNR.

ORGANIZATIONAL CHART





RESUMES

STEPHANIE GIOVANNETTI

PROJECT MANAGER

Overview

Stephanie is a Senior Project Manager at Timmons Group, providing custom web, mobile, and geospatial solutions to all types of clients and industries across the country. Throughout her career, she has held various positions in the consultant industry and has experience in Business Analysis, Quality Assurance, Technical Support, as well as Project Management. She has been using Agile methodologies since 2014 and enjoys finding ways to constantly improve teams and the delivery process. Her passion lies with building individuals and teams, ensuring effective communication, and driving towards successful delivery of value-added software to our clients and end users.

Select Project Experience

MDC Suite: Agent Incident Report, Jefferson City, MO

Timmons Group enhanced the Missouri Department of Conservation's (MDC's) Agent Mobile iOS and Agent Online applications to provide their resource protection agents with an electronic incident reporting system. The agent iOS app allows MDC's resource protection agents to document criminal violations and other reportable incidents, collect information for investigatory and administrative purposes, and link incident reports to arrests, warnings, permits, telechecks, and operation game thief (OGT) reports. All of this information can be collected on an agent's smartphone and syncs real-time for access and reporting in the Agent Online web application.

MDC Measures Visualizations and Dashboard Development, Jefferson City, MO

Timmons Group was contracted by Missouri Department of Conservation (MDC) to design and develop data visualizations in Tableau that intuitively communicate progress towards measures. The scope of this effort included the design and development of a web-based dashboard that effectively showcases, communicates and organizes the goals, outcomes, and measures with supporting visualizations to the Governor, CIO, MDC employees, and Missouri citizens. This work directly supports goals articulated in their strategic plan to Take Care of Nature, Connect People with Nature, and Maintain Public Trust.

MO Outdoors Discovery, Jefferson City, MO

Timmons Group performed two phases of discovery for this project. Phase One was the discovery for a modernized system that includes both the web version for internal and external stakeholders and a mobile application focused on MDC area exploration. Interactive maps were an important functionality for the future system that did not exist in the initial system. The goal of the redesigned ATLAS was to provide a GIS-integrated system for MDC staff to easily update MDC area information (e.g., hours of operations, unexpected closures etc.), integration with the new Discover Nature MDC website, and finally, a new mobile application termed Find MO Areas to enable the public to search for and leverage the value of all MDC areas in the State.

Education

- Bachelor of Science, Health Services Management, Virginia College Online, 2015

Registration

- Certified Scrum Master, 2014
- ITIL Foundation Certificate in IT Service Management, 2014
- Certified Scrum Product Owner, 2016

Experience

- 7 Years

Affiliation

- Project Management Institute, Central Virginia Chapter
- Scrum Alliance



Chris Gerecke, CSPO

PRINCIPAL IN CHARGE

Overview

Chris' focus on any given workday is creatively solving geospatial challenges. His comprehensive knowledge on custom application project delivery and Esri, open source, and best-of-breed technology solutions enables Timmons Group to provide geospatial application development and implementation for a growing list of clients. Chris directs the enterprise custom solutions group at Timmons Group which prides itself on developing web and mobile applications that integrate complex business workflows with extremely intuitive and elegant user experiences in order to generate significant Return on Investment (ROI) for their clients. Chris is currently working on architecting web, mobile and desktop applications aimed at assisting states, private companies, local government, and the federal government with their enterprise geospatial needs.

Select Project Experience

WAFWA LPC Conservation Plan App Suite, Multiple Locations, KS

Timmons Group was selected to assist the Western Association of Fish and Wildlife Agencies (WAFWA) with the development of a spatial management and mobile inspection system for their habitat offset banking for the Lesser Prairie Chicken.

MDC Measures Visualizations and Dashboard Development, Jefferson City, MO

Timmons Group was contracted by Missouri Department of Conservation (MDC) to design and develop data visualizations in Tableau that intuitively communicate progress towards measures. The scope of this effort included the design and development of a web-based dashboard that effectively showcases, communicates and organizes the goals, outcomes, and measures with supporting visualizations to the Governor, CIO, MDC employees, and Missouri citizens. This work directly supports goals articulated in their strategic plan to Take Care of Nature, Connect People with Nature, and Maintain Public Trust.

Maine Department of Inland Fisheries and Wildlife Citizen Science Program App, Bangor, ME

Timmons Group developed the Maine Citizen Science web application for the Maine Department of Inland Fisheries and Wildlife (MDIFW). MDIFW conducts surveys to locate and study many species across the state. With limited resources within MDIFW it has been a challenge to keep up with the tracking and data collection involved in wildlife surveys. MDIFW has a strong relationship with the outdoors and the wildlife watcher community and has leveraged their passion and interest to help survey species in the past.

Nevada Department of Wildlife CDMS RoadMap, Reno, NV

The Nevada Department of Wildlife sought to create a Comprehensive Data Management Strategy or "RoadMap", to organize data, applications, workflows, stewardship/governance, and maintenance. The agency desired a solid plan to establish improved data management system (to include GIS) that served all divisions equally and represented all current and future business needs. This plan included all elements of a highly-functioning data management system and GIS – from people to process – accompanied with a reasonable plan of execution respectful of agency funding and capacity.

Education

- Masters, Environmental Studies, Virginia Commonwealth University, 2004
- Bachelor of Science, Biology, Wake Forest University, 1997

Registration

- Certified Scrum Product Owner

Experience

- 23 Years

Affiliation

- Organization of Fish and Wildlife Information Managers



ANDREW ROSA

DATA ANALYST

Overview

Andrew is an experienced data scientist and quantitative analyst with an interest in creating data driven strategies for businesses and organizations. He has a history of working with start-ups and corporations in technology, manufacturing, and consumer electronics industries. Andrew is proficient in statistical modeling, time-series analysis, data manipulation, web scraping, and database management. Skilled in R, SQL, python, Tableau, and SPSS. Andrew is a strong technology professional currently partaking in a Master of Science focused in Data Science program through Utica College. Andrew's skills and experience include regression modeling, decision tree modeling, cluster analysis, A/B testing, hypothesis testing, time-series analysis, and ARIMA Modeling.

Select Project Experience

MDC Measures and Visualization, Statewide, MO

Project Role: Data Scientist. Timmons Group was contracted by Missouri Department of Conservation (MDC) to design and develop data visualizations in Tableau that intuitively communicate progress towards measures. The scope of this effort included the design and development of a web-based dashboard that effectively showcases, communicates and organizes the goals, outcomes, and measures with supporting visualizations to the Governor, CIO, MDC employees, and Missouri citizens. This work directly supports goals articulated in their strategic plan to Take Care of Nature, Connect People with Nature, and Maintain Public Trust.

MDC Customers Pilot, Statewide, MO

Project Role: Data Scientist. The goal of this pilot project was to use the high-priority data set "MDC Customers" to define and test processes, procedures, and workflows for integrating MDC's priority data to be governed by the data management best practices defined by the MDC Data Stewardship Program (DSP).

Professional Experience

Connexions Loyalty

Customer Analyst and Data Scientist

- Conducted statistical analysis on customer data to better understand trends in redeeming loyalty points for the use of travel and gift card purchases
- Conducted clustering analysis to better understand groups of customers from their behaviors to aid in personalized marketing
- Built predictive models to better analyze and understand operations, such as customer behavior from visiting websites that results in service call
- Wrangles data to be prepared for various analysis, reports, and dashboard creation
- Used SAS and R daily for manipulating, storing, conducting analysis, and creating data visualizations for presentations, reports, and dashboards

Education

- Masters, Data Science, Utica College, 2019
- Bachelor of Science, Bachelor of Science and Arts, Wentworth Institute of Technology, 2010
- Career Study Certificate, Data Science Track, Johns Hopkins University, 2016

Experience

- 5 Years

Location

- Richmond, VA



LOWELL BALLARD

SENIOR CONSULTANT

Overview

Lowell is a Senior Principal in the Timmons Group Geospatial Services team. Lowell has more than two decades of experience in all facets of geospatial systems planning, design, procurement, installation, and implementation for government and private industry. As the Director of Geospatial Solutions at Timmons Group, Lowell provides leadership to clients and staff to ensure successful projects and satisfied clients. In his consulting capacity, Lowell specializes in working with clients to prioritize data and geospatial needs and set strategic goals for their organizations.

Select Project Experience

Nevada Department of Wildlife CDMS RoadMap, Reno, NV

The Nevada Department of Wildlife sought to create a Comprehensive Data Management Strategy or “RoadMap”, to organize data, applications, workflows, stewardship/governance, and maintenance. The agency desired a solid plan to establish improved data management system (to include GIS) that served all divisions equally and represented all current and future business needs. This plan included all elements of a highly-functioning data management system and GIS – from people to process – accompanied with a reasonable plan of execution respectful of agency funding and capacity.

City of Fayetteville GIS Planning and Development, Fayetteville, NC

The City contracted with Timmons Group to perform a formal review and analysis of existing spatial datasets held by the GIS / IT supporting the City, perform a needs assessment for GIS in support of the pending Asset Management and permitting and Inspection projects, and perform data conversion and cleanup for existing datasets into the new system.

Fairfax Water Authority Enterprise GIS System, Fairfax, VA

Fairfax Water contracted with Timmons Group to migrate its existing AutoCAD-based mapping system to an Esri-based Enterprise GIS. The project was initiated with a Discovery Phase of existing mapping systems, infrastructure, and applications that require migration to, or integration with, the future ArcGIS server-based Enterprise GIS.

Tualatin Soil & Water Conservation District GIS RoadMap, Washington, OR

Timmons Group provided IT strategic planning and assessment services for the Tualatin Soil and Water Conservation District (TSWCD). Phase 1 consisted of defining and analyzing business processes; completing a needs assessment; making recommendations for IT strategies, tactics, and personnel; and regularly communicating with TSWCD staff. Phase 2 consisted of documenting requirements for centralized database and management application(s), software, and hardware and a completed IT assessment.

Cheyenne/Laramie Co Coop GIS RoadMap, Laramie, WY

Timmons Group produced a GIS RoadMap that defined the critical path and steps necessary for the continued development and enhancement of the GIS program that will improve the staff productivity and service.

Education

- Masters, Biology, Virginia Commonwealth University, 1995
- Bachelor of Science, Information Systems, Radford University, 1989

Experience

- 28 Years

Affiliation

- Virginia Associate of Mapping and Land Information Systems
- VITA Committee for GIS Technology



Chaz Mateer, GISP

DATA ANALYST / DEVELOPER

Overview

Chaz is a highly motivated GIS professional with considerable experience conducting spatial analysis, data modeling/automation, and creating web GIS solutions. He is a technologist with an environmental science and geographic information systems background with skillsets in programming and web application development. Chaz has experience with the management and administration of enterprise GIS environments (web servers, GIS servers, server-side GIS software, scripting environment, and GIS web applications). He has worked with State, Federal, and private entities to coordinate requirements gathering and analysis for geospatial workflows. In his 7 years of experience, he has planned and documented enterprise architecture and information technology standard operating procedures for previous clients. He has developed custom geospatial solutions for supporting agency-wide situational awareness during exercises and emergencies to include automated mapping, scripted geoprocessing tools, and web mapping applications.

Select Project Experience

uWRAP 3.0 CWS & FAM Enhancements, Salt Lake City, UT

Timmons Group developed, refined, and maintained the requirements and scope for a project that includes building a new Utah Cooperative Wildfire System application that allows entities who have entered into a Cooperative Agreement with the state to enter their wildfire risk reduction activities and enables the state to manage the Cooperative Wildfire System program. Additionally, the project included enhancements to Utah's Focus Area Manager application that improved the tracking and reporting of wildfire risk reduction activities being performed by the state to increase wildfire preparedness and facilitated proactive wildfire prevention and mitigation.

MDC Measures Visualizations and Dashboard Development, Jefferson City, MO

Timmons Group was contracted by Missouri Department of Conservation (MDC) to design and develop data visualizations in Tableau that intuitively communicate progress towards measures. The scope of this effort included the design and development of a web-based dashboard that effectively showcases, communicates and organizes the goals, outcomes, and measures with supporting visualizations to the Governor, CIO, MDC employees, and Missouri citizens. This work directly supports goals articulated in their strategic plan to Take Care of Nature, Connect People with Nature, and Maintain Public Trust.

Barnstable County, MA - CCC Coastal Resiliency Web Application, Barnstable County, MA

Timmons Group leveraged past successes in application development and newly created coastal resiliency data to develop a "resiliency tool". This tool translates technical data into an understandable format; estimates losses of public and private assets; quantifies ecosystem services; communicates adaptation strategies and their costs and benefits; communicates the need for action to improve coastal resiliency; and engages the public in choosing and implementing strategies. This "resiliency tool" is based, in part, on geographic information system (GIS) technology and complements tools developed by the Commission to support a recent regional planning approach for water quality management.

Education

- Masters, Information Management Systems, Harvard University Extension School, 2019
- Bachelor of Science, Environmental Studies, Virginia Commonwealth University, 2012
- Career Study Certificate, GIS, George Mason University, 2013

Registration

- Geographic Information System Professional, 2016
- Esri Web Application Developer Associate, 2019

Experience

- 7 Years

Affiliation

- Urban and Regional Information Systems Association
- Virginia Association for Mapping and Land Information Systems



PROJECT APPROACH

PROJECT UNDERSTANDING

WVDNR, Wildlife Resources Section seeks to inventory and assess the large number of databases, processes, and applications currently used by staff across Game Management Unit, Game Research Program, Fish Management Unit, Fish Hatchery Program, Wildlife Diversity, GIS and Technical Support Unit and Environmental Coordination Program. The goal of this project is to better understand the current portfolio of applications, databases, and processes under the Wildlife Resources Section's oversight and define an action for each based on risk, and strategic alignment, to the organization.

The objectives of this project are to provide an inventory and assessment of the databases, applications, and processes in use today by the Programs specified above. The "technical debt" and other related information for each application and/or database will be quantified. Based on that information, and subsequent interviews with Unit and Program staff and product owners, a baseline scoring (priority matrix) criteria will be established for both agency risk and alignment with the DNR's strategic initiatives and/or priorities. Secondary goals for the project are to establish a baseline for future efforts that include an overall DNR data management plan and data governance strategy (out of scope for this effort).

PROJECT APPROACH

Timmons Group will work with the DNR prior to project kick-off to prepare a kick-off deck and organize a list of project stakeholders across applicable Units and Programs. DNR will provide Timmons Group with a list of legacy databases and applications by Unit and Program for Timmons Group to focus meeting and analysis time on. The following steps are proposed for the project (subject to change based on discussion with the DNR):

1. **Project Kick-off / Template Workshop** – This kick-off workshop will occur on the same week at the formal interviews. Timmons will come prepared with draft templates for review. DNR will come prepared with draft inventory / list of databases and applications.
 - 1.1. **Initial Inventory** – Using the initial list of existing databases / applications within the specified DNR Units / Programs, the team will review all data elements captured and determine what additional data elements may be of use during the review and interview process (i.e., items that would support making decisions for each application, technical debt, strategic alignment etc.). This populated inventory list, and associated attributes, will be a key source of information to populate the matrices (Risk and Strategic Alignment below). DNR will also pull a list of MS Access (.MDB) files for the Programs being interviewed. This will be provided to the interviewees prior to the interview session simply to seed conversations about each database / application and business purpose.
 - 1.2. **Define Application Risk Matrix Template** – Timmons Group will create a draft Risk Matrix. During the kick-off, the team will review a draft risk matrix template provided by Timmons Group. This matrix would be focused on scoring applications / databases based on factors that encompass both technical risk and business risk (e.g., missing product owner, technical debt, etc.). This matrix will be used at the end of the project to help the project team make lifecycle decisions for each application. During the kick-off, the team will review the draft to ensure it includes all relevant information. Outcomes of this might inform items to be included in the application / database portfolio Inventory attributes.
 - 1.3. **Define Strategic Alignment Matrix Template** - This would be created to help DNR make decisions related to the current portfolio of applications / databases and to assist in future decision-making during the budgeting and budget review process. During the kick-off, the core team would review the draft matrix template (provided by Timmons Group) and add / update the Strategic Matrix items noting this is a secondary project goal (i.e., the bulk of the focus would be on the Risk Matrix).



2. **Program Interview Sessions** – Following the kick-off, the team would host interview sessions with each participating Unit / Program focusing on their applications, databases, processes.
 - 2.1. **Review of Application / Database Portfolio for each Unit / Program listed below** (Units / Programs to be confirmed with DNR before or during the project kick-off)
 - 2.1.1. Game Management Unit
 - 2.1.2. Game Research Program
 - 2.1.3. Fish Management Unit
 - 2.1.4. Fish Hatchery Program
 - 2.1.5. Wildlife Diversity Unit
 - 2.1.6. GIS and Technical Support Unit
 - 2.1.7. Environmental Coordination Program
 - 2.2. **Review of existing Access databases** (Timmons Group will work with DNR during / before project kick-off to limit the number of Access databases to a reasonable amount that can be given a high-level review)
 - 2.3. **General inquiries about other “workflows” that exist that may indicate needs for solutions** (e.g., XLS sheets across regions, duplicated dated, cumbersome workflows, etc.).
3. **Define Data Sources** – DNR will create a list of databases in-use within the Units / Programs specified for the project. During the interviews, our team will leverage an inventory of existing DNR databases to document what data are being used, created or maintained within each application to support that future effort. The goal of this exercise is to begin the data inventory process in anticipation of the overarching data management plan effort. This effort will result in a list of databases and applications, and formal notes for each application specific to the data being used and managed in the application.
4. **Data Analysis / Populate Templates** – Using information collected during the interview sessions, our team will work with DNR to analyze each application for its Risk and Strategic Alignment to the organization and populate the defined Risk and Strategic Templates.
 - 4.1. **Risk Matrix** – using the results of the initial analysis and information from the interview sessions, our team will populate a Risk Matrix Template to support decision-making across the entire DNR application / database portfolio.
 - 4.2. **Strategic Alignment Matrix** – using the outcomes from the interview sessions, our team will populate the Strategic Alignment Matrix Template. This will support decision-making in context with the Risk Matrix.
 - 4.2.1. Example: DNR might have a MS Access Application. This application might score high from an agency Risk perspective in that it’s based on legacy technology and not supportable; however, it might also score high in terms of the criticality and value to the organization. This would alter the decision-making process versus just looking at the Risk in a silo or “technical risk / debt”. RISK=HIGH / ALIGNMENT=HIGH
 - 4.2.2. Example: DNR might have an application that scores high from a Risk perspective in that it’s based on legacy technologies. The Division may also have changed its strategic direction and the application no longer supports the core mission of the Agency and Division. RISK=HIGH / ALIGNMENT=LOW
5. **Recommendations** – Our team would work with DNR on a draft set of recommendations, per application, based on the Risk and Strategic Alignment score per application.
 - 5.1. **Recommendations per application** that would include the scores, and brief business description of the application (i.e., executive summary that includes matrix scores, brief narrative from interviews and rationale driving the recommendations.).
 - 5.2. **Recommendation Approach** - Our team will look to compartmentalize recommendations into major categories to help DNR in prioritizing decision-making. Recommendations will be provided in draft and final stages providing DNR with the ability to provide input on the recommendations during the draft stage. Major categories will include:



- 5.2.1. Discontinue – This would include those applications we believe DNR can end-of-life with supporting rationale.
- 5.2.2. Migrate – This would include applications we believe still have business merit in the organization but, for one or more reason, need to migrate to a newer platform or potentially integrate into another solution.
- 5.2.3. Continue – This would include applications we believe to have no issues and should continue as normal.
- 5.2.4. For each application, we will do our best to suggest a formal approach and recommendation moving forward noting DNR will have additional input into the draft recommendations.
- 5.3. **Level of Effort / Budgetary Estimates** – Our team will work to include level of effort / budgetary estimates for each migration effort and recommendation that includes an assumption of effort to migrate, refactor, replace, etc.
- 5.4. **Checkpoint Presentation** - Our team will present the final recommendations including all of the artifacts and analysis results gathered as part of the project. This is an opportunity to review the deliverables with relevant DNR stakeholders that were not part of the assessment project team and to inform them of the results / findings.

Timmons Group will meet several times with a designated DNR project manager (anticipated once every two weeks). This meeting would last no longer than one hour and would be used to update the project manager of efforts to date, proposed next actions, and description of any hurdles in execution of work. Additional meetings with the project manager or DNR staff may be required and would be scheduled as needed.

Timmons Group proposes to review and discuss the inclusion of the following milestones and deliverables with the project. We will meet with WVDNR and review these proposed milestones and deliverables and make modifications as desired.

Milestone	Deliverable(s)
Project Workshops / Kick-off Complete	<ul style="list-style-type: none"> ● Finalized Portfolio Inventory ● Defined Risk Matrix ● Defined Strategic Alignment Matrix
Program Interview Sessions Complete	<ul style="list-style-type: none"> ● Completed Interviews for: <ul style="list-style-type: none"> ○ Game Management Unit ○ Game Research Program ○ Fish Management Unit ○ Fish Hatchery Program ○ Wildlife Diversity Unit ○ GIS and Technical Support Unit ○ Environmental Coordination Program ● Documented outcomes per Unit / Program and application / database
Defined Data Per Application Complete	<ul style="list-style-type: none"> ● Data Inventory ● Major data objects per application defined ● Connections to existing Databases defined (for applications)
Data Analysis Complete	<ul style="list-style-type: none"> ● Completed Risk Matrix per application ● Completed Strategic Matrix per application
Draft Recommendations Delivered	<ul style="list-style-type: none"> ● Written draft recommendations using the Risk and Strategic Matrix scores, onsite interview notes, and other collateral.
Project Checkpoint Presentation and Final Recommendations Complete	<ul style="list-style-type: none"> ● Written final recommendations based on DNR feedback. ● Checkpoint presentation (results, recommendations, and road map) developed and delivered to DNR stakeholders



PROJECT TIMELINE

We would adjust the start date and duration of the project based on contract execution and availability of WVDNR staff.. We estimate an approximate duration of three (3) months for the assessment depending on WVDNR's availability. We would propose to work with WVDNR staff to create a formal project plan on award that would include the milestones above.



EXHIBIT A – PRICING PAGE

Item No.	DESCRIPTION	Unit of Measure	Quantity	Amount
4.1	WVDNR – Data Systems Assessment	Job	1	\$46,040.00
			TOTAL:	\$46,040.00

Timmons Group

Vendor

A handwritten signature in black ink, appearing to read "Chris W. Zelnick".

Authorized Signature

April 19, 2021

Date



REQUIRED FORMS

In this section are the Purchasing Affidavit and the Addenda Acknowledgment forms.

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

CONSTRUCTION CONTRACTS: Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

ALL CONTRACTS: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Timmons Group

Authorized Signature: *[Signature]* Date: April 19, 2021

State of Virginia

County of Chesterfield, to-wit:

Taken, subscribed, and sworn to before me this 19 day of April, 2021.

My Commission expires August 31, 2021.



NOTARY PUBLIC *[Signature]*

**ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: ARFQ DNR21*42**

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification. **Acknowledgment:** I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:

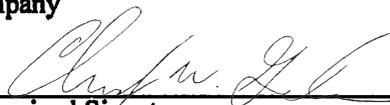
(Check the box next to each addendum received)

- | | | | |
|-------------------------------------|----------------|--------------------------|-----------------|
| <input checked="" type="checkbox"/> | Addendum No. 1 | <input type="checkbox"/> | Addendum No. 6 |
| <input type="checkbox"/> | Addendum No. 2 | <input type="checkbox"/> | Addendum No. 7 |
| <input type="checkbox"/> | Addendum No. 3 | <input type="checkbox"/> | Addendum No. 8 |
| <input type="checkbox"/> | Addendum No. 4 | <input type="checkbox"/> | Addendum No. 9 |
| <input type="checkbox"/> | Addendum No. 5 | <input type="checkbox"/> | Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Timmons Group

Company



Authorized Signature

April 19, 2021

Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.

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SOLICITATION NO.: ARFQ DNR21*42

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Addendum Numbers Received:

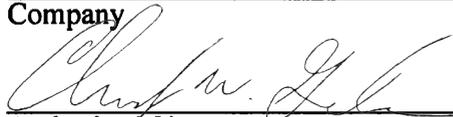
(Check the box next to each addendum received)

- | | | | |
|-------------------------------------|----------------|--------------------------|-----------------|
| <input type="checkbox"/> | Addendum No. 1 | <input type="checkbox"/> | Addendum No. 6 |
| <input checked="" type="checkbox"/> | Addendum No. 2 | <input type="checkbox"/> | Addendum No. 7 |
| <input type="checkbox"/> | Addendum No. 3 | <input type="checkbox"/> | Addendum No. 8 |
| <input type="checkbox"/> | Addendum No. 4 | <input type="checkbox"/> | Addendum No. 9 |
| <input type="checkbox"/> | Addendum No. 5 | <input type="checkbox"/> | Addendum No. 10 |

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