

Oregon Department of Fish and Wildlife

Information Technology Strategic Plan

January 2024 (V1.2)



"Hope is not a strategy."
–Vince Lombardi

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A Message from the Chief Information Officer

Unprecedented changes in technology are constantly reshaping our work environment and personal lives. Our smartphones have more computing power than the computers that landed the Apollo flights on the moon. Artificial Intelligence once a theme of Sc-Fi movies is now a basic function for facial recognition in security cameras, allow cars to drive without human intervention, guide automated devices to clean our floors, or use your voice to search for favorite shows on satellite TV. If you doubt how far we have come, just ask Alexa. The power of the internet and the technology known as the internet of things (IoT) is transforming our world in unimaginable ways.

Reshaping government with the same transformation is both a journey and experience. It's not a matter if we have the capability but rather the commitment and vision to this end goal. It is also why the IT strategic plan is critical to the future of this agency. It represents the commitment of agency leadership to define our future in terms of critical information technology projects and resources.

Technology alone is not how we achieve success but it's rather how technology can maximize the business value by allowing employees, partners, and customers to reach their potential through efficiency and automation. This is an evolutionary process that requires ongoing commitment and vision to achieve true transformation in government.

Governor's expectations of agencies

Agencies are required to develop and follow a strategic plan using goals outlined by the Governor's office. Plans should be developed with agency leadership and in partnership with direct service employees, community partners, tribes, underrepresented communities, and applicable boards and commissions responsible for oversight of the organization. Plans should include a section that aligns with the agency's information technology strategy to include how modernization efforts will support the goals of the organization.

Agencies of 50 FTE or larger are required to develop an information technology strategic plan. Plans should be developed with agency leadership and include how the agency aligns with the Enterprise Information Services' Strategic Framework and how modernization efforts will support the goals of the organization.

Purpose of this document

The IT Strategic Plan is intended to outline how the agency will achieve its vision for service delivery and meeting its mission. The IT Strategic Plan outlines how IT Services will assist the agency in achieving its long-term goals, supporting the business, and assuring the security of applications and data that are in the custody of the agency. It is a guide that describes how the agency prioritizes IT planning, implementation, and manages technology investments and resources.

The plan is a high-level overview intended to be flexible and adapt to changing business needs. It will evolve over time to align with the strategic outcomes and objectives of the agency.

The value and benefits of this IT strategic plan have the following outcomes:

Alignment of technology initiatives with the overall mission, vision, and goals of the agency to ensure technology investments support business objectives and drive value for the organization.

Define a roadmap of major projects that outlines how the agency will implement new technology and upgrade existing systems over time including a timeline and budget.

Improve resource management that provides a framework for managing and allocating technology resources to effectively and efficiently meet the agency's business goals and objectives.

Stakeholders' engagement to ensure the IT strategy aligns with the needs of the organization by engaging key management, employees, and customers. Effectively aligns resources with a unified goal and to gain buy-in.

Improved risk management by identifying and mitigating potential risks associated with technology initiatives including those related to data security, business continuity, compliance with regulatory and statutory requirements, as well as industry standards.

Assess the current environment using analytical tools (COBIT), surveys, and interviews to diagnose the strengths, weaknesses, opportunities, and threats (SWOT) of the current state of information and technology to identify areas for improvement and potential risks.

Overview

The IT Strategic Plan promotes the effective and efficient use of technology resources in support of ODFW's mission and principles within the Natural Resources policy area that are directed through all levels of leadership including the executive team, the enterprise governance committee, the Information Systems Division (ISD), and program level departments.

The Oregon Department of Fish and Wildlife (ODFW) has adopted a two-year (biennial) planning approach to the implementation of Information and Technology throughout the agency. It is intended to coincide with the agency's biennial budget planning, legislative policy option packages (POP), resource availability, and other business planning.

AGENCY MISSION

To protect and enhance Oregon's fish and wildlife and their habitats for use and enjoyment by present and future generations.



Agency Principles

- ❖ Emphasize safety in the workplace
- ❖ Develop effective relationships based on trust and confidence
- ❖ Provide proactive and solution-based fish and wildlife management based on sound science
- ❖ Work as a team to accomplish our mission
- ❖ Promote workforce enhancement and inclusion
- ❖ Ensure fiscal integrity



OREGON DEPARTMENT OF FISH AND WILDLIFE

Agency Objectives



1. Demonstrate effective stewardship of Oregon's fish, wildlife, and their habitats.
 - Continue effective stewardship of Oregon's fish, wildlife, and their habitats through sound science and by addressing our constituent's needs.
 - Increase or maintain public satisfaction with the work we do.
 - Provide leadership on five focal fish and wildlife issues and report on progress and solutions by 2022.
2. Increase and diversify public use and enjoyment of Oregon's fish and wildlife resources.
 - Increase the proportion of Oregonians participating in wildlife watching from 47% to 50% of all Oregonians by Dec. 31, 2021.
 - Increase the diversity of our customers to reflect the gender, age, and ethnic diversity of the state's population.
3. Expand support for fish, wildlife, and their habitats.
 - Align budgets with ODFW conservation and management priorities beginning with the 2019-21 biennium.
 - Increase revenue from ALL ODFW customer (hunters, anglers, viewers, supporters, outdoor recreationists) by 15% by June 30, 2019.
 - Develop ODFW fundraising efforts to expand and diversify grant funding sources by 15% and increase donation revenue by 25% by June 30, 2019.
4. Improve our operational efficiency and ability to monitor and communicate performance.
 - Improve ways to define, prioritize, coordinate, and communicate what we do.
 - Ensure the Department has a diverse workforce with the skills and culture needed to tackle current and future needs.

- Develop information systems to better maintain and analyze the data needed for fish and wildlife science and management.
- Invest in those assets and infrastructure that best support our mission.

Information Systems Division

Information Systems Division

ISD is the agency's technology resource provider for application development, asset management, data management, help desk, network, and telecom services. It is our service responsibility to promote and enable the use of technology resources throughout the agency.

We are a purpose driven organization investing in its workforce while fostering a culture of innovation, sustainability, collaboration, diversity, equity, and inclusion.

ISD Vision

Our vision is to provide the technical leadership and quality services to empower all employees and partners to achieve the mission of the agency.

ISD Purpose

It is the purpose of ISD to develop and support the technology that enable the agency's business operations to protect and enhance Oregon's fish and wildlife and their habitats for use by present and future generations.

ISD Performance Standards

ISD is committed to providing the highest level of systems availability, reliability, security, and quality by:

Providing solutions that are delivered in a timely manner and satisfy customer requirements.

Developing standards for effective use and deployment of technology.

Providing a safe and secure computing environment to protect agency data.

Communicating changes and improvements proactively.

Promoting process improvements through partnerships with agency business owners.

Information Technology (IT) and Information & Technology (I&T)

This IT Strategic Plan is an overarching strategy for all the agency's technology resources, collectively known as Information and Technology (**I&T**). The Information Systems Division (ISD) is responsible for enterprise Information Technology (**IT**) resources acting as a central role for standards, connectivity, compliance, and core services to the entire agency. However, I&T resources are often directly managed within program specific units, project management office, or outsourced.

IT Strategy Communication

The effective use of the IT strategic plan comes from building familiarity of the plan at all levels of the organization and to provide awareness and education on key plan objectives to all audiences. Executive leadership has a responsibility to effectively communicate this strategy and priorities necessary to effectively implement successful outcomes. In addition, express how the IT Strategic Plan is in alignment, and supports, the current Agency Strategic Plan. The enterprise governance committee has a responsibility to communicate project decisions, priorities, objectives, and status and how they align with agency budgets and resources. In addition, to communicate the challenges or roadblocks to executive leadership for any re-prioritizing as necessary. Information technology staff (I&T) have the responsibility to provide technical recommendations during the planning phases of projects and provide ongoing updates to project implementations including any potential changes to scope or timelines. To effectively educate and engage leadership on the challenges IT faces in support of the business areas.

IT Strategy Continuous Lifecycle

ODFW has adopted a biennial review cycle of the IT strategic plan to align with legislative sessions and the agency budget adoption. This allows a more effective planning approach to major IT objectives allowing for agency planning of policy option packages. Since major technology projects typically complete at various schedules, the agency refreshes its overall project timelines accordingly throughout the year. To ensure the delivery of I&T services in line with business requirements, it is necessary to develop a clear understanding through regular meetings with business stakeholders and maintaining open communication channels. Aligning IT services with the organization's mission and goals is crucial to achieve ongoing operational outcomes and business prioritization.

Current IT Landscape

ODFW supports a hybrid IT environment with technology distributed throughout all offices, integration with state enterprise services, and cloud service deployments. There are approximately

1100 computing devices, 950 mobile devices, and user 1500 accounts in use daily. The Information Systems Division (ISD) is the recognized authority for agency policy and technical standards and exclusive provider for networking, virtualized servers, mass data storage, and security protocols. ISD also provides services for centralized help desk, application development, geospatial, and data services. However, the IT environment also extends deeply into regional offices where highly specialized technology is used in direct support of agency business and scientific needs. When considering the IT environment at ODFW, it must include both the central services provided by ISD and the distributed technology throughout the agency as one technology resource.

COBIT Analysis

COBIT (control objectives for information technologies) is a framework applied in the formation of best practices of IT governance and management. The primary benefit of using COBIT framework is to optimize IT services by aligning them to the agency's goals and strategies. It also has value by reinforcing the IT strategies as a common and shared agency objective.

COBIT consists of **five fundamental principles** that drive IT governance and management within the organization. These are:

Principle 1 – Fulfilling stakeholder needs: identifying the key stakeholders within an organization and their needs before providing value creation through goal setting. The process potentially leads to increased organizational growth in the long term.

Principle 2 – Offering enterprises comprehensive end-to-end coverage: accounting for all functions and processes within an organization.

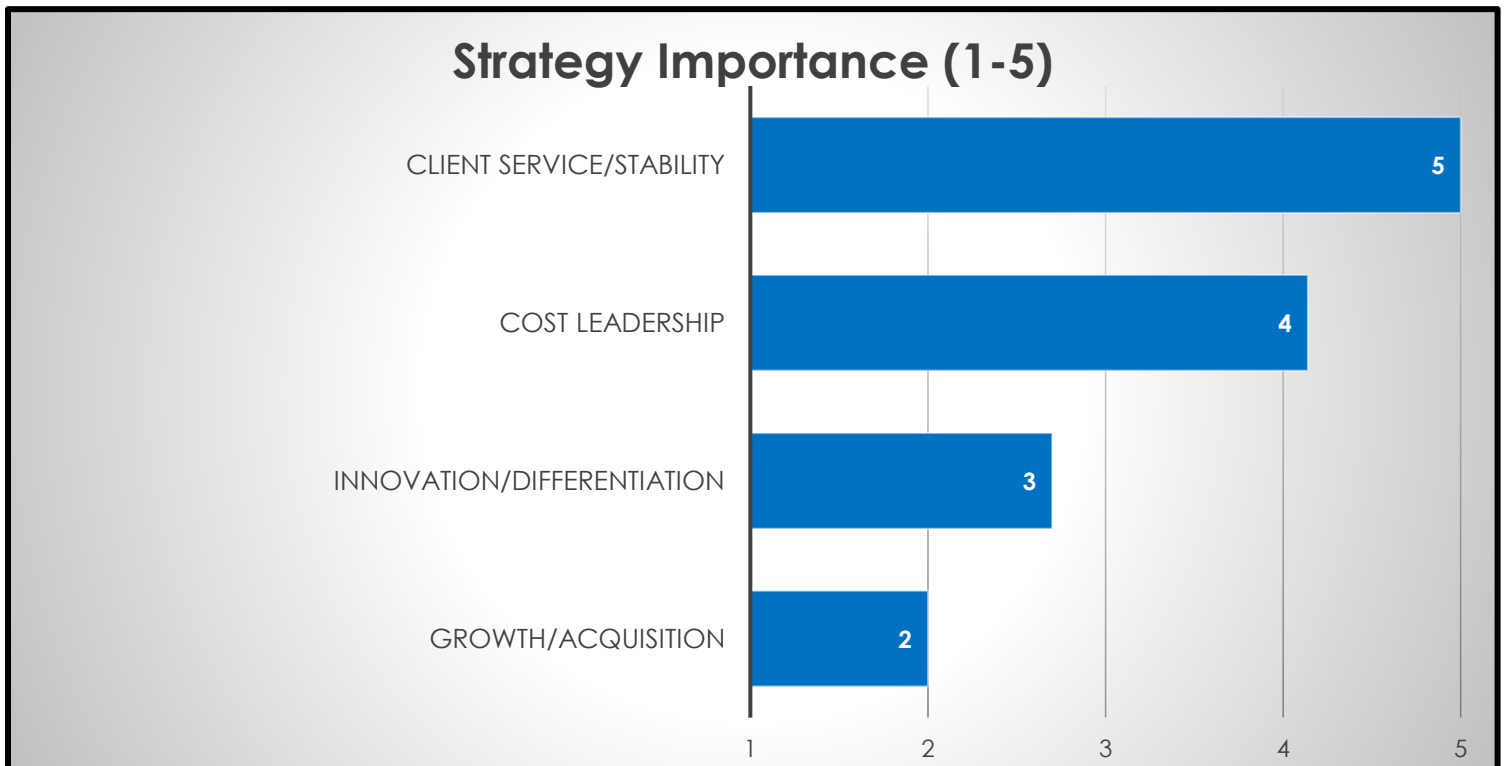
Principle 3 – Achieving a single unified framework: integrating multiple frameworks and standards within an organization to achieve seamless IT management and governance.

Principle 4 – Driving a holistic approach in running an organization: tapping enablers (listed below) to create an all-inclusive strategy for IT governance and management.

Principle 5 – Separating management from governance: setting clear boundaries between governance and management roles and responsibilities.

ODFW utilized a portion of the COBIT governance framework called the Governance System Design Toolkit to evaluate and rate business objectives, priorities, and processes and their alignment with agency wide information technology utilization, early defined as I&T. ODFW uses these results in the following analysis (below) to develop and implement future strategies to improve its I&T management processes including enhancement of its IT governance and strategic planning.

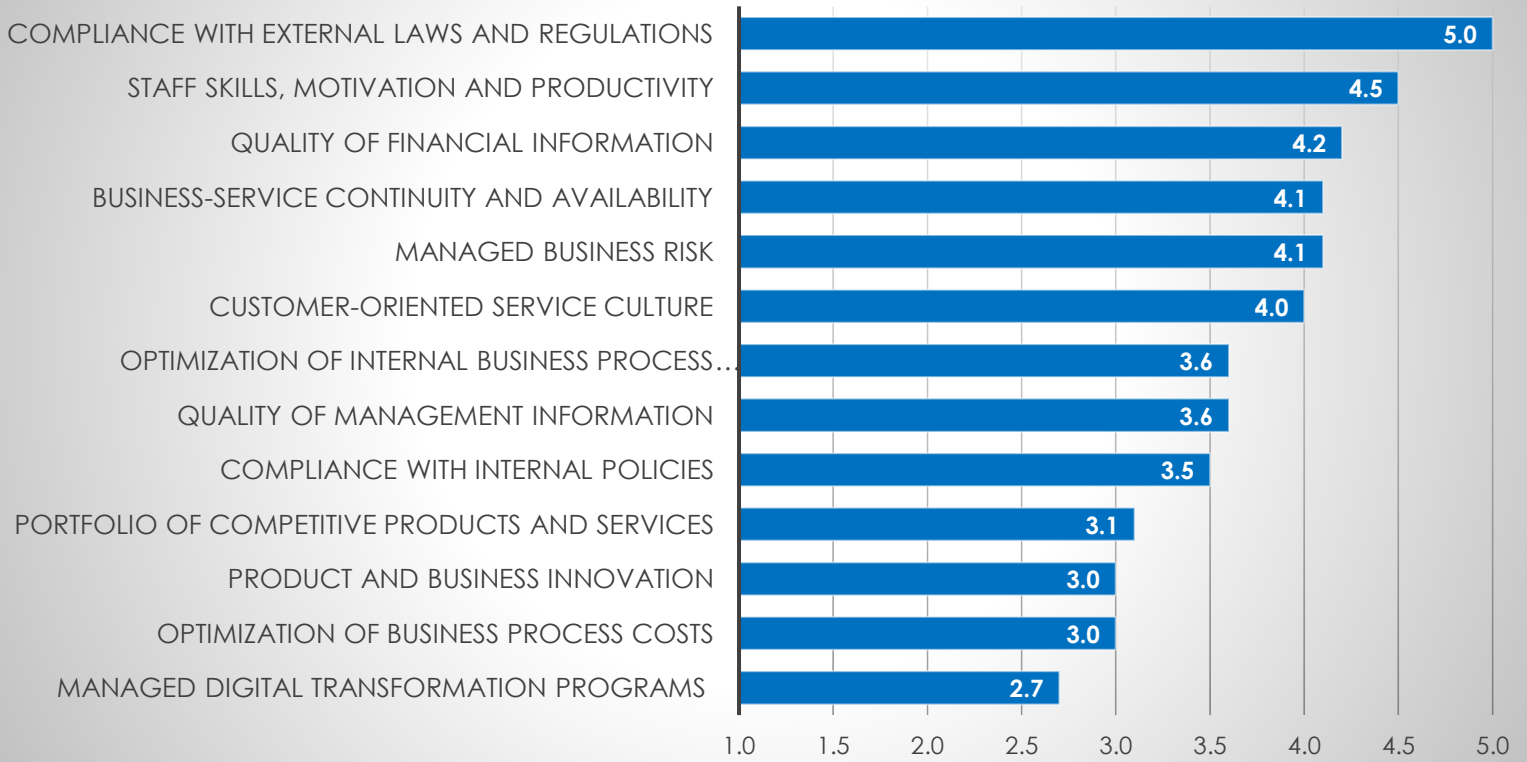
Strategy Importance shows the relative influence these four delivery models have on governance and management objectives for ODFW defining the agency IT strategy. In the case of ODFW, the chart indicates our primary focus is on customer satisfaction with a secondary focus on fiscal integrity. While innovation is important to our organization for advancement of science and technology, it is not a key factor for us as a competitive edge in relation to other agencies. In the same way, growth or acquisition by ODFW is not a key objective as a government agency so rated significantly less important.



Enterprise Goals Importance indicates how various business objectives rank in relative importance of achieving the enterprise strategy defined in the prior section. The chart below represents the ranked importance of the 13 generic enterprise goals defined by COBIT. The enterprise strategy is realized through the achievement of the enterprise goals. While all the goals are important, it is recommended to identify only the top few primary enterprise goals and a limited number of secondary enterprise goals as the main focus within any one given effort. It is important to achieve success incrementally and mature governance and management objectives over time.

At a high level, this chart describes the agency business goals that are most valued and therefore important to the IT strategy.

Enterprise Goals Importance (1-5)



IT Risk Importance represents the overall risk importance the strategy objectives determined through a calculation of multiplying a score of perceived risk times probability of occurrence. The chart below represents the ranked importance of the 19 generic risk factors defined by COBIT for ODFW.

At a high level, this chart describes the potential business risk and therefore the relative importance to the overall IT strategy. While all factors are important to planning, addressing the top 2 or 3 issues within the IT Strategy will produce the greatest return but also may require the greatest investment of time and resources. It should be noted that business leadership overall rated these risks as moderate to low with no risks rated high.

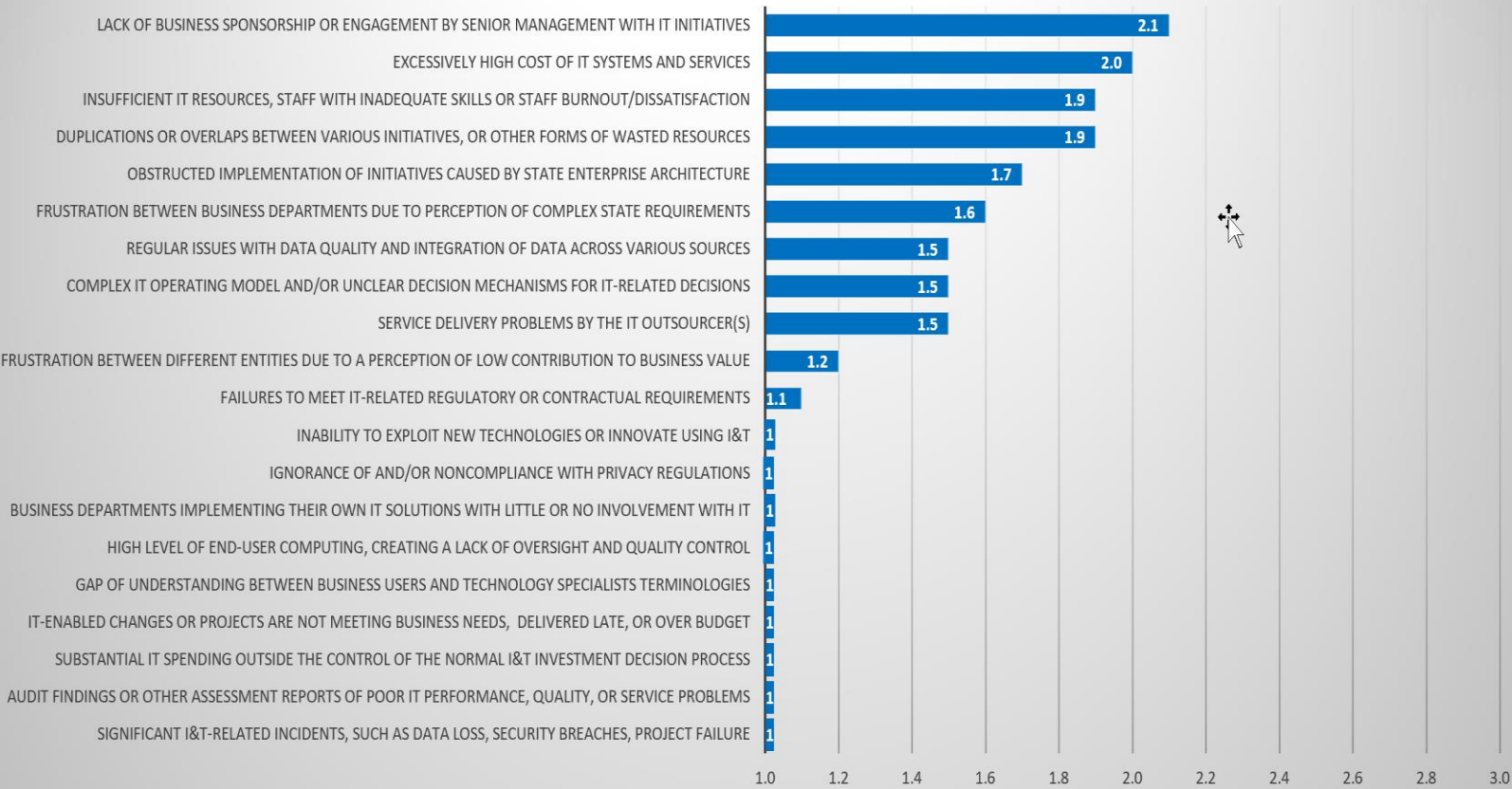
IT Risk Importance (1-25)



IT Issue Importance (pain points) indicates the areas of needed improvement within the agency to better achieve technology outcomes. Issues may have been identified or reported through risk management, audit, senior management, or internal stakeholders.

At a high level, this chart indicates the areas of service that are most important, in need of improvement, or where business risks have materialized. These are critical factors to address within the IT strategy to improve business outcomes for agency leadership and IT.

IT Issue Importance (1-3)



SWOT Analysis

A SWOT analysis is a framework for identifying and analyzing an organization's **S**trengths, **W**eaknesses, **O**pportunities and **T**hreats. The SWOT analysis was conducted as part of the planning process by a cross section of the agency leadership from both program and administration. The elements are not ranked or ordered as the primary goal of the SWOT analysis is to increase awareness of the factors that go into making a business decision or establishing business strategies that leverage each of the identified SWOT elements.

STRENGTHS +	WEAKNESSES –
<ul style="list-style-type: none"> ○ Proven cyber security management and response. ○ Established life cycle management, old tech is not restraining progress. ○ Good agency-wide security awareness and employee engagement. ○ Internal and external customer service feedback is good to excellent. ○ Project prioritization - Putting strategy around work priority needs. ○ Tracking workload and response time. ○ Succession planning, backup up positions, sustainability. ○ Planning for future data needs, storage and computing power. ○ Forward looking at creative solutions and opportunities. ○ Existing strategy around enterprise architecture, leverage existing resources. ○ Use of best practices for product development and implementation. ○ ISD customer service and response in support of business needs is very good. ○ Audits results indicate established processes and compliance are good. 	<ul style="list-style-type: none"> ○ Lack of agency wide data collaboration, management, warehousing. ○ Inconsistent distribution/ availability of field technology (have/have not) driven by separate unit budgets. ○ Lack of resources to provide standardized training on use of technology. ○ System, vendor, and internal function documentation and diagrams can be lacking. ○ Inventory of system databases, data management. Challenging to acquire/maintain. ○ Versioning of data, siloed data. Agency not always using an enterprise view. ○ Data management plan, ownership responsibilities. Lacking overall strategy. ○ Lack of standardized technology (hatchery sensors/systems as example), not looking at common solution. Again, mostly field issue because of distributed funding. ○ Approach and policy on AI yet established. ○ Change management to try/accept new technologies. ○ Understand of available M365 apps and training.
OPPORTUNITIES +	THREATS –
<ul style="list-style-type: none"> ○ Use of AI, both embedded and regenerative. ○ Staff readiness, technical abilities, untapped resources. ○ Lean efforts to reduce complexity, simplify processes. ○ Opportunity for automation, improved efficiencies. ○ Efficiency cost saving on phone service, softphones adoption. ○ Move storage and apps to Azure cloud. 	<ul style="list-style-type: none"> ○ Limited technology staffing and funding for size of organization. ○ Steepening technology curve, both IT and employees. ○ Increasing cyber threat landscape, social engineering, physical, and electronic. ○ Increasing costs/ funding needs. High value technology with greater distribution. ○ Resource dilution, keep adding, not removing tasks/priorities.

- Identify data standards, how data collected, adoption. Providing space in data base, predefined elements.
- Move away from spreadsheets to databases.
- Utilize/partner with other agencies sharing resources/permits/agreements.
- Streamline system reviews with Enterprise (DAS/EIS).
- Modernization, move away from paper.
- Implement workflow management.
- Enterprise tool resources training, ability to have resources to build off enterprise tools (M365).
- Better utilization of Microsoft contract to train and implement resources.

- Oversight thresholds by DAS Enterprise are too low, challenging to conduct business.
- Single source person supporting a technology solution.
- Difficult moving large projects from project to maintenance.
- Over dependent on paper systems and processes.
- Struggle with competitive hiring /skills / what the state offers.
- Administrative burden (DAS oversight, contracts) for procurement of common IT solutions.

IT Governance

Governance is the process where major agency projects are prioritized to create a viable list of projects for the agency to focus resources to achieve results timely and on budget. As important, governance also defines what efforts will not be assigned resources so as not to dilute available funding, staffing, and other business resources away from a unified vision. Ultimately governance establishes the future state of the agency ensuring the alignment of IT with the agency's goals and strategies. Each enterprise goal is aligned with an IT goal to ensure the IT organization's work supports the agency's priorities. The Enterprise Governance Committee (EGC) selected the IT alignment goals that are the most relevant to ODFW's strategic plan. Project timelines are created and reviewed to show progress or impediments on a quarterly basis allowing additional resources and support where needed.

Project priorities, or rather best known as ranking, is determined by factors such as importance to business operations, available funding, available staffing resources, and sustainability. The governance committee periodically reviews and ranks all potential projects in queue and promotes selected top-ranking projects to 'active' status meaning they are set for planning according the estimated schedule.

ODFW has adopted a biennial review process for project concepts to better align the decision and planning with the existing biennial Policy Option Package (POP), legislative, and budget planning processes.

Each of the approved projects is assigned project oversight resources including project management, business analysts, technical analysts and other resources to develop and integrate new technology into the agency.

Enterprise Governance Committee (EGC)

All major agency projects are reviewed and prioritized by EGC irrespective if they have an IT component or not. This allows all agency projects to be evaluated equally according to the project's importance, urgency, and function within context of the agency's strategic plan and other business drivers. With recommendations by the Information Systems Division, technology solutions are considered for implementation using a custom off the self (COTS) solution, custom developed by the Information Systems Division (ISD), or outsourced under the direction of ISD. Decisions made at this level are to conduct further analysis, defer to division implementation, defer to Information Technology Governance, or placed on hold.

Information Technology Governance (ITG)

Technology specific projects deferred to ITG are further resourced and planned for execution separately from EGC so as to provide better administration, communication, and oversight while working directly with the application business owner.

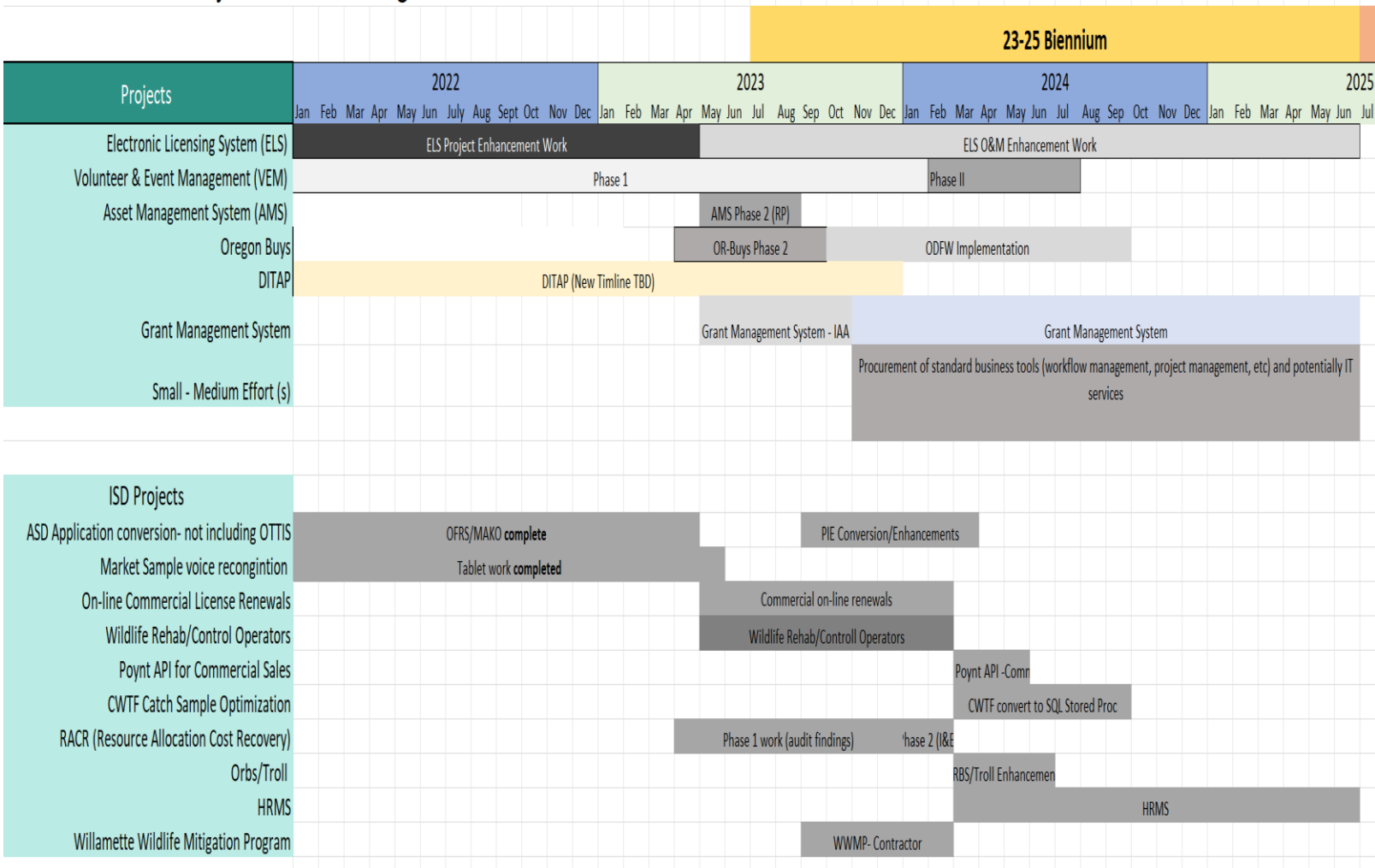
Project Timeline Projections

The projects listed below represent a biennial timeline projection of major projects approved by the ODFW Enterprise Governance Committee as new product implementations or significant upgrades of existing systems. Ongoing maintenance, administration, and operations are not reflected in this graphic.

The project timeline below is an outcome of EGC and ITG. It indicates the approved biennial IT solutions with committed resources along with a relationship timeline.

Projects are shown in a priority ranking order from highest on top to lowest on bottom also factoring resource scheduling from most available (active) on left to those yet initiated on the right.

ODFW Project Timelines - High Level



Crosswalk of I&T Projects to Agency Strategy Goals

The series of tables below indicate how each of the project initiatives in the prior section relate to the agency strategic goals. Projects shown in blue are part of the EGC governance while projects shown in green are part of the ITG governance.

Agency Strategic Goal	ELS	VEM	Asset Mgt	Oregon Buys	DITAP	Grant Mgt
Demonstrate effective stewardship of Oregon's fish, wildlife, and their habitat	●	●				●
Increase and diversify public participation in the use and enjoyment of Oregon's fish and wildlife resources	●	●				
Diversify, expand and align funding with the work we do and the people we serve	●			●		●
Improve our operational efficiency and ability to monitor and communicate performance				●	●	●

Agency Strategic Goal	OFRS	MAKO	PIE	Market Sample	Commercial Online	Wildlife Rehab
Demonstrate effective stewardship of Oregon's fish, wildlife, and their habitat	●	●	●	●	●	●
Increase and diversify public participation in the use and enjoyment of Oregon's fish and wildlife resources						
Diversify, expand and align funding with the work we do and the people we serve	●	●	●		●	
Improve our operational efficiency and ability to monitor and communicate performance	●	●	●	●	●	●

Agency Strategic Goal	Poynt API	CWTF Catch Sample	RACR	ORBS	HRMS	WWMP
Demonstrate effective stewardship of Oregon's fish, wildlife, and their habitat		●		●		●
Increase and diversify public participation in the use and enjoyment of Oregon's fish and wildlife resources						●
Diversify, expand and align funding with the work we do and the people we serve			●			
Improve our operational efficiency and ability to monitor and communicate performance	●	●	●	●	●	●

Metrics

Metrics have been identified to track and periodically report the current status of key measurable outcomes that contribute to the success of the agency’s strategic plan. While the outcomes of the agency strategic plan are primarily related to Fish and Wildlife business drivers, IT is the foundation for the analysis, tracking, reporting, and communications that allow leadership to make effective decisions.

These metrics are intended to monitor the effectiveness of IT service delivery to deliver secure and available resources to our business partners. They help to ensure progress is recognized and sustained acting as an early indicator of potential impediments to business operations or achieving the agency mission and objectives.

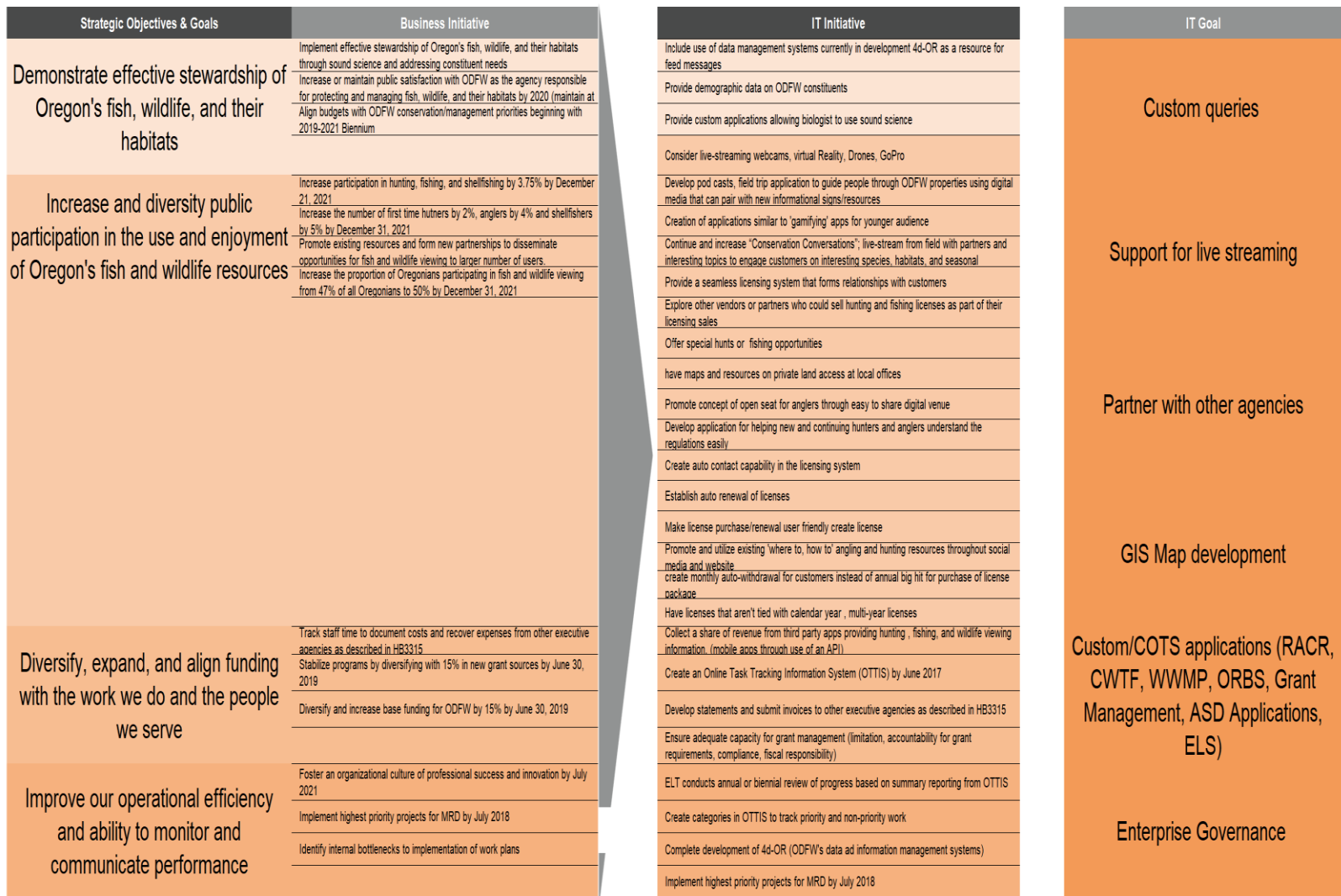
Metrics for the IT Strategy will be evaluated, expanded, and realigned over time for continual support and alignment to changes in business or technology.

Metric Description	Alignment to Agency Goals	Alignment to IT Goals	Alignment to SWOT Threat, Opportunities, Weakness
<p>IT Security Vulnerability Management</p> <p>An indicator of overall effectiveness of IT to identify and remediate security risk to agency systems and data resources.</p>	<p>#4 Improve our operational efficiency and ability to monitor and communicate performance. Develop information systems to better maintain and analyze the data needed for fish and wildlife science and management.</p>	<p>Reduce the security risk to ODFW through continued application of system updates, patches, and lifecycle management.</p>	<p>Increasing cyber threat landscape, social engineering, physical, and electronic. Steepening technology curve, both IT and employees.</p>
<p>Employee Security and Phishing</p> <p>An indicator of effective employee training and awareness of security practices to protect state computing resources from potentially dangerous malware, phishing, and ransomware.</p>	<p>#4 Improve our operational efficiency and ability to monitor and communicate performance. Develop information systems to better maintain and analyze the data needed for fish and wildlife science and management.</p>	<p>Reduce the security risk to the State of Oregon through continued evaluation and education about risky or harmful computing practices.</p>	<p>Increasing cyber threat landscape, social engineering, physical, and electronic. Steepening technology curve, both IT and employees.</p>

<p>System Uptime Performance</p> <p>An indicator of IT system uptime measuring the availability of the most critical resources as defined by agency leadership.</p>	<p>#4 Improve our operational efficiency and ability to monitor and communicate performance. Develop information systems to better maintain and analyze the data needed for fish and wildlife science and management.</p>	<p>Provide consistent IT system uptimes to ensure uninterrupted access to critical resources for agency staff.</p>	<p>Opportunity for automation, improved efficiencies. High value technology with greater distribution. Implement workflow management.</p>
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Goals Cascade

An IT strategic plan must be aligned with the overall business goals as defined in the agency strategic plan. Any digital transformation projects or organizational data management should align with investment priorities and resources. The graphic below represents the alignment of IT goals with the Agency Strategic Plan.



A summary of the IT Goals in the above chart are defined as below.

- **Custom queries** provide tailored data and specific information enabling staff to develop well informed, science based, decisions in response to the needs of ODFW constituents.
- **Support for live streaming** enables agency staff to bring the outdoors to citizens encouraging participation, education, and engagement with fish, wildlife, and viewing activities.

- **Partner with other agencies** to enhance the effectiveness of the agency’s strategic plan by fostering collaboration, optimizing resources, and leveraging collective expertise. By example, key IT partnerships with other Natural Resource agencies and alignment with EIS objectives.
- **GIS Map development** enables ODFW field offices the ability to provide custom maps and informational resources to ODFW constituents to inform property boundaries, resource availability, ADA accommodations, parking, paths, and is also used in species management by ODFW staff.
- **Custom/COTs applications** enables the agency to demonstrate effective stewardship of Oregon's fish, wildlife, and their habitat, improve our operational efficiency and ability to monitor and communicate performance, diversify, expand, and align funding with the work we do and the people we serve.
- **Enterprise Governance** to align business needs with agency resources while implementing the highest priority projects in support of the agency Strategic Plan.

Closing Summary

ODFW has adopted this IT strategy as a companion to the agency strategy to focus large scale efforts through effective governance, continual interaction with our business partners, and to quantify with metrics. This process continues to demonstrate operational results with stable, effective, and sustainable technology deployments for the agency and service to Oregonians.

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