# 2011

# Information Technology PORTFOLIO

**State of Washington**

**Department of Fish and Wildlife**

**August 2011**

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***What's this?***
*QR format bar code (see front cover) can be converted to a URL when scanned by a compatible device (such as a web-enabled smart phone) with QR bar code reader software. In this case, the QR code contains the URL of the Strategic Planning page, located at the WDFW website. That web page contains a downloadable version of the most recent IT Portfolio as well as the Strategic Plan (see Appendix A of this document).*

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# 1. Overview

## A. Purpose

This document, the *2011 Information Technology Portfolio*, represents the current state of Information Technology (IT) for the Washington Department of Fish and Wildlife (WDFW) through the state fiscal year ending June 30, 2011. Adjustments to the agency IT investment portfolio occur throughout the course of the fiscal year in the areas of hardware, software, network infrastructure, maintenance, and staffing.

The Department of Information Services (DIS) defines an IT Portfolio as a *"compilation of information about an agency's investments in its IT infrastructure. The information is organized to show how these investments support the agency's mission and programs and to demonstrate the relationships among current and planned investments. The portfolio enhances the ability of key decision-makers to assess the probable impact of investments on an agency's programs and infrastructure, as well as on the overall state IT infrastructure."*

Accordingly, the purpose of this document is to allow the WDFW to manage its IT investments in the same manner as one would manage other investments, like financial instruments such as stocks or bonds, and real estate**. The department recognizes the business value of IT in allowing it to meet its mandated mission of providing sound stewardship of fish and wildlife.**

This Portfolio demonstrates the value of IT investments to senior managers in order to prepare them and other stakeholders to make important IT investment decisions. Those stakeholders include Division and Regional managers, the Executive Management Team, the Director/Deputy Directors, the Fish and Wildlife Commission, DIS management and staff, the Information Services Board, the Office of Financial Management, and members of the Legislature.

WDFW will conduct an annual assessment of this IT Portfolio in conjunction with the biennial and supplemental budget process and make revisions as necessary during the year. The annual assessment will allow WDFW management the opportunity to review:

- WDFW's IT Portfolio
- IT infrastructure changes, investments/projects, and operations
- Relationships between IT investments and the agency's vision, mission, strategies, and programs
- Business process changes that affect the agency's use of IT or plans for IT

In order to present the most up-to-date record of information technology in use at WDFW, we consider the IT Portfolio a "living document." The Portfolio is subject to interim updates throughout the year. The most current information is published to the Information Technology Portfolio Management System (ITPMS).

As the Portfolio is updated, it serves as a tool to show the amount and location of IT investments, as well as to help define the capabilities, limitations, and benefits of the investment in terms of meeting agency business needs.

The WDFW IT Portfolio begins with an overview, followed by additional sections that provide detailed information on the IT infrastructure, technology investment/project summaries, planned investments/projects, and technology investment/project reviews. Among other things, this document:

- Discloses links among agency strategies, business plans and IT investments;
- Facilitates analysis of the risks associated with IT investments and helps ensure that appropriate risk mitigation strategies are adopted; and
- Provides a baseline for agency performance reporting.

Where possible, WDFW investments in IT have been compared with other organizations.

The Information Technology Portfolio is produced in order to document current status and chart a technology direction for the WDFW. In order to set this course, the Department established the following as objectives for the portfolio and the IT planning process:

- To communicate a technology vision to employees.
- To provide a basis to integrate information resources.
- To ensure that funds are spent wisely on information technology.
- To provide systems to support WDFW's internal and external customer base.

# B. Convergence of Business Mission and IT Vision

The WDFW 2011-17 Strategic Plan is incorporated herein as Appendix A. It is also available from the agency web site.
http://wdfw.wa.gov/about/strategic_plan/

MISSION STATEMENT

*"Preserve, protect and perpetuate fish, wildlife and ecosystems while providing sustainable fish and wildlife recreational and commercial opportunities."*

LEGISLATIVE MANDATE (RCW 77.04.012)

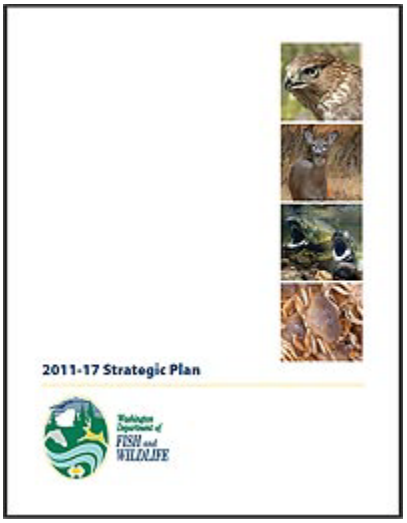


***Figure 1-1.*** The *WDFW 2011-17 Strategic Plan* affirms the agency's reliance on information technology to meet its goals and objectives.

"Wildlife, fish, and shellfish are the property of the state. The commission, director, and the department shall preserve, protect, perpetuate, and manage the wildlife and food fish, game fish, and shellfish in state waters and offshore waters. The department shall conserve the wildlife and food fish, game fish, and shellfish resources in a manner that does not impair the resource. In a manner consistent with this goal, the department shall seek to maintain the economic well-being and stability of the fishing industry in the state. The department shall promote orderly fisheries and shall enhance and improve recreational and commercial fishing in this state."

## *1. Synopsis of Strategies to Achieve the Mission*

To achieve these goals, WDFW will use good science to manage fish and wildlife populations, protect habitats, and influence decision-making processes. The Department will work with customers, internal and external, to identify sustainable recreational and commercial opportunities, and to develop partnerships that assist in achieving the WDFW's mission. Operational excellence will be based on modern and efficient business practices and the infrastructure to support them.

## *2. Alignment of Current IT Investments with Business Objectives*

WDFW continually engages in assessment of the agency's IT investments and direction. The IT strategy is an integral part of the overall agency strategic plan. Modifications to the WDFW IT strategic direction are driven by agency business needs, but also by overall state government IT policy and statewide systems directions. In this way, WDFW's IT strategy supports agency business needs and is consistent with the overall state strategic direction.

The WDFW's current IT investments are focused on providing the operational support needed for resource and business management goals and objectives. The areas of IT investments include:

- Supporting and extending electronic communications.
- Providing information access for internal and external customers.
- Improving administrative business management and office support systems.
- Supporting resource data management and providing decision-making support applications.

The aggregated investments provide significant support for carrying out the Department's mission.

## *3. Agency IT Strategies and Connections to Agency Objectives*

IT plays an important role in assisting the WDFW to meet its goals and objectives. IT provides the electronic communications infrastructure, and the tools to effectively manage and make available data resources. The tools, methods, and infrastructure provided by IT enable the agency to move forward in key areas. IT plays a key role in the ongoing agency strategic planning process, providing an essential foundation for success (linkage to agency goals and objectives in parenthesis).

A. Strategy 1. Make science and recreational information more accessible to our internal and external customers (3A, 1B)

   (1) Improve interactivity of our information on the web

   (2) Provide real time access to science and information

   (3) Create more value-add services on the web

B. Strategy 2. Improve the agency's effectiveness at performing our science (3C, 1A)

   (1) Increase mobility of staff and their access to agency resources

   (2) Improve the systems to better understand and conduct the science

   (3) Advance the science of the agency by leveraging emerging technologies and practices

C. Strategy 3. Improve the agency performance through operational efficiencies and effectiveness (3B)

(1) Modernize and automate our business processes

(2) Remove complexity and redundancy of operational systems

(3) Improve accountability through business intelligence

D. Strategy 4. Build stronger IT and line-of-business partnerships (3A, 3B, 3C)

(1) Realign roles and responsibilities to empower program and position IT as a service provider

(2) Create consulting services to help programs maximize utilization of IT services

(3) Lead statewide efforts in IT shared service and interagency collaboration

## *4. Future Needs for IT Investments*

The following IT areas will need investment attention to improve support for the agency mission:

- Improved access, including remote access, to state and agency internal networks

  As the agency continues to develop web-enabled applications, improvements in access to the agency network will be needed for all remote office personnel. State government systems continue to assume that all state employees have network connectivity.

  Better network access facilitates improved communications and provides opportunities for more efficient, unified business support processes. Expanded use of remote network access technology such as digital cellular access is needed.

- New, more effective applications to support agency needs

  Modern applications, including Web-based tools, will be implemented to improve administrative business processes and replace manual methods. A few remaining legacy applications are in need of a replacement plan.

- Continued participation in state Enterprise Architecture Initiatives

  WDFW continues to pursue changes in its IT architecture to align with common state systems, as illustrated by the recent move to Exchange email and Enterprise Active Directory. These changes will continue to provide benefits in system integration, identity management, multi-agency projects, and statewide system development. WDFW is also active in state Enterprise Architecture policy development.

- Network and server infrastructure improvements

  Continued replacement of obsolete servers and network gear is needed required to maintain normal agency services. WDFW has switched to a server leasing strategy through DIS to ensure that servers are replaced on a regular cycle.

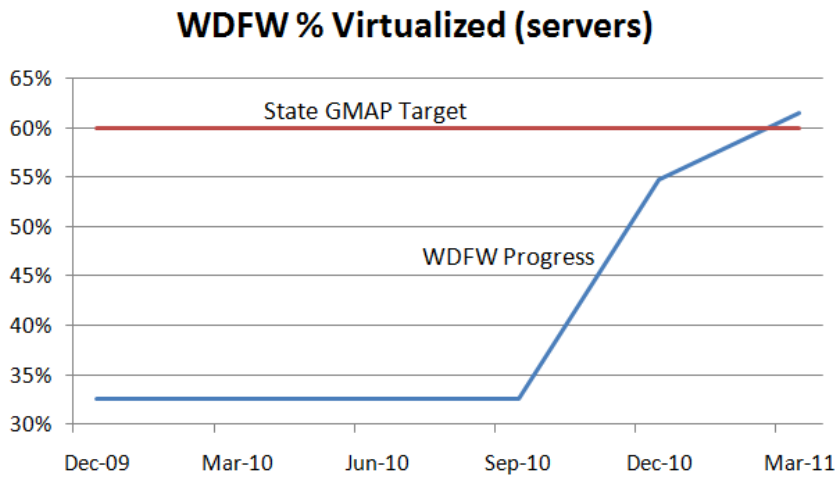


***Figure 1-2.*** In FY11, WDFW's use of virtual servers was 61.3%, exceeding the state GMAP target of 60%.

WDFW will continue to invest in virtual servers in support of statewide IT strategies. During FY11, WDFW reached the GMAP target of 60% server virtualization (one of only seven agencies to do so). WDFW plans to increase its use of virtual servers allowing it to consolidate infrastructure, lower overall cost, and increase efficiency.

Infrastructure replacement and improvements will continue as business needs for better network performance drive the use of technical advances in the networking field. WDFW expects to expand and upgrade network connections to field offices in cooperation with DIS.

- Migration to hosted services

  Following government and industry trends and best practices, WDFW will continue to look for opportunities to migrate to hosted services. During FY11, WDFW contracted with DIS to leverage its economies of scale and expertise in the areas of network backups and SharePoint services. Hosted services provide benefits to WDFW users ranging from increased uptime, additional capacity and functionality, and removes hardware and software maintenance and operations from the equation.

- Improved desktop systems management practices

  WDFW will continue its effective strategies for replacement of desktop computing systems and remote management of desktop software, to insure that all employees have the computer tools to communicate and perform their job. The automation of desktop management and security continues to be a current need.

- Improved access to, and integration of data

  Public stakeholders and clients will benefit from better access to agency data resources. WDFW is currently building a completely new and improved web site to enhance the flow of information in both directions.

  Fish and wildlife resource management and enforcement needs internally would be better served by improved access to data, and by using Web-based systems and GIS tools to service users statewide. New systems and access tools such as Microsoft SharePoint will provide the necessary linkage to ensure that information is available across all programs, and data management can be extended to external partners.

- Improvements to meet robust statewide IT security initiatives

  WDFW will evaluate the impacts to staff and fiscal resources to comply with new IT security standards. The new Standards reflect industry best practices, as well as significant input from state agencies (including WDFW). The revised Standards were presented to the ISB in July 2009, and became effective in August 2009. Compliance for existing systems and IT infrastructure is required by August 2012.

# C. IT Plans, Proposals, and Acquisition Process

## *1. Review of IT Plans, Proposals and Acquisitions*

WDFW views the IT Portfolio as the blueprint for its IT planning. Proposals and acquisitions must support activities included in the Portfolio. Major systems plans and proposals are reviewed at the executive management level. Budget and acquisition proposals follow established policies and procedures set forth by DIS, OFM, and the WDFW Divisions of Financial Services and Information Technology Services within the Technology and Financial Management Program.

## *2. Acquisition Process*

The acquisition process used by WDFW provides competition and accountability for purchases and expenditures and adheres to the provisions of the Information Technology Investment Policy. Acquisitions for small systems improvements and upgrades follow existing procedures from OFM, DIS, and the WDFW Divisions of Financial Services and Information Technology Services within the Technology and Financial Management Program. WDFW makes active use of DIS Master Agreements for technology services and consultant services, and continues to participate in the lease agreement with DIS to refresh its microcomputer fleet.

## *3. Adherence to Standards*

WDFW adheres to state technical standards for IT. As standards change and new standards come into play, WDFW has proven a willingness and ability to change its standards to remain in compliance.

Recent examples include the WDFW move to the state Enterprise Active Directory "forest", migration from Novell email to DIS-hosted Microsoft Exchange/Outlook email, and beginning to utilize the DIS SecureAccess Washington (SAW) authentication service for external web applications.

## *4. Complaint and Protest Standards*

WDFW adheres to state complaint and protest procedures as outlined in the IT Investment Policy and Standards documents. Prior to execution, all contracts and agreements entered into by WDFW undergo a review by the agency Contracts Office, including a review as to form by the Office of the Attorney General.

# D. Overview of Infrastructure

*The information that follows is a summary of WDFW's technology infrastructure for the state fiscal year ending June 30, 2011. For detailed information, please refer to section 3.*

## 1. Personal Computer Hardware

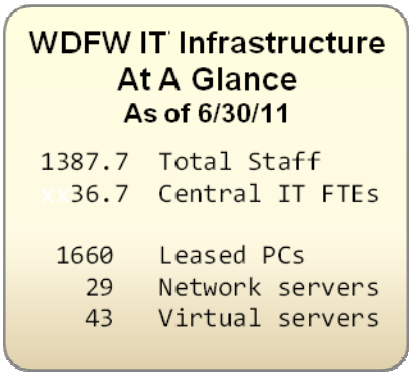


***Figure 1-3.*** Summary of WDFW IT infrastructure.

WDFW has 1660 leased systems in its microcomputer fleet. Started in 2001, the PC lease program has allowed WDFW to systematically replace its existing, agency-owned, systems. The leased fleet is refreshed over a 48-month cycle. Similar lease programs are in place at the Washington Departments of Transportation, Employment Security, and Social and Health Services.

Prior to the DIS lease agreement, WDFW acquired PCs via conventional purchase methods without regard to a systematic, planned replacement strategy. This piece-meal purchase practice led to great disparity among its microcomputer investment, in terms of brand, processor platform, operating system, and age of systems to support.

FY11 saw the continuation of a trend for WDFW computer users to migrate from desktop models to notebook systems. These *desktop replacement* systems make good business sense for employees who spend much of their time out in the field or at multiple sites during the work week.

As of June 30, 2011, notebooks accounted for slightly more than 40% of the WDFW leased microcomputer total, compared to 35% for FY10.

## 2. Personal Computer Software

a. Operating System

WDFW has completed its transition to *Microsoft Windows Vista Enterprise* as its agency microcomputer operating system standard. As of July 2010, all agency leased microcomputer systems had been migrated to Vista Enterprise.

b. Office Productivity

WDFW's standard office productivity suite is *Microsoft Office Enterprise 2007*. WDFW has entered into a Microsoft Enterprise Licensing

agreement for Office 2007 Enterprise, allowing its use on the entire agency microcomputer fleet.

As of July 2010, all WDFW leased microcomputer systems have been transitioned to Office 2007 Enterprise.

c. Email and Directory Services

WDFW uses DIS-managed email and Enterprise Active Directory services.

Agency staff use Microsoft Outlook 2007 as the desktop email client. Outlook WebAccess, hosted by the Department of Information Services (DIS) is an option for remote connection to email.

d. Other Standards

Other WDFW PC software standards include:

- *Microsoft Forefront* (anti-malware)
- *Microsoft Internet Explorer* (web browser)
- *WinZip* (file archival/extraction utility)
- The WDFW software inventory contains approximately 130 software titles classified as agency standard, with another 300 titles in limited or special use areas.

### *3. Networks*

Including direct and virtual private network connections, nearly all employees -- as well as some temporary staff -- utilize some form of agency network access.

a. Agency Network

The WDFW network connects personnel in 17 facilities (six buildings in the greater Olympia area, the six Regional Office headquarters locations, three ancillary regional HQ sites, and two District Offices).

Working with NoaNet, private vendors, and DIS, WDFW has implemented a high speed integrated Ethernet Local Area Network (LAN) connecting the Regional Offices to the Olympia LAN.

High-speed network links are now in place at all WDFW Regional Offices. The DIS-managed network connections at these locations offer 100 mbps bandwidth. WDFW will continue to evaluate and upgrade network connections to other field offices as technology evolves.

b. Virtual Private Network (VPN)

The WDFW VPN allows remote staff to safely connect to the agency WAN via the Internet on an as-needed basis. Sufficient licenses exist to allow all agency staff to utilize the VPN. Nearly 400 agency field staff use the VPN as their primary method to access the WDFW Intranet.

The present VPN solution is not compliant with Information Services board (ISB) architecture standards. Accordingly, WDFW intends to request funding from the legislature for a replacement system that satisfies state requirements.

c. Servers

WDFW is part of the statewide forest using Enterprise Active Directory services, and is also using the DIS Managed Exchange email service. These changes have reduced the need for a number of WDFW authentication and email servers.

*Microsoft Windows Server* is the agency file and print server standard, supporting agency users connected to the WDFW LAN.

*Microsoft SQL Server* is the agency database server standard. The agency also operates a Sybase server for a small number of legacy applications.

*Redhat Enterprise Linux* is the agency Linux server standard. Existing *Sun Solaris Unix* servers are being phased out in favor of Linux, or in some cases, Microsoft Windows Server. Linux servers are primarily used by WDFW as web servers and as the web services tier for web-enabled applications.

The total number of physical servers currently in use at WDFW is 29. In addition, the agency has licenses for 46 virtual server instances. As of 6/30/2011, WDFW reached 61.3% server virtualization (one of only seven agencies to exceed the state GMAP target of 60%).

### *4. IT Staffing*

For FY11, WDFW devoted 36.7 full-time equivalents (FTEs) to the central administration, development and support of its IT investment.

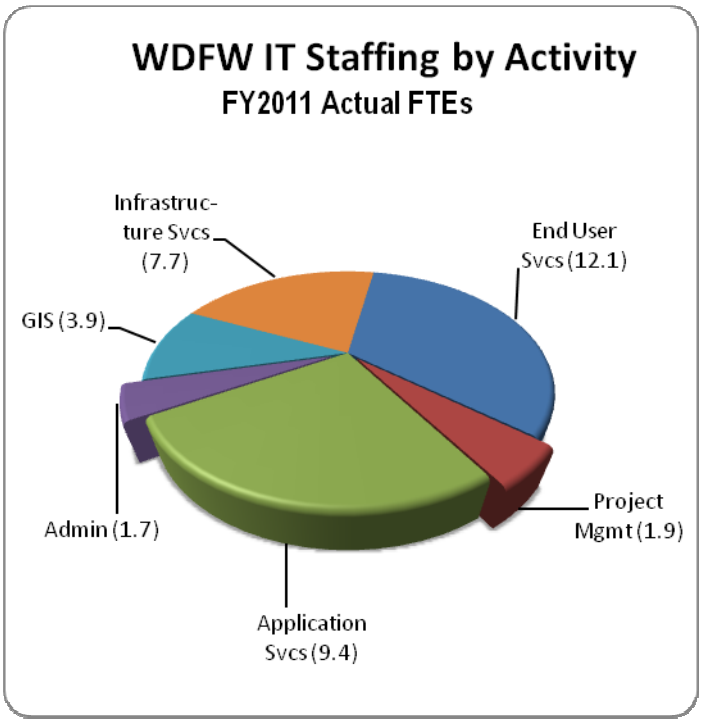


***Figure 1-4.*** WDFW central IT staffing covers a wide array of functions and activities.

The central IT Services Division (ITSD) is composed of the following work units: Administration; Application Services; End User Services (EUS); Geographic Information Systems (GIS); Project Management; and Infrastructure Services. The actual FTE breakdown for each unit is as follows:

- *Administration* (1.7 FTEs) - This unit provides overall administration and support of agency IT. The positions include the agency Chief Information Officer (CIO) and Administrative Assistant.

- *Application Services* (9.4 FTEs) – Functions performed by this unit include unit management; development, maintenance, and oversight of new and existing applications; database administration; data administration; and IT security and data policy development.

- *Geographic Information Systems* (3.9 FTEs) – This unit performs agency "corporate data" GIS data administration, data access application development and maintenance, and fulfillment of corporate data requests from the public.

- *Project Management* (1.9 FTE) – This position provides oversight of major development projects. The senior project manager also assists the CIO with a new initiative to better manage project requests. One position was transferred to this unit from the former Data Management unit in FY11.

- *Infrastructure Services* (7.7 FTEs) – This unit provides Wide Area Network (WAN) and telephone administration and support for the agency. Functions performed include unit management, server and network backup administration, email administration, network/WAN administration, VPN and Windows server administration, and telephone/voicemail/ cabling support.

- *End User Services* (12.1 FTEs) – This unit maintains and supports micro-computers and office productivity software statewide. Functions performed within EUS include unit administration (0.8 FTE), specialized support and audit (1 FTE), Eastern WA support (1.9 FTEs), desktop support (6.3 FTEs) and service desk (2.2 FTEs). Those figures include 2 FTEs from non-permanent staff.

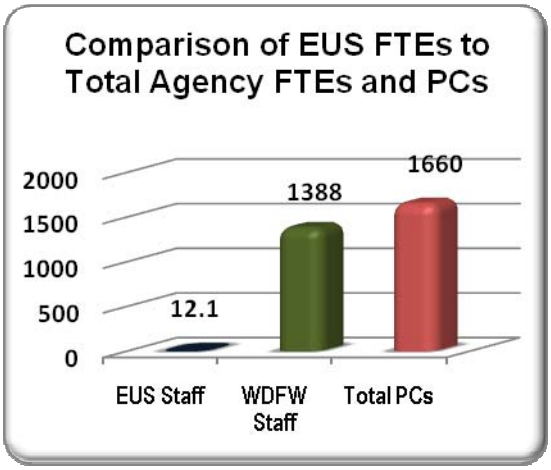


***Figure 1-5.*** The 12.1 FTEs in the EUS unit support 1660 leased PCs and the associated software, printers, and peripherals used by 1388 agency employees: *a ratio of 137 systems per support FTE.*

According to a 2011 Gartner report[1], IT FTEs in a typical state/local government organization account for 3.5% of total staff. WDFW's actual FY11 central IT staffing was 2.6% – an IT staffing gap of approximately 12 FTEs.

For IT Portfolio purposes, WDFW includes IT staff in the central IT Services Division who are in an IT classification and perform IT work, plus the division Administrative Assistant position.

Organizational charts for the Information Technology Services Division appear later in this section.

Not included in the IT staff count are employees whose positions are outside of the state IT job classification and do not perform IT work (as defined by OFM), including a management analyst; two research analysts (one non-permanent); an office support supervisor; and five office assistants (two non-permanent).

Also not included are resource program staff who perform activities such as maintaining a GIS database, or supervising the collection of species and/or habitat observations, that are outside of the WDFW central IT Services Division. Some of

[1] Source: *IT Metrics: IT Spending and Staffing Report, 2011* (Gartner Research ID Number G00210146).

these employees may be in an IT job class, while others are in research analyst or biologist classes.

*Facing page:*

*WDFW central IT organizational chart (2 pages)*

# Department of Fish and Wildlife

Director's Office
Technology and Financial Manangement Program
**Information Technology**
June 2011

**Key:**
Vacant
NP=Non Perm
A=Acting

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**Information Systems Mgr**
**WMS 3 / 768 34**
**70067576**

## GIS

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**70 34 F7**

**Don Saul**
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**66 34 F5**

**Randy Kreuziger**
**IT Spec 5 70069442**
**Database/Progmr**
**66 34 F5**

**Lori Guggenmos**
**IT Spec 3 70067941**
**58 34 F5**

## Project Management

**Brian Fairley**
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**Pro Mgr 70067623**
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**Shawn Brown**
**IT Spec 4**
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**62 34 F5**

## Infrastructure Services

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**70 34 F7**

**Deborah Howell**
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**62 34 F5**

**Nicole Derringer**
**IT Spec 4 70067741**
**62 34 F5**

**Jim Cammack**
**IT Spec 5 70069210**
**66 34 F5**

**Angie Ragan**
**IT Spec 5 70067740**
**66 34 F5**

**Dirk Gum**
**IT Spec 5 70068995**
**66 34 F5**

**Cori Walker**
**IT Spec 3 70069209**
**58 34 F5**

**Aaron Hughes**
**IT Spec 4 70067930**
**62 34 F5**

**Yvonne Jennings**
**AA 3**
**70067781**
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# Department of Fish and Wildlife

Director's Office
Technology and Financial Manangement Program
**Information Technology**
June 2011

**Key:**
Vacant
NP=Non Perm
A=Acting

**Michael DeAngelo**
**Information Systems Mgr**
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**70067576**

## End User Services

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**70 34 F7**

**Scott Kissel**
**IT Spec 5 70068288**
**Help Desk**
**66 34 F7**

**Jason Brown**
**IT Spec 3 70067934**
**58 OT 34 F5**

**Non Perm**
**IT Trainee**
**71013411**
**27 OT 34 F5**

**Non Perm**
**IT Spec 1**
**71021804**
**48 OT F5 34**

**Pablo Isola**
**IT Spec 4 70068396**
**Wildlife**
**62 34 F5**

**Robert Reichard**
**IT Spec 2 70067780**
**Business Services**
**54 OT 34 F5**

**Craig Parse**
**IT Spec 3 70068338**
**User Support**
**58 OT 34 F5**

**Jeff Parkhurst**
**IT Spec 5 70069488**
**66 34 F5**

**Daniel Annis**
**IT Spec 4 70067593**
**Enforcement**
**62 34 F5**

**Donna Halliday**
**IT Spec 4 70069441**
**600 Cap/Lacey**
**62 34 F5**

**Mike Justice**
**IT Spec 4 70068993**
**62 34 F5**
**Reg 1**

**Larry Brewington**
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**Regions 2, 3**
**62 13 F7**

**Randy Butler**
**IT Spec 4 70067638**
**North Region 6**
**62 16 F5**

## Application Services

**Jason McKee NP**
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**70069186 4**

**Vacant**
**IT Spec 5 70068054**
**Data Admin**
**66 34 F5**

**Jason McKee - Perm**
**Info Tech SAS 6**
**71010278**
**70 34 F5**

**Nancy Rosenthal**
**IT Spec 3 70067557**
**Programmer**
**58 34 F5**

**Justin McCarron**
**IT Spec 3**
**70069512**
**58 34 F5**

**Non Perm**
**IT Spec 1**
**71017767**
**48 34 F5**

**Brett McCarron**
**Info Tech SAS 6**
**70069438**
**70 34 F5**

**Rob Pearce**
**IT Spec 5 70068112**
**Database Admin**
**66 34 F5**

**Bernie Triance**
**IT Spec 5 70069322**
**62 34 F5**

**Doug Goodart**
**IT Spec 4 70067962**
**Applicaton Dev**
**62 34 F5**

**Kim Rader**
**IT Spec 5 71012417**
**66 34 F5**

**Chris Gillis – NP**
**On Call ITS4**
**71005950**
**62 OT 34**

# E. Analysis

## *1. Agency Central IT Staffing*

In order to better align IT staffing figures with other agencies, WDFW staffing totals no longer include non-IT classified staff within its central IT Services Division. Also excluded are IT-classified positions located in the WDFW resource programs.

Instead, WDFW reports in its Portfolio all IT-classified positions within the central IT Services Division, as well as the CIO and the division Administrative Assistant. These changes, effective with the FY11 IT Portfolio, will present a more accurate snapshot of agency IT effort.

WDFW total FY11 staffing authority was 1387.1 full-time equivalents (FTEs). Of this number, central IT staff accounted for 36.7 FTEs, or 2.6% of the agency total.

In comparison, FY10 central IT staffing was 47.7 FTEs (3.4%). However, that figure included 9.4 FTEs of staff who, while physically housed in the IT department, performed line of business data activities such as research analysis and data entry that are not, by definition, IT functions.

The FY11 WDFW IT staffing percentage (2.6% of all agency staff) falls short of the typical state government sector IT percentage of 3.5%. For an agency of its size, a more typical number for WDFW would be in the vicinity of 48.5 IT staff. [2]

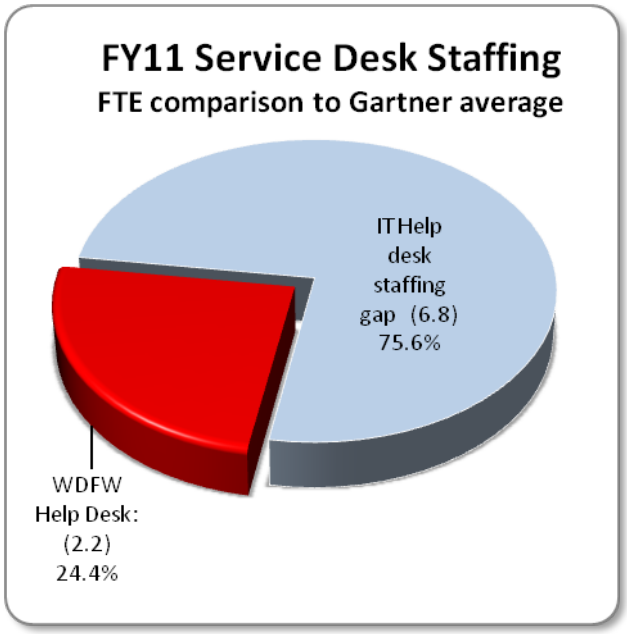


**Figure 1-6.** FY11 staffing support for WDFW service desk activities was underfunded by 6.8 FTEs, according to Gartner recommendations.

Another area of concern is WDFW's level of IT service desk staffing. During an FY11 review of IT service desk requests, WDFW received approximately 3,000 requests per month. According to Gartner, a typical organization that handles a similar number of requests should have a service desk staffing level of 9 FTEs.

[2] Source: *IT Metrics: IT Spending and Staffing Report, 2011* (Gartner Research, ID Number G00210146).

That staffing level allows the typical organization to handle 332 requests per help desk FTE per month.[3]

WDFW's actual service desk staffing was 2.2 FTEs in FY11, which represents a support gap of 6.8 service desk FTEs compared to the Gartner recommendation.

Expressed as a ratio of actual WDFW help desk staffing to agency employees, the ratio is 1:631 (2.2 support desk technicians for 1,388 agency staff). Compare that number with the Gartner service desk recommendation of 1:154 (9 support desk technicians per the same 1,388 agency staff).

In light of WDFW's geographic complexity, especially with regards to supporting IT equipment at fish hatcheries and remote offices, one could argue that even the industry average support staffing ratio is insufficient.

For FY12, the projected FY12 WDFW IT staffing level is 40.6 FTEs, an increase of 3.9 FTEs for central IT Services. This is largely due to the anticipated filling of two new application developer positions, a service desk support position, the 0.3 percent reduction in the 2011-13 biennium (compared to the nearly five per cent reduction due to the temporary layoffs in FY11), as well as filling the Applications Manager and Data Architect positions that had vacancy savings in FY11.

### *2. Agency IT Training*

At the agency level, FY11 WDFW professional development (training) costs for all employees were approximately $247,500. This equates to an average expenditure of $178 per agency FTE.

FY11 training costs (exclusive of travel) for central IT staff were approximately $8400 during the same period. This amounts to roughly $228 per central IT FTE.

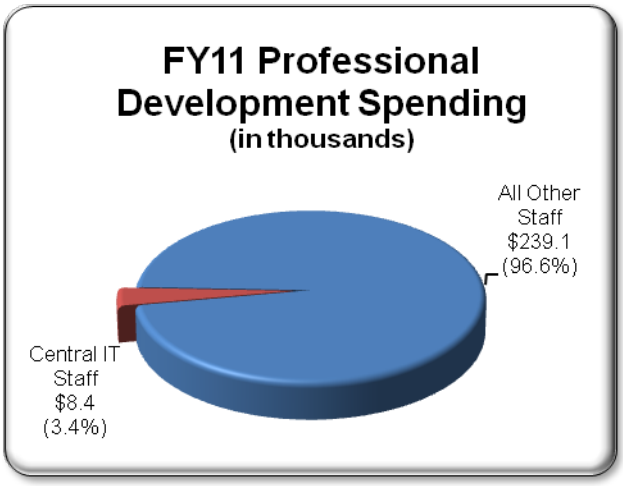


***Figure 1-7.*** Training for IT staff was 3.4% of total WDFW FY11 employee training and professional development expenditures.

Central IT training accounted for 3.4% of total FY11 agency training expenditures, as compared to 6.3% in FY10.

[3] Source: *How to Determine Your IT Service Desk Staffing Ratio* (Gartner Research, ID Number G00214358).

Professional development costs include a mix of hands-on classroom training, conferences and seminars from private sector organizations, and online sources, such as the *e-Learning* training provided through the state Department of Personnel.

Training costs are expected to remain consistent in FY12 and beyond, as IT staff receive training on Microsoft networking and information security products.

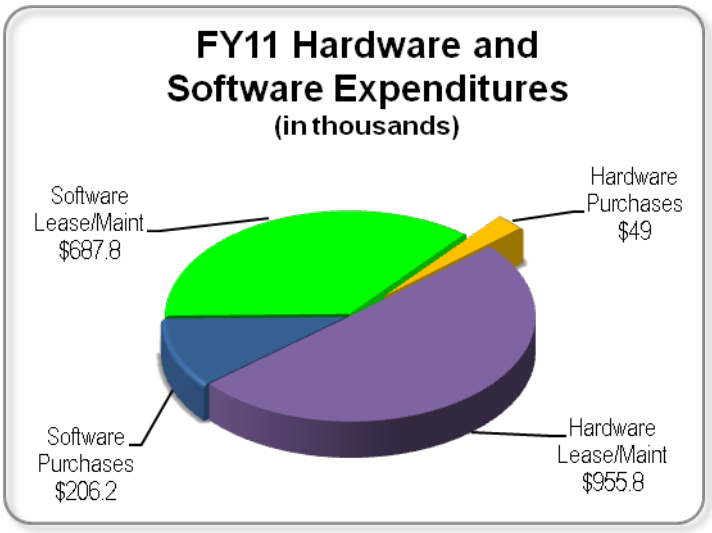


***Figure 1-8.*** WDFW FY11 hardware and software expenditures by category, including leases and maintenance.

### *3. Hardware and Software Purchases*

WDFW spent $1.9 million on IT software and hardware purchases, maintenance and leases in FY11. Figure 1-8 illustrates the expenditures by major category.

Per a May 2010 directive from the Office of Financial Management (OFM), costs for peripherals such as printers, scanners, and capture devices (including portable data loggers) are no longer reported in agency IT portfolios. This change was necessary because not all agencies counted these items in their Portfolio totals. In the case of WDFW, which has a sizable field staff who are equipped with portable data loggers and/or digital cameras, the accounting change will have the net impact of reducing agency hardware expenditure totals from FY11 onward.

FY11 purchases of software and software maintenance totals include annual enterprise software licensing and maintenance for Microsoft Office 2007, Active Directory, and Forefront security products – all part of the Microsoft Migration initiative funded by the statewide Technology Pool.

### *4. Total Agency IT Expenditures*

Agency IT expenditures totaled $7.6 million for the fiscal year ending June 30, 2011 (FY11). This equates to 4.5% of the $167,508,000 FY11 WDFW operating budget.

The FY11 WDFW IT effort was down slightly from FY10 (8.3% of the $165.1 million agency operating budget), primarily due to budget-related short-term staff layoffs, reporting changes for IT costs *(see sections 1.E.1 and 1.E.3 above).*

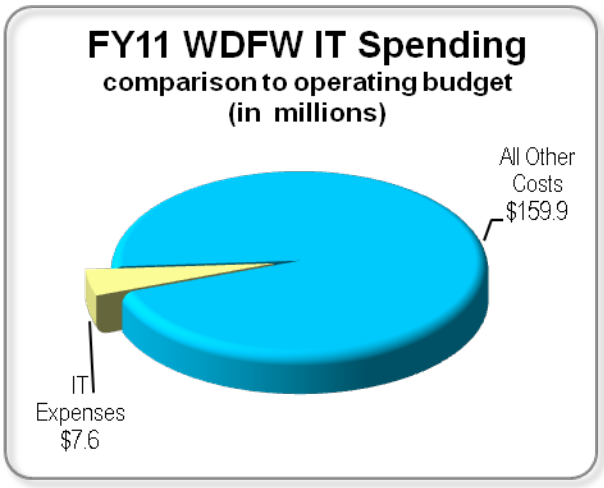


***Figure 1-9.*** FY11 WDFW IT costs total 4.5% of the $167.5 million agency operating budget.

As shown in Fig. 1-10, the four largest FY11 IT expenditure components were salaries and benefits (45.1%); data processing services (19.1%); hardware maintenance (12.6%); and software maintenance (9%) The hardware maintenance category includes maintenance level PC lease payments to the Department of Information Services (DIS). Data processing services include charges paid to DIS for WDFW's use of statewide financial and human resources systems and other services.

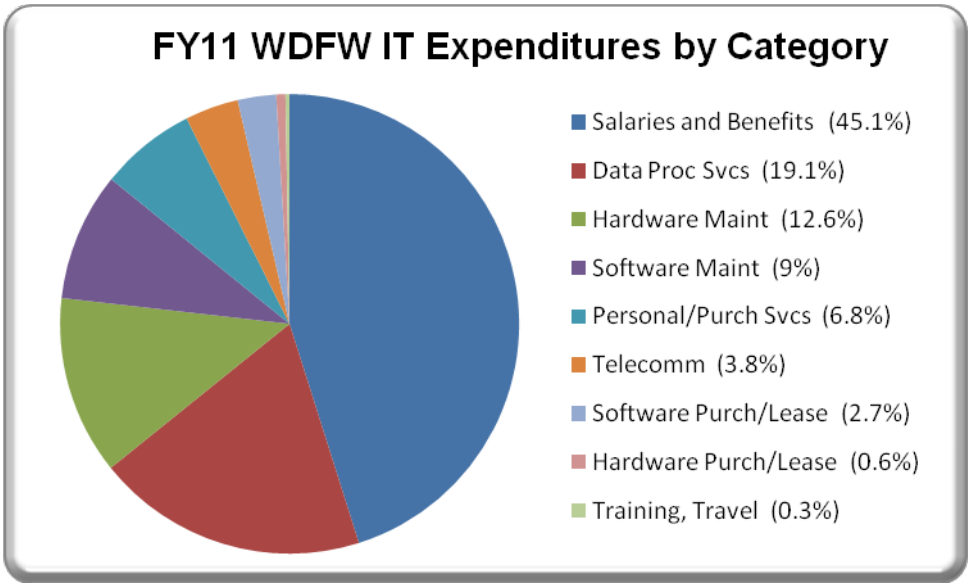


***Figure 1-10.*** FY11 IT expenditure breakdown by cost category.

The telecommunications cost percentage was lower for FY11 due to a Portfolio accounting change that only captures data communications costs. Landline and cellular phone costs are no longer reported in the IT Portfolio, per guidance received from OFM.

As shown in Fig. 1-11, WDFW IT spending has historically ranged between 7.4% and 8.4% of total agency operating costs. IT costs from FY11 forward are expected to hover near 4.5% of total operating costs. This is a result of WDFW changing its Portfolio expenditure coding methods in response to OFM directives.

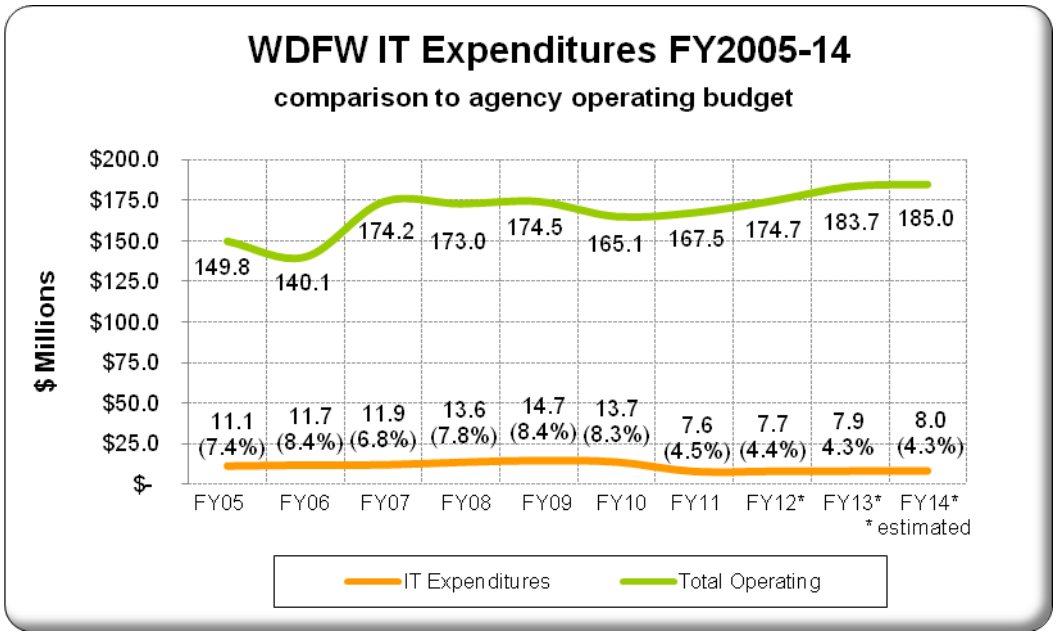


***Figure 1-11.*** WDFW IT spending comparison to total agency operating budget for fiscal years 2005 through 2014 *(FYs 12-14 estimated).*

# F. Challenges and Opportunities

WDFW has opportunities to meet the challenges in agency business needs with innovative information technology solutions.

***Figure 1-12.*** WDFW Enforcement officers release a radio collar-wearing cougar at a remote Eastern Washington location.

- Dealing with a geographically dispersed organization is a significant technology problem, and can be addressed by enhancing and expanding web-based methods and applications. The integration and expansion of remote access technologies, including VPN, cellular data, and wireless, can make a significant difference in dealing with geographic span, but include support and security challenges.

- The agency is still faced with a significant task of upgrading administrative business systems in many areas. WDFW continues to exploit new web technologies, and the wide-ranging e-government initiatives happening in other state agencies. WDFW has the opportunity to make a significant contribution to the e-government solutions in Washington.

- An opportunity exists to revisit the way WDFW manages IT projects using the limited development resources available. WDFW is incorporating IT service management processes based on the ITIL framework into its IT steering committee process. This allows the agency to leverage leadership from the central IT services division and WDFW resource programs to provide prioritization and oversight of new and existing projects.

- A challenge facing agency IT are budget reductions and the state fiscal climate in general that are undermining the ability to execute agency priority activities and projects. A case in point is the need to significantly enhance and upgrade the agency License Information and Fish Ticket (LIFT) system (see sections 3.G.1. and 5). WDFW has historically requested funding for this work, but has not been successful in securing funding through the legislative process. Another example is the inability to provide a proper level of support for hatchery operations and fish production. The overall economic uncertainty has persisted for so long that interim measures are now permanent and unsustainable.

# G. Solutions: Current and Future IT Investments

## *1. Current IT Investments*

a. Recreational License Sales System

The agency currently sells recreational licenses to the public with an automated license sales system known as WILD (Washington Interactive Licensing Database). ActiveOutdoors is the current system vendor. The WILD system development and operating costs are funded through transaction fees paid by system users. The main license sales and associated functions are in production. The system changes and grows in response to Legislative mandates and business needs.

b. Commercial Licenses and Fish Tickets

WDFW is pursuing a replacement of the legacy LIFT application, used to manage commercial licenses and harvest data. The current LIFT application is built with PowerBuilder client and Sybase database architecture. If funded, it is anticipated that the LIFT2 project will utilize a SQL Server database and web-enabled application tools.

c. Enforcement Program Technology

To increase efficiency and achieve program accreditation, WDFW Enforcement has initiated projects to implement new technology and systems. In FYs10-11, a Radio over IP system pilot project was implemented. This has allowed dispatchers from Olympia to use the WDFW data network to make radio calls to officers in eastern Washington. Enforcement will also pilot the use of a Records Management System, enabling all enforcement activities and records to be managed in a central database.

## *2. Planned IT Investments*

a. Recreational Licenses

The operation of the WILD system will continue through the 2011-13 biennial period. Continued demand for changes will make WILD a dynamic system requiring constant attention for the remaining life of the system. The contract with ActiveOutdoors runs through January 2013. An RFP for a new system vendor is in active preparation.

b. Licenses and Fish Tickets (LIFT)

The LIFT System, built in the 99-01 biennium, manages commercial licenses and fish tickets for commercial fishing. The client/server base (PowerBuilder) of LIFT is not included in the agency's architecture direction and is not web enabled. Work was initiated in the 2005-07 biennium and is expected to continue through FY11. No legislative funding request is currently planned. Given the mission critical status of LIFT, an action plan using internal developer resources continues to be the main option for an incremental replacement of LIFT. Internal developer staff are limited and recent staff reductions will have an impact on the schedule.

c. Enforcement Program Technology

During FY12, Enforcement expects to extend the Radio over IP system to new geographic areas, complete the Records Management System, and also to implement Computer Aided Dispatch capability for all officers.

d. Increased IT Security Requirements

WDFW is seeking additional funding to comply with new statewide IT security policies that contain more specific and detailed requirements. WDFW can achieve partial compliance with existing resources, but will require additional funding to meet the August 2012 compliance objectives specified in ISB Policy 401-S4.

# H. Prioritization Process

1. The **Executive Management Team (EMT)** functions as the department's IT policy setting body. The agency CIO, working with the Deputy Director-Operations, prepares issues for consideration by the EMT.

2. The **IT Project Steering Committee** reports to the EMT and is delegated the authority to identify and prioritize projects against IT resources.

   a. The scope of the IT Project Steering Committee is to:
      - Review current projects for status and shift scope, schedule, and resources to address the current needs
      - Review new projects and prioritize them relative to current projects based on defined criteria
      - Identify new projects that achieve the strategic direction of IT in WDFW

   b. Although most projects will leverage the Information Technology Services (ITS) resources, there are projects that are managed in other programs. For example, web initiatives are managed by Public Affairs; the Wildlife Program has resources working on specific Wildlife applications; and similarly, the Fish Program.

   c. Projects that exclusively use IT resources outside of the central ITSD are not in scope of the IT Project Steering Committee.

3. The **Chief Information Officer (CIO)** reviews agency IT architecture, practices, and standards. This position also identifies corporate technology needs and brings them to the attention of executive management. The CIO is responsible for central IT resources assigned to projects prioritized by the IT Project Steering Committee.

4. The **Standards Subcommittee**, composed of resource program and central IT representatives, advises the CIO on hardware and software platform standards. This group also evaluates how best to enforce compliance of standards.

5. The **Corporate Data Oversight Committee (CDOC**) is responsible for the coordination of natural resource data across program lines. Membership is composed of the agency Chief Information Officer (CIO) and the Chief Scientists for the Fish, Wildlife, and Habitat programs. The CDOC promotes integrated data management in support of science-based management strategy.

6. The **Information Technology Technical Committee (ITTC)**, comprised of the top information systems experts in the agency, provides technical advice and staff work for the CIO. A recent ITTC project was the classification of WDFW data according to their sensitivity, using methodology from the state IT security standards.

Figure 1-13 (see next page) provides a pictorial representation of the various WDFW entities and their roles in establishing agency IT policy and in reviewing and prioritizing agency IT projects.

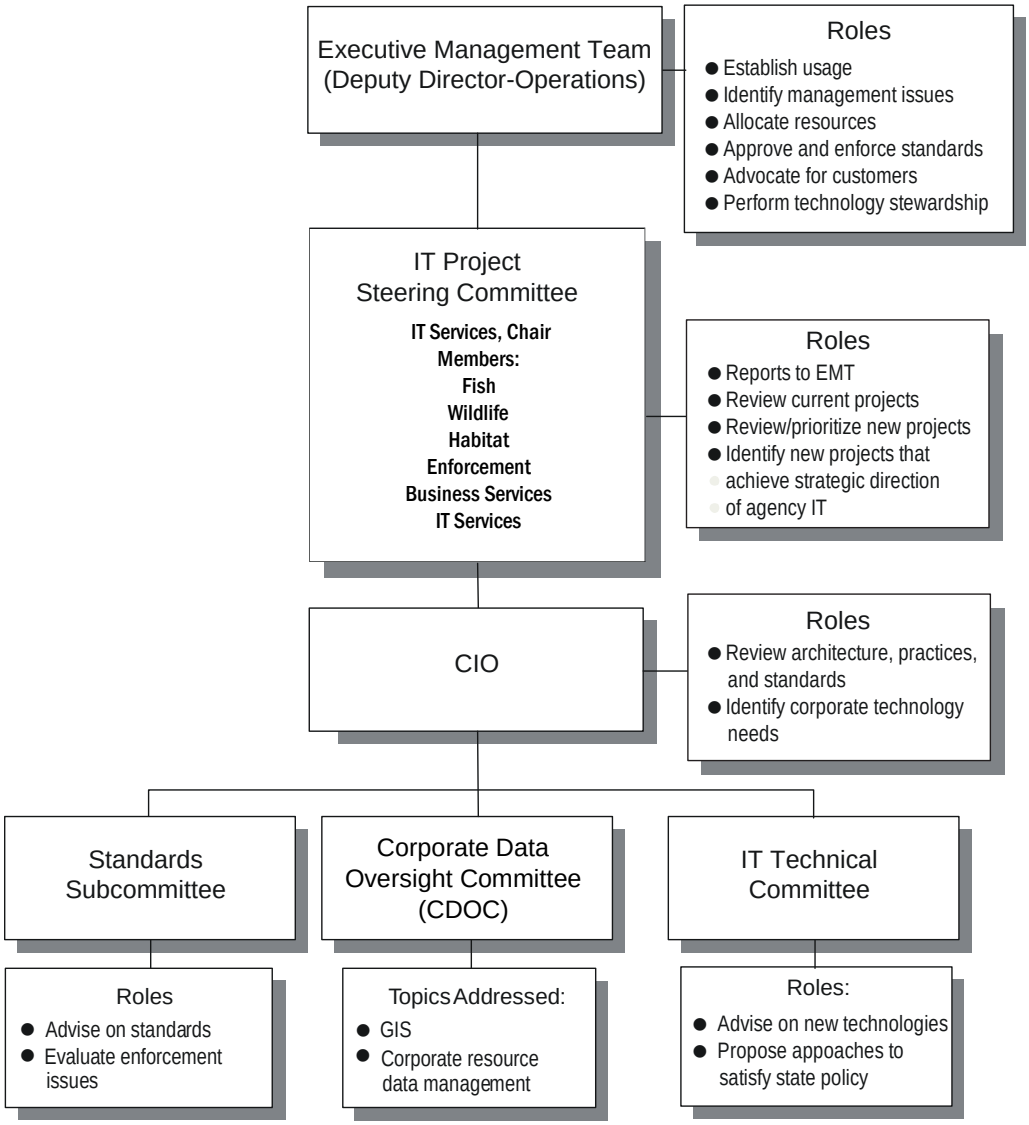


***Figure 1-13.*** A number of organizational entities help shape WDFW IT policy.

# 2. Agency Strategic Business Plan

The Washington Department of Fish and Wildlife (WDFW) has published its draft 2011-2017 Strategic Plan on its public website. The document is incorporated herein as Appendix A. It is also available as a separate, online document at http://DFW.wa.gov/about/strategic_plan.

## A. Introduction

WDFW's strategic plan is built on a hierarchy of increasing detail, from long-term Goals and Objectives to shorter-term Strategies and Projects that implement those goals. The plan documents the agency's mission, priorities and commitment to our long-term goals, which help to guide decisions and focus agency efforts to achieve desired results.

The plan was developed by agency leaders, with guidance from the Washington Fish and Wildlife Commission (FWC) and feedback and suggestions from customers, stakeholders and WDFW employees.

This plan was developed in the midst of the worst economic downturn since the Great Depression. Agency capacity has been reduced as the result of a nearly 31 percent cut in state General Fund support at the beginning of the 2009-2011 biennium, coupled with further budget reductions in the second year of the biennium. Reflecting this reduction, the Strategic Project list through 2011 is much less aggressive than agency executive managers had first envisioned. The agency will continue to pursue priorities and long-term goals but must manage these efforts within reduced budget and staff capacity.

Progress in implementing this strategic plan will be reviewed regularly during executive management meetings and specially scheduled internal performance reviews. Progress on projects and priorities will be communicated through staff messages and the agency's web site

## B. Mission Statement

1. WDFW Mission
   *Preserve, protect and perpetuate fish, wildlife and ecosystems while providing sustainable fish and wildlife recreational and commercial opportunities.*

2. Vision
   *Conservation of Washington's fish and wildlife resources and ecosystems.*

   WDFW defines "Conservation" as:
   - Protection, preservation, management, or restoration of natural environments and the ecological communities that inhabit them;
   - Including management of human use for public benefit and sustainable social and economic needs.

*Adapted from The American Heritage® Science Dictionary Copyright © 2005

## C. Legislative Declaration

As defined in Chapter 77 RCW, WDFW is Washington's principal agency responsible for fish and wildlife species protection and conservation.

***Legislative mandate (RCW 77.04.012):***
*"Wildlife, fish, and shellfish are the property of the state. The commission, director, and the department shall preserve, protect, perpetuate, and manage the wildlife and food fish, game fish, and shellfish in state waters and offshore waters.*

*"The department shall conserve the wildlife and food fish, game fish, and shellfish resources in a manner that does not impair the resource. In a manner consistent with this goal, the department shall seek to maintain the economic well-being and stability of the fishing industry in the state. The department shall promote orderly fisheries and shall enhance and improve recreational and commercial fishing in this state.*

*"The commission may authorize the taking of wildlife, food fish, game fish, and shellfish only at times or places, or in manners or quantities, as in the judgment of the commission does not impair the supply of these resources.*

*"The commission shall attempt to maximize the public recreational game fishing and hunting opportunities of all citizens, including juvenile, disabled, and senior citizens.*

*"Recognizing that the management of our state wildlife, food fish, game fish, and shellfish resources depends heavily on the assistance of volunteers, the department shall work cooperatively with volunteer groups and individuals to achieve the goals of this title to the greatest extent possible.*

*"Nothing in this title shall be construed to infringe on the right of a private property owner to control the owner's private property."*

## D. Department Goals and Objectives

These 2011-17 Goals and Objectives express the high-priority focus areas for the agency and communicate the agency's long-term commitment to significant, strategic outcomes. A final list of supporting and implementing strategies and projects and timelines will be developed after considering Commission, stakeholder and staff feedback.

1. Conserve and protect native fish and wildlife.

    A. Improve conservation practices to enhance protection and restoration of fish and wildlife

    B. Increase protection and restoration of ecosystem functions

    C. Promote and improve compliance with natural resources laws

    D. Enhance and improve land stewardship and asset management to meet conservation goals

2. Provide sustainable fishing, hunting and other wildlife-related recreational experiences.

    A. Increase the economic benefits and public participation derived from sustainable fish and wildlife opportunities

    B. Expand access for hunting, fishing and other wildlife recreational experiences

    C. Work with the fishing industry to achieve economically stable and profitable fishing

3. Deliver high-quality customer service.

    A. Maintain high-quality customer services aligned with agency priorities and capacities

    B. Effectively communicate agency priorities

    C. Provide high-quality, responsive and accessible customer service

***Figure 2-1.*** DFW Enforcement Chief Bruce Bjork (left) presents IT specialist Dan Annis with the *Chief's Coin*. Bjork created the award to show appreciation for exemplary work or special achievements.

*(Photo credit: Jeff Parkhurst)*

4. Use sound business practices and maintain a dedicated workforce.

    A. Maintain a highly skilled and dedicated workforce

    B. Improve business systems to meet federal and state standards and best practices

    C. Develop strong intra-agency partnerships

    D. Efficiently manage financial resources to demonstrate fiscal integrity

    E. Effectively and efficiently manage agency assets

    F. Use technology effectively to support agency goals and objectives

# 3. Agency Technology Infrastructure

To prepare the information appearing in this section, WDFW staff used category definitions from the Information Services Board (ISB) and Office of Financial Management (OFM). The basis for determining IT costs changed in 2010, apparently in response to a lack of consistency in how agencies interpreted and applied the existing body of Portfolio policy and guidelines.

- Basis for FY10 and prior years:
  Cost category definitions used in WDFW IT Portfolios were taken from the ISB publication *Information Technology Portfolio Management Standards(ISB Policy 101-S1).*
  http://isb.wa.gov/policies/101s.doc

- Basis for FY11 and ensuing year costs and estimates:
  Cost category definitions in the WDFW IT Portfolio was derived from agency budget and financial management interpretation of OFM publications. For example, beginning with the FY11 Portfolio, WDFW no longer includes expenditure data for IT accessories or small devices (digital cameras, scanners, field recorders, etc.) in the hardware category. Nor are telephone (landline or cellular) counted in the telecommunications category.

  - *Enterprise Information Technology Cost Model.*
    http://www.ofm.wa.gov/resources/ITcoding/IT_Cost_Coding.pdf

  - *New Section 75.65 - Statewide Project Type Codes (OFM Directive 10A-*06)
    http://www.ofm.wa.gov/policy/dir1006.pdf

## A. Current and Projected IT Budget

FY09-11 totals are actuals, rounded to the nearest hundred; FY12-14 figures are estimated.

| Reporting Period | Total Agency IT Expenditures | Hardware Purchases and/or Leases | Software Purchases and/or Leases | Hardware Repairs and Maintenance | Software Enhancements and Maintenance |
|---|---|---|---|---|---|
| **FY09** (Actual) | $ 14,721,800 | $ 1,642,400 | $ 120,100 | $ 113,600 | $ 851,800 |
| **FY10** (Actual) | $ 13,714,600 | $ 1,136,300 | $ 74,000 | $ 92,400 | $ 767,600 |
| **FY11** (Actual) | $ 7,599,900 | $ 49,000 | $ 206,200 | $ 955,800 | $ 687,800 |
| **FY12** (Projected) | $ 7,710,900 | $ 49,000 | $ 200,000 | $ 960,000 | $ 690,000 |
| **FY13** (Projected) | $ 7,887,200 | $ 49,000 | $ 200,000 | $ 960,000 | $ 690,000 |
| **FY14** (Projected) | $ 8,038,600 | $ 49,000 | $ 205,000 | $ 970,000 | $700,000 |

| Reporting Period | Telecommunications (Object EB, less GA Mail) (FY11 and beyond: EB Y001) | Data Processing Services (Object EL) | Other Major IT Expenses (Purpose) |
|---|---|---|---|
| **FY09** (Actual) | $ 2,681,800 | $ 1,395,000 | None |
| **FY10** (Actual) | $ 2,164,200 | $ 1,589,300 | None |
| **FY11** (Actual) | $ 286,300 | $ 1,451,700 | $ 13,200 (Travel) |
| **FY12** (Projected) | $ 285,000 | $ 1,450,000 | $ 13,000 (Travel) |
| **FY13** (Projected) | $ 290,000 | $ 1,450,000 | $ 13,500 (Travel) |
| **FY14** (Projected) | $ 300,000 | $ 1,450,000 | $ 13,500 (Travel) |

## B. IT Personnel

The information below is as of the state fiscal year ending June 30, 2011 (FY11); Figures for FYs 12-14 are estimated.

| Reporting Period | Total Agency IT FTEs (includes WMS positions) | Salaries and Benefits | Personal and Purchased Services | Professional Development of IT Staff |
|---|---|---|---|---|
| **FY09** (Actual) | 87.7 | $ 7,624,900 | $ 288,000 | $ 4,200 |
| **FY10** (Actual) | 84.1 | $ 7,511,100 | $ 366,500 | $ 13,200 |
| **FY11** (Actual) | 36.7 central IT | $ 3,428,700 | $ 512,800 | $ 8,400 |
| **FY12** (Projected) | 40.6 central IT | $ 3,705,500 | $ 350,000 | $ 8,400 |
| **FY13** (Projected) | 42.2 central IT | $ 3,876,300 | $ 350,000 | $ 8,400 |
| **FY14** (Projected) | 42.2 central IT | $ 3,992,600 | $ 350,000 | $ 8,500 |

## C. Personal and Workgroup Computing

The information below is as of the state fiscal year ending June 30, 2011 (FY11); Figures for FYs 12-14 are estimated.

**1. Personal Computers**

| Reporting Period | Total Agency FTEs | Total number of PCs (excludes servers) | Planned number of PC replacements next fiscal year | Agency intended refresh cycle (in months) | PCs donated to schools in last 12 months |
|---|---|---|---|---|---|
| **FY09** (Actual) | 1,537.9 | 1634 | 410 | 48 | 398 |
| **FY10** (Actual) | 1,384.1 | 1836 | 651 | 48 | 657 |
| **FY11** (Actual) | 1,387.7 | 1660 | 541 | 48 | 255 |
| **FY12** (Projected) | 1,442.0 | 1660 | 425 | 48 | 541 |
| **FY13** (Projected) | 1,436.7 | 1660 | 444 | 48 | 425 |
| **FY14** (Projected) | 1,436.7 | 1660 | 250 | 48 | 444 |

**2. Servers**

| Reporting Period | Total number of servers | Number of servers to replace next fiscal year | Number of servers to add next fiscal year | Factors driving server acquisition strategy |
|---|---|---|---|---|
| **FY09** (Actual) | 46 | 3 | 0 | Server consolidation/replacement, new applications, Microsoft Migration |
| **FY10** (Actual) | 47 | 3 | 0 | Server consolidation/replacement, new applications, Microsoft Migration |
| **FY11** (Actual) | 29 | 2 | 0 | Server consolidation/replacement, new applications |
| **FY12** (Projected) | 29 | 12 | 2 | Server consolidation/replacement, new applications |
| **FY13** (Projected) | 31 | 11 | 1 | Server consolidation/replacement, new applications |
| **FY14** (Projected) | 32 | 10 | 1 | Server consolidation/replacement, new applications |

## 3. Network Connectivity

| Reporting Period | % Agency staff with *Inside Washington* access | Agency primary network operating system |
|---|---|---|
| **FY09** (Actual) | 75% (1150/1,537.9 users) | Microsoft Enterprise Active Directory, Windows Server |
| **FY10** (Actual) | 83% (1150/1,384.1 users) | Microsoft Enterprise Active Directory, Windows Server |
| **FY11** (Actual) | 83% (1150/1,387.7 users) | Microsoft Enterprise Active Directory, Windows Server |
| **FY12** (Projected) | 80% (1150/1,442 users) | Microsoft Enterprise Active Directory, Windows Server |
| **FY13** (Projected) | 80% (1150/1,436.7 users) | Microsoft Enterprise Active Directory, Windows Server |
| **FY14** (Projected) | 80% (1150/1,436.7 users) | Microsoft Enterprise Active Directory, Windows Server |

## 4. Desktop Office Suite

| Reporting Period | Primary desktop office product suite | If not XML enabled, do you plan to be within 12 months? (yes/no) |
|---|---|---|
| **FY09** (Actual) | Microsoft Office 2007 Professional | Yes |
| **FY10** (Actual) | Microsoft Office 2007 Professional | Yes |
| **FY11** (Actual) | Microsoft Office 2007 Professional | Yes |
| **FY12** (Projected) | Microsoft Office 2010 Professional | Yes |
| **FY13** (Projected) | Microsoft Office 2010 Professional | Yes |
| **FY14** (Projected) | Microsoft Office 2010 Professional | Yes |

# D. Geographic Information System (GIS) Resources

The information below applies to the state fiscal year ending June 30, 2011 (FY11). See also *Significant GIS Datasets*, incorporated herein as Appendix B.

| | 1. Number of GIS Staff (FTEs) | Indicate here if included in 3.B.1 "Total Agency IT FTEs" |
|---|---|---|
| **Central Support** | 4 | Yes |
| **Program Area Support** | 17 | Yes |

| | 2. GIS Software |
|---|---|
| **Vendor Name** | ESRI |
| **Product Name** | Arc/Info (concurrent) |
| **Number of Licenses** | 33 |

| | |
|---|---|
| **Vendor Name** | ESRI |
| **Product Name** | ArcGIS Server Basic Enterprise/SdeServer |
| **Number of Licenses** | 2 production, 1 staging |

| | |
|---|---|
| **Vendor Name** | ESRI |
| **Product Name** | ArcGIS Server Standard Enterprise/ArcIMS |
| **Number of Licenses** | 2 production, 1 staging |

| | |
|---|---|
| **Vendor Name** | ESRI |
| **Product Name** | Arcview3 for MS Windows |
| **Number of Licenses** | 8 |

| | |
|---|---|
| **Vendor Name** | ESRI |
| **Product Name** | Arcview ArcGIS (standalone) |
| **Number of Licenses** | 54 |

| | |
|---|---|
| **Vendor Name** | ESRI |
| **Product Name** | Arcview ArcGIS (concurrent) |
| **Number of Licenses** | 22 |

| | |
|---|---|
| **Vendor Name** | ESRI |
| **Product Name** | Spatial Analyst (standalone) |
| **Number of Licenses** | 4 |

| | |
|---|---|
| **Vendor Name** | ESRI |
| **Product Name** | Spatial Analyst (concurrent) |
| **Number of Licenses** | 21 |

| | |
|---|---|
| **Vendor Name** | ESRI |
| **Product Name** | ESRI Developer Network Subscription (standalone) |
| **Number of Licenses** | 1 |

| | |
|---|---|
| **Vendor Name** | ESRI |
| **Product Name** | Tracking Analyst (concurrent) |
| **Number of Licenses** | 1 |

| | |
|---|---|
| **Vendor Name** | ESRI |
| **Product Name** | 3d Analyst (standalone) |
| **Number of Licenses** | 2 |

| | |
|---|---|
| **Vendor Name** | ESRI |
| **Product Name** | 3d Analyst (concurrent) |
| **Number of Licenses** | 11 |

| | |
|---|---|
| **Vendor Name** | ESRI |
| **Product Name** | Network (concurrent) |
| **Number of Licenses** | 2 |

| | |
|---|---|
| **Vendor Name** | ESRI |
| **Product Name** | Publisher (concurrent) |
| **Number of Licenses** | 1 |

| | |
|---|---|
| **Vendor Name** | ESRI |
| **Product Name** | GeoStatistical Analyst (standalone) |
| **Number of Licenses** | 1 |

| | |
|---|---|
| **Vendor Name** | ESRI |
| **Product Name** | GeoStatistical Analyst (concurrent) |
| **Number of Licenses** | 1 |

| | |
|---|---|
| **Vendor Name** | ESRI |
| **Product Name** | ArcPad |
| **Number of Licenses** | 7 user copies, 2 application builder |

| | |
|---|---|
| **Vendor Name** | Delorme |
| **Product Name** | Xmap Professional |
| **Number of Licenses** | 137 |

| | |
|---|---|
| **Vendor Name** | Delorme |
| **Product Name** | Xmap Editor |
| **Number of Licenses** | 1 |

| | |
|---|---|
| **Vendor Name** | Delorme |
| **Product Name** | Base Data |
| **Number of Licenses** | 133 |

| | |
|---|---|
| **Vendor Name** | Trimble |
| **Product Name** | GPS Analyst Extension for ArcGIS |
| **Number of Licenses** | 1 |

| | **3. GIS Hardware** |
|---|---|
| **Make/Model** | IBM X3850 M2 |
| **How Many** | 1 |
| **Included in Section 3C.2 "Total Number of PCs?"** | No |
| **Included in Section 3C.6 "Total Number of Servers?"** | Yes |
| **Note** | GIS Public Facing SDE/SQL Production. Also supports conventional production business systems. |

| | |
|---|---|
| **Make/Model** | IBM X3650 M2 |
| **How Many** | 2 |
| **Included in Section 3C.2 "Total Number of PCs?"** | No |
| **Included in Section 3C.6 "Total Number of Servers?"** | Yes |
| **Note** | GIS Internal SDE/SQL Production. GIS SDE/SQL and conventional business systems development. |

| | |
|---|---|
| **Make/Model** | IBM 3550 |
| **How Many** | 2 |
| **Included in Section 3C.2 "Total Number of PCs?"** | No |
| **Included in Section 3C.6 "Total Number of Servers?"** | Yes |
| **Note** | GIS web map servers, production |

| | |
|---|---|
| **Make/Model** | Virtual Server Environment (VMWare) |
| **How Many** | 2 instances |
| **Included in Section 3C.2 "Total Number of PCs?"** | No |
| **Included in Section 3C.6 "Total Number of Servers?"** | Yes |
| **Note** | GIS web map server, development |

| | **4. Major GIS Application(s)** |
|---|---|
| **Application Name** | **Description** |
| SalmonScape | Web application for public access to salmon related spatial information. |
| PSAMP | Web application for displaying seabird and waterfowl densities and related information based on seasonal surveys conducted under the Puget Sound Ambient Monitoring Program from 1992 to present. |
| Priority Habitats and Species Data Release System | Windows-ArcGIS based system supporting production of maps and data CDs. |
| Priority Habitats and Species | Database and Python scripts to support the management of priority habitats and species data entry and insuring quality control. |
| PHSonTheWeb | Web-based mapping application used by staff and the public to identify occurrences of priority habitats and species within a user defined project area. |
| SSHIAP | Salmon and Steelhead Habitat Inventory and Assessment Program. Information system that characterizes freshwater and estuary habitat conditions and distribution of salmonid stocks in Washington. |
| WLRIS | Washington Lakes and Rivers Information System. Information system for tracking the distribution and status of Salmon, Steelhead, and resident fish. Now maintained as ArcGIS geodatabases using out of the box editing and linear referencing tools. |

| | |
|---|---|
| ECA | Ecoregional Conservation Assessment. Information system used to evaluate biodiversity on an ecoregional scale for conservation prioritization and planning purposes for fish and wildlife resources. |
| RMAP | Road Management and Abandonment Planning System. A system for inventorying road conditions on WDFW managed lands to support compliance efforts with the State Forest and Fish Law. |
| HCP | Habitat Conservation Planning (HCP). Database and analysis tools for inventorying and assessing activities and species habitats on WDFW's Wildlife Areas. The HCP will be a long-term management plan for the conservation and protection of species that will satisfy federal requirements under the Endangered Species Act (ESA) upon approval by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. |
| LIS | The Land Information System (LIS) is used for tracking the location and attributes of real estate owned and/or managed by WDFW. The parcel-level data compilation of ownership boundaries and key attributes is currently in production. This process entails replacing inaccurate and inadequate legacy data (spatial and tabular) with high quality GIS representation of WDFW's estate. Some elements of the LIS data model have not yet been implemented and remain contingent upon available resources. |
| Wildlife DSS | Decision Support System (DSS) This initiative is driven by the Western Governor's Wildlife Council, regarding "Wildlife Corridors and Crucial Habitats" (http://www.westgov.org/index.php?option=com_content&view=article&id=123&Itemid=68) WA state is part of a tri-state pilot project, wherein participating states are to coordinate and standardize wildlife data repositories, applying common definitions for crucial habitat and wildlife corridors. The information developed will be made publically available via the internet and any interested party will be able to easily access, use and interpret the GIS-based tools. This 3 year pilot project is just getting underway. |

| Application Name | Description |
|---|---|
| MapSys | Windows-based application for creating seabird density maps based on Puget Sound Ambient Monitoring Program (PSAMP) aerial survey data from 1992 to present. |
| GoHunt | Web application for public access to hunting and outdoor recreation related spatial information. |
| Ortho Photo Image Service | Web-based service to provide access through Fortress and on internal WDFW network to seamless ortho photography. Service can be accessed by client side ESRI map display tools. |
| WSDM | Wildlife Survey Data Management System. Database and tools to support integrated management of formerly disparate species occurrence datasets. The system comprises of an enterprise versioned geodatabase and several data entry and data management applications and tools. Data from WSDM is used for conservation and species management as well used in forest practice application reviews. |
| Fish Passage Barrier Inventory | Database and tools to support the management of fish passage barrier surveys. |
| Habitat Work Schedule Image Service | Web-based service to provide access through Fortress to an Open Geospatial Consortium (OGC) compliant service and REST endpoint containing various spatial datasets used by the Habitat Work Schedule application developed by Interlocking Software. |
| HPMS | Hydraulic Permit Management System. Internal system that includes interactive mapping component built on ArcIMS. |

| | **5. GIS Database(s) Environment** |
|---|---|
| **Vendor Name** | Microsoft SQL Server |
| **Number of applications** | 10 in production (salmonscape, GoHunt, PSAMP, PHSonTheWeb, Orthophoto Image Service, habitat work schedule image service, wsdm, land information system, geolib, geowarehouse) |

| | **6. Critical GIS Datasets** |
|---|---|
| **Name(s)** | See Appendix B |

# E. Security and Disaster Recovery/Business Resumption Plans

## *1. IT Security Plan*

a. The annual security compliance certification, due each August 31 per ISB IT Security Policy and Standards, is included in Section 6 of this Portfolio. The certification document has also been submitted to the Information Services Board (ISB). The verification indicates review and acceptance of agency security processes, procedures, and practices as well as updates to them since the last review.

b. The IT Security Plan is included in this Portfolio by reference.

c. The custodian of the IT Security Plan is Michael DeAngelo, WDFW Chief Information Officer (CIO).

d. The IT Security Plan is developed and maintained in accordance with published ISB policy.

e. The Office of the State Auditor completed a compliance audit of the WDFW IT Security Plan on May 13, 2009. The next audit will be completed on or before May 13, 2012, unless otherwise directed by the ISB.

## *2. Disaster Recovery/Business Resumption Plan*

a. The annual state government Disaster Recovery/Business Resumption Plans compliance certification, due each August 31, is included in Section 6 of this Portfolio. The certification document has also been submitted to the ISB. The verification indicates review and acceptance of agency disaster recovery practices/business resumption processes, procedures, and practices as well as updates to them since the last review.

b. The Disaster Recovery/Business Resumption Plans are included in this Portfolio by reference.

c. The custodian of the agency Disaster Recovery/Business Resumption Plans is Jim Fry, WDFW Safety Officer.

d. The Disaster Recovery/Business Resumption Plans were developed and maintained in accordance with published ISB policy.

# F. Public Access

WDFW continues to make significant progress toward providing electronic access to public information and enabling citizens to have two-way interaction for obtaining information and services, per RCW 43.105.270.

- The **WDFW Internet site** continues to be the main e-government public access portal for WDFW information on the web. This popular online destination contains both static and dynamic content, including hunting and fishing regulations; events calendar; annual reports and news releases; contact information, including phone numbers, email addresses and regional office locations; hunting safety information; and more.
  http://wdfw.wa.gov

***Figure 3-1.*** The WDFW Internet site is a popular destination for both Web-enabled citizens and prospective visitors to Washington state.

- **PHS on the Web**, WDFW's new online mapping tool, debuted in June 2011. The interactive mapping system displays information about key fish and wildlife species throughout the state. Users can zoom in on specific properties or scan broad geographical areas to determine the presence of fish and wildlife species identified as priorities for conservation and management. The same mapping feature also identifies critical fish and wildlife habitat types, ranging from coastal wetlands to eastside shrub-steppe.
  http://wdfw.wa.gov/mapping/phs

- **The Washington Interactive License Database** (WILD) system provides improved public access for recreational license sales, CDs and books. The system allows dealers throughout the state to provide in-person license sales to the hunting and fishing public. Online sales are also supported. A more recent component is an agency call center that integrates public calls for both license sales and general information.
  https://fishhunt.dfw.wa.gov

***Figure 3-2.*** The WILD system helps improve public service and access.

- The **Integrated Environmental Permitting** site is now in production, allowing online applications for WDFW's Hydraulic Project Approvals. The site offers help in filling out a common application for many local, state and federal permits for work involving wetlands or on aquatic lands. Permits include Section 404, Section 10, Section 401 Water Quality Certification, Hydraulic Project Approval (HPA), and shoreline permits. *(See also section 3.G.3)*
  http://www.epermitting.org/default.aspx

- WDFW continues to upload new video content to its portal on the popular **YouTube** streaming video site. A variety of instructional and educational presentations are available, as well as past episodes of the agency's popular *Wild About Washington* feature. As of August 2011, the site has garnered nearly 600,000 content views.
  http://www.youtube.com/TheWDFW

***Figure 3-3.*** WDFW makes a variety of video content available to the public on its *YouTube* site.

- The WDFW Public Affairs Office established an official, agency presence on **Twitter**, to promote public notification of hunting and fishing season updates, agency press releases, and new Internet site content. With 1,356 followers as of August 2010, WDFW Twitter site membership has increased by 81% in the last 12 months.
  http://twitter.com/wdfw/

- WDFW continues to offer a text-messaging option for reporting activity that threatens fish, wildlife and critical habitat. **Tip411** allows users to send a text message to WDFW's communications dispatch center. Online and email reporting options are also available.
  http://wdfw.wa.gov/enforcement/reporting_violations.html

- WDFW is a participating agency in the **Governor's Business Portal** project. This initiative will continue to provide improved Internet services to Washington businesses, an example of which is the WDFW Commercial License web site.
  http://wdfw.wa.gov/licensing/commercial

# G. Application (Systems) Information

DIS' *Information Technology Portfolio Management Standards* define an application or system as a "group of related automated procedures that support a business objective." Mission-critical applications in use at WDFW include:

- Licenses and Fish Tickets (LIFT) – see 3.G.1.
- TotalTime – see 3.G.2.
- Hydraulic Permit Management System (HPMS) – see 3.G.3.
- Washington Interactive License Database (WILD) – see 3.G.4.
- Equipment and Property Inventory Control (EPIC) – see 3.G.5.
- Contracts and Projects System (CAPS) – see 3.G.6.
- Info-Cop – see 3.G.7.
- Vehicle Mileage Tracking System (VMTS) – see 3.G.8.
- Enforcement Activity Reporting System (EARS) – see 3.G.9.
- Habitat Work Schedule (HWS) – see 3.G.10.
- Computerized Maintenance Management System (CMMS) – see 3.G.11.
- Consolidated Phone Management System (CPMS) – see 3.G.12.
- Wildlife Survey Data Management (WSDM) – see 3.G.13.
- CAD/RMS – See 3.G.14.
- Salmon Conservation Reporting Engine (SCoRE) – See 3.G.15.

### *1. Licenses Information and Fish Tickets (LIFT)*

a. Application owners:
- Bill Joplin, Technology & Financial Management Program, Licenses Division (data steward - licenses)
- Pam Singleton, Technology & Financial Management Program, Information Technology Division (data steward - fish tickets)
- Nancy Rosenthal, Technology & Financial Management Program, Information Technology Division (code responsibility)

b. Customer/business area owners:
- Technology & Financial Management Program, Licenses Division
- Fish Program, Biological Data Systems Division

c. Application type: Client/Server, PowerBuilder/Sybase

d. Description: LIFT is an agency system to track the sale of commercial licensing information and the related catch data associated with those licenses. Historical data dates back to 1970.

e. Number of users: 10 operational, 30 decision support

f. Agency programs, business processes supported: Commercial license sales and fish ticket excise tax; revenue from sales and tax helps support agency activities.

g. Implementation date: October 1, 2000

h. Date significantly modified: intermittent improvements

i. Number of technical FTEs for maintenance and support: 1 FTE

j. Planned replacement or modifications: ongoing

k. Ownership of application: Agency

l. Application size and technical characteristics: Application is of moderate size and quite complex. Current database contains roughly 9.1 million observations.

m. Interfaces to other major systems: Scheduled data feeds to the PacFIN research database (NOAA Fisheries). Ad hoc data feeds to other databases and researchers throughout the US and internationally.

n. Public availability of data (check all that apply):

- ☒ Not a public database
- ☐ Exempt from public disclosure
- ☐ Available by written request
- ☐ Documented request procedure on website (provide URL)
- ☐ Direct query on website (provide URL)
- ☐ GIS online mapping (provide URL)

### *2. TotalTime*

a. Application owner: Tara Thomas, Technology & Financial Management Program, Financial Services Division (data steward)

b. Customer/business area owner:
- Lee Rolle, Chief Financial Officer (project sponsor)
- Jason McKee, Technology & Financial Management Program, Information Technology Division (code responsibility)

c. Application type: Web (Browser) based Java Server Pages (JSP). MS SQL Server database

d. Description: User interface allows users to enter time worked and leave hours requested. Using the system, Supervisors approve hours worked and leave requests. Payroll staff approve timesheets and prepare data for HRMS processing at the Department of Personnel (DOP).

e. Number of users: Internal: All agency staff (1500 – 1800+) depending on the season. External: 0

f. Agency programs, strategies, or business processes supported: Supports Agency-wide administrative and processing of timesheets and leave requests.

g. Implementation date: 2006

h. Date significantly modified: 2008 (labor distribution, composite rate, and temporal person data)

i. Number of technical FTEs for maintenance and support: Tasks are distributed among 3 ITSD staff. Time varies, but, after implementation, rarely exceeds 1 FTE.

j. Planned replacement or modifications: none

k. Ownership of application (Agency, DIS, vendor facility): Agency/Beluga Software Agreement

l. Application size and technical characteristics: JAVA WAR file (10MB); Directory (associated files on local drive): 300 MB.

m. Interfaces to other major systems: HRMS, AFRS, DOP data warehouse

n. Public availability of data (check all that apply):

- ☒ Not a public database
- ☐ Exempt from public disclosure
- ☒ Available by written request
- ☐ Documented request procedure on website (provide URL)
- ☐ Direct query on website (provide URL)
- ☐ GIS online mapping (provide URL)

### *3. Hydraulic Permit Management System (HPMS)*

a. Application owner: Pat Chapman, Habitat Program

b. Customer/business area owner:
Jeff Davis, Habitat Program (business process owner)

c. Application type: Web-enabled application (front end); MS SQL Server database (back end)

d. Description: Hydraulic Project Approvals (HPAs) are legislatively mandated permits issued by the agency for protection of fish life. Approximately 4,300 permits are issued annually.

e. Number of users: All Habitat biologists, Enforcement Staff, Habitat Program administrative staff use HPMS. In addition, select Washington Department of Natural Resources and tribal biologists use the HPMS Viewer.

f. Agency programs, strategies, or business processes supported: Habitat protection and Public Affairs - hydraulic permit application process

g. Implementation date: 1989

h. Date significantly modified: 2002. (HPMS Release 1: 2004), 2005/2006 (HPMS Release 3.x: 2005), (HPMS Release 5.x: 2007), HPMS Release 5.8x, 5.9x 2009, and HPMS Release 6.0x 2010/2011.

i. Number of technical FTEs for maintenance and support: 2.0 (nominal).

j. Planned replacement or modifications: Additional funding is desired maintain and improve the current application.

k. Ownership of application: Agency

l. Application size and technical characteristics: The application is a web-based application and is accessible from the Internet (through Fortress).

m. Interfaces to other major systems: Database view into the WDFW Enforcement EARS system to retrieve Enforcement User information.

n. Public availability of data (check all that apply):

- ☐ Not a public database
- ☐ Exempt from public disclosure
- ☒ Available by written request
- ☐ Documented request procedure on website (provide URL)
- ☒ Direct query on website
- ☐ GIS online mapping (provide URL)

### *4. Washington Interactive License Database (WILD)*

a. Application owner: Justin McCarron, Technology & Financial Management Program, Information Technology Division (data steward)

b. Customer/ business area owner: Bill Joplin, Technology & Financial Management Program, Licensing Division Manager

c. Application type:
- Point of Sale -- Recreational Hunting and Fishing license sales terminals (MS Windows) connected to a central database using standard modem or broadband connections;
- Internet Sales -- Recreational Hunting and Fishing license sales application connected to a central database through the Internet.

d. Description: Statewide system with approximately 800 point of sale (POS) terminals that sell all types of recreational licenses. The terminals are located within 600 license dealers across the state and in select border towns in Idaho and Oregon, at sporting goods stores, department stores, bait shops, etc. Sales data from the first-generation system, hosted by MCI, were imported into the second-generation system.

As of July 01, 2006, data from the second-generation system is stored by Active Outdoors (formerly Outdoor Central) in Nashville, TN. Data for both systems is transferred to WDFW and other state agencies for our use.

e. Number of users: 3,214,737 customer; 8,389 dealer profiles

f. Agency programs, business processes supported: Directly related to license sales revenue; supports agency activities in Fish, Wildlife, Business Services, Director's Office – Operations, and Enforcement.

g. Implementation date: March 2001 for the first-generation system and July 2006 for the second-generation system.

h. Date significantly modified: July 2006

i. Number of technical FTEs for maintenance and support: 1.5

j. Planned replacement or modifications: The contract ended June 30, 2006 with MCI. The new vendor, Active Outdoors, implemented the new system statewide as of July 2006.

k. Ownership of application: MCI until June 2006; Active Outdoors from July 2006 to present.

l. Application size and technical characteristics: Large system of moderate to high complexity. Supports high volume sales.

m. Interfaces to other major systems: Directly supports the WILD replication database and WILD Reporting System (intranet and internet versions) in ITSD. Incorporates data from system at DSHS. Provides license sales and customer data to Enforcement CODY system.

n. Public availability of data (check all that apply):
☒ Not a public database
☐ Exempt from public disclosure
☒ Available by written request
☐ Documented request procedure on website (provide URL)
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL)

### *5. Equipment and Property Inventory Control (EPIC)*

a. Application owner: Shawn Brown, Technology & Financial Management Program, Information Technology Division (data steward)

b. Customer/business area owner: Cathy Drew, Technology & Financial Management Program, Financial Services Division

c. Application type: Microsoft Visual FoxPro 9.0

d. Description: Application allows entry/modification of Agency Assets. Barcode labels are printed from the EPIC System. State reporting is also built into the EPIC System. Barcode Scanners interface with the EPIC System. The EPIC System replaced the State System CAMS.

e. Number of users: 75

f. Agency programs, strategies, or business processes supported: Business Services Program, Financial Services Division

g. Implementation date: 1999

h. Date significantly modified: none

i. Number of technical FTEs for maintenance and support: 0.5 (majority of programming support is contracted through WSU Cooperative Extension)

j. Planned replacement or modifications: none

k. Ownership of application: Agency

l. Application size and technical characteristics: 6 MB

m. Interfaces to other major systems: none

n. Public availability of data (check all that apply):
☒ Not a public database
☐ Exempt from public disclosure
☐ Available by written request
☐ Documented request procedure on website (provide URL)
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL)

### *6. Contracts and Projects System (CAPS)*

a. Application owner: Kim Rader, Technology & Financial Management Program, Information Technology Division (code responsibility)

b. Customer/business area owner: Lee Rolle, Chief Financial Officer

c. Application type:
- CAPS Classic - Client-based Visual Basic 6 user interface with a MS SQL Server database.
- CAPS Financial – Web-based (Java) user interface with a MS SQL Server database.

d. Description: User interface allows users to manipulate contract and project related data and build program spending plans, within the limits of Agency approved business rules.

e. Number of users: Internal: 500, External: 0

f. Agency programs, strategies, or business processes supported: Supports Agency-wide administrative and processing processes associated with contracts, projects and spending plans.

g. Implementation date: 2004

h. Date significantly modified:
- Spring 2009: CAPS Classic (v2.12) added new authentication process for Active Directory integration
- Summer 2009: CAPS Financial – made several minor enhancements based on user priorities.

i. Number of technical FTEs for maintenance and support: 0 (unable to document time spent by ITS staff to support users)

j. Planned replacement or modifications: None planned.

k. Ownership of application (Agency, DIS, vendor facility): Agency

l. Application size and technical characteristics: CAPS Classic executable file: 2.5MB; Directory (associated files on local drive): 56.8 MB.

m. Interfaces to other major systems: ADDS, OFM – TALS-AMR.

n. Public availability of data (check all that apply):

- ☒ Not a public database
- ☐ Exempt from public disclosure
- ☐ Available by written request
- ☐ Documented request procedure on website (provide URL)
- ☐ Direct query on website (provide URL)
- ☐ GIS online mapping (provide URL)

### *7. Info-Cop*

**PROJECT CLOSED 12/31/2010. See post-implementation project review in section 6B.**

a. Application owner: Enforcement Program

b. Customer/business area owner: Garret Ward, Enforcement Program

c. Application type: Client/Server, Third-party application/Sequel

d. Description: Info-Cop is an application that enables Fish and Wildlife Officers to make inquires to Criminal Justice Databases. The application allows officers to make entries into the application database, which is linked to the information from the criminal justice databases. This allows the comments made by an officer to be made available when the subject or vehicle is the result of a future inquiry. In addition, officers post their current location and /or status to facilitate operations and officer safety. The application also provides chat and message functionality to application users.

e. Number of users: Internal: 135, External: None

f. Agency programs, strategies, or business processes supported: Supports Strategic Plan Objective #2 -"Protect, restore and enhance fish and wildlife populations and habitat"; Activity #9 - "Ensure Compliance with WDFW Regulations"; Objective #3 - "Provide excellent professional service; and Activity #22 – "General Law Enforcement".

g. Implementation date: 2004

h. Date significantly modified: PROJECT CLOSED 12/31/2010.

i. Number of technical FTEs for maintenance and support: 0.5

j. Planned replacement or modifications: A new system, CAD/RMS (computer-aided dispatch/records management system), has been deployed.. The new system has replaced all functionality of Info-Cop.

k. Ownership of application (Agency, DIS, vendor facility): Agency/Enforcement Program (Purchased with USDOJ COPS Grant funds).

l. Application size and technical characteristics: Client application: Thin client (runs in web browser); Server side: SQL Database.

m. Interfaces to other major systems: Communication to Washington State Patrol ACCESS Communications switch via DIS Inter-governmental Network. Access to Info-Cop in the field is provided by a NetMotion appliance.

n. Public availability of data (check all that apply):
☒ Not a public database
☒ Exempt from public disclosure
☐ Available by written request
☐ Documented request procedure on website (provide URL)
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL)

### *8. Vehicle Mileage Tracking System (VMTS)*

a. Application owner:
- Web application: Jason McKee, Technology & Financial Management Program, IT Services Division (code responsibility)
- Admin tool: Bernie Triance, Technology & Financial Management Program, IT Services Division (code responsibility)

b. Customer/business area owner:
- Lee Rolle, Chief Financial Officer (project sponsor)
- Karen McManus, Technology & Financial Management Program, Financial Services Division, General Accounting Office (project manager)

c. Application type: Microsoft SQL

d. Description: VMTS allows entry/modification of agency vehicle and credit card usage. Mileage expenditures are charged to the appropriate MI code after the collection of mileage information via the web-based Mileage collection application. Credit card billings from Voyager, ComData, and WSDOT are also processed via VMTS to charge the appropriate MI. The journal voucher is submitted electronically via the IBM mainframe after FTE file to the IBM Mainframe. Email is incorporated in VMTS as a way of communicating with the vehicle contacts and program contacts. VMTS has multiple reports available for management and journal voucher backup.

e. Number of users: PowerBuilder (6), Web App (567)

f. Agency programs, strategies, or business processes supported: Technology & Financial Management Program, Financial Services Division; all other agency programs that own or operate vehicles

g. Implementation date: 2001

h. Date significantly modified: Upgraded to MS SQL June 2010.

i. Number of technical FTEs for maintenance and support: 0.25

j. Planned replacement or modifications: None

k. Ownership of application: Agency

l. Application size and technical characteristics: 20 MB

m. Interfaces to other major systems: AFRS Master Accounting information

n. Public availability of data (check all that apply):

- ☒ Not a public database
- ☐ Exempt from public disclosure
- ☐ Available by written request
- ☐ Documented request procedure on website (provide URL)
- ☐ Direct query on website (provide URL)
- ☐ GIS online mapping (provide URL)

### *9. Enforcement Activity Reporting System (EARS)*

**Application closed 10/20/2010. See post-implementation project review in Section 6A.**

a. Application owner: Enforcement Program

b. Customer/business area owners:
- Chief Bruce Bjork – Enforcement Program (business process owner)
- Garrett Ward (program contact)
- Jason McKee – Technology & Financial Management Program, Information Technology Division (code responsibility)

c. Application type: Web-enabled front end (Java Swing); SQL back end.

d. Description: EARS is an in-house system for reporting Enforcement Officer time spent on various activities during a particular 28-day reporting period. (EARS contains does not interface with the statewide payroll reporting system.)

e. Number of users: 150

f. Agency programs, strategies, or business processes supported: Enforcement program.

g. Implementation date: 2003

h. Date significantly modified:
- Spring 2007.
- Use of front end application ended Oct. 10, 2010.
- System was replaced by new records management system (RMS). Database data is still accessible for data extraction and historical analysis.

i. Number of technical FTEs for maintenance and support: 0.1

j. Planned replacement or modifications: None planned.

k. Ownership of application (Agency, DIS, vendor facility): Agency

l. Application size and technical characteristics: 45MB. Java/Tomcat/Apache/SQL (see section 3.H for database information).

m. Interfaces to other major systems: WDFW LDAP used for authentication.

n. Public availability of data (check all that apply):

- ☒ Not a public database
- ☐ Exempt from public disclosure
- ☐ Available by written request
- ☐ Documented request procedure on website (provide URL)
- ☐ Direct query on website (provide URL)
- ☐ GIS online mapping (provide URL)

### *10. Habitat Work Schedule (HWS)*

**This application is now the responsibility of the Recreation and Conservation Office (RCO) and is no longer tracked in the WDFW IT Portfolio.**

For information on the HWS application or its underlying database, please contact project manager Jennifer Johnson at Jennifer.Johnson@gsro.wa.gov.

- Project web page:
  http://hws.ekosystem.us/?p=Page_3a153ffc-91a2-47bd-b5e7-41243cc7f7e0

- About HWS:
  The Lead Entity Habitat Work Schedule system is the mapping and project tracking tool that allows Lead Entities to share their habitat protection and restoration projects with the public. The purpose of the HWS system is to help put restoration actions on the ground. By mapping projects, linking them to each other and recovery goals, and making it all available on the web, the HWS system makes salmon recovery more accessible to partners, potential funders, and the public.

### *11. Computerized Maintenance Management System (CMMS)*

a. Application owner:
- Doug Goodart, Technology & Financial Management Program, Information Technology Division – WDFW IT contact
- Tero Consulting, Ltd. (http://www.teroconsulting.com) – code responsibility and application service provider

b. Customer/business area owner:
- Bill Phillips, Assistant Director, Capital and Asset Management Program (CAMP) - project sponsor
- Ross Fuller, CAMP - fleet data steward
- Glen Gerth, CAMP – facilities data steward

c. Application type: Web-enabled application (.NET); Microsoft SQL Server database

d. Description: WDFW utilizes Tero Consulting's *Web Work* Computerized Maintenance Management System (CMMS) to comply with the fleet management standards mandated by Executive Order 05-01 and to comply with the facilities management standards mandated by the legislature and following the guidelines of the "Berk Report".

e. Number of users: 60

f. Agency programs, strategies, or business processes supported: Operational excellence.

g. Implementation date: Spring 2007.

h. Date significantly modified: Phase 2 went online during Summer 2008.

i. Number of technical FTEs for maintenance and support: 0.25

j. Planned replacement or modifications: There is a potential, at some point in the future, for this application to automate agency purchasing functions. Some modifications to accommodate new credit card vendor and other business rule changes took place FY10-11.

k. Ownership of application: Tero (application); WDFW (data)

l. Application size and technical characteristics:
Technical characteristics for this .NET application are available from Tero Consulting.
http://www.teroconsulting.com/fleet.asp

m. Interfaces to other major systems: VMTS, EPIC, ComData credit card, DOT (fuel data), HRMS, LDAP (Active Directory), AFRS (MI data).

n. Public availability of data (check all that apply):
- ☒ Not a public database
- ☐ Exempt from public disclosure
- ☒ Available by written request
- ☐ Documented request procedure on website (provide URL)
- ☐ Direct query on website (provide URL)
- ☐ GIS online mapping (provide URL)

### *12. Consolidated Phone Management System*

a. Application owner:
- Laura Burbank, Technology & Financial Management Program, Financial Services Division (cell phones data steward)
- Nikki Derringer, Technology & Financial Management Program, Information Technology Services Division (VoIP, handsets, cabling, PBX data steward)
- Doug Goodart, Technology & Financial Management Program, Information Technology Division (code responsibility)

b. Customer/business area owners:
- Lee Rolle, Chief Financial Officer (business process owner)

c. Application type:
- CPMS - Web (Browser) based Java Server Pages (JSP) with a MS SQL Server database
- CPMS Import Admin - Client-based Java (Swing) user interface with a MS SQL Server database.

d. Description:
- CPMS Import Admin allows import of data from phone vendors (landline, cellular, and calling cards).
- CPMS allows entry/modification of agency cell phone information. Each phone is assigned an operating master index code. The CPMS System downloads AFRS coding daily and has the capability to refresh manually as needed. Creates a Journal Voucher as an MS Excel file for allocation of cell phone charges. CPMS has multiple reports available for management that also include SCAN, calling card, and PBX access.

e. Number of users: CPMS Import Admin – 1, CPMS – 1000+

f. Agency programs, strategies, or business processes supported: Operational excellence.

g. Implementation date: 2005

h. Date significantly modified: 2009

i. Number of technical FTEs for maintenance and support: 0.25

j. Planned replacement or modifications: Modifications to the system are anticipated for management of calling cards and SCAN (FY11).

k. Ownership of application: WDFW

l. Application size and technical characteristics:
   a. CPMS - JAVA WAR file;
   b. Directory (associated files on local disk): ~ 1 GB
   c. CPMS Import Admin – JAVA JAR file; exe: < 100KB

m. Interfaces to other major systems: WDFW LDAP used for authentication

n. Public availability of data (check all that apply):
☒ Not a public database
☐ Exempt from public disclosure
☒ Available by written request
☐ Documented request procedure on website (provide URL)
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL)

### *13. Wildlife Survey Data Management (WSDM)*

a. Application owner (program/division, WDFW contact): Raj Deol, Wildlife Program, Data Systems Manager

b. Customer/ business area owner (program/division, WDFW contact): Wildlife Survey Data Management System, Wildlife Science Division

c. Application type: Windows Desktop

d. Description: WSDM is the front end for the corporate database of wildlife observational data for both game and non-game species. Data is entered into the database by the wildlife data stewards, who enter and manage data on a per-species basis.

e. Number of users: 7

f. Agency programs, business processes supported: Wildlife, Fish, Habitat

g. Implementation date: November 2006.

h. Date significantly modified: July 2011.

i. Number of technical FTEs for maintenance and support: 2

j. Planned replacement or modifications: Fish and Habitat Program staff will also enter data into this database in the future.

k. Ownership of application (agency, contractor, other): Agency

l. Application size and technical characteristics: ArcGIS Embedded Application developed via .NET/COM/ArcObjects

m. Interfaces to other major systems: Several Geolib datasets, Agency Taxonomy Database, Wildlife Survey Observation Database

n. Public availability of data (check all that apply):
☒ Not a public database
☐ Exempt from public disclosure
☐ Available by written request
☐ Documented request procedure on website (provide URL)
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL)

### *14. Computer Aided Dispatch/Records Management System (CAD/RMS)*

a. Application owner: Garret Ward, Enforcement Program (project manager)

b. Customer/business area owner: Bruce Bjork, Chief, Enforcement Program (executive sponsor)

c. Application type: CODY6 is a client server application and used primarily by Enforcement staff at Headquarters and in each of the regional offices. CODY7 is a web-based application and is used by the Enforcement officers in the field.

d. Description: Application aids WDFW Police Officers to utilize new technologies including Computer Aided Dispatch (CAD), Records Management System (RMS), and integrate with Radio over Internet Protocol (RoIP). The goals are to improve service, reduce response time, and increase officer safety.

e. Number of users: All Enforcement officers and several Enforcement support staff (~ 150 total).

f. Agency programs, strategies, or business processes supported: Implement processes that produce sound and professional decisions, Improve service, reduce response time, and increase officer safety.

g. Implementation date: June 2010.

h. Date significantly modified:

i. Number of technical FTEs for maintenance and support: 2.5

j. Planned replacement or modifications: Development of dispatch feature to be completed in FY12.

k. Ownership of application (agency, DIS, vendor): The application is owned by the vendor (CODY Systems, Inc.).

l. Application size and technical characteristics:
25 GB file allocation on server

m. Interfaces to other major systems: ACCESS (WSP), CJIS (FBI), Washington Interactive Licensing Database (DFW – WILD)

n. Public availability of data (check all that apply):

- ☒ Not a public database
- ☒ Exempt from public disclosure
- ☐ Available by written request
- ☐ Documented request procedure on website (provide URL)
- ☐ Direct query on website (provide URL)
- ☐ GIS online mapping (provide URL)

### *15. Salmon Conservation Reporting Engine (SCoRE)*

a. Application owner: Brodie Cox, Fish Program (project manager)

b. Customer/business area owner: Jim Scott, Fish Program (executive sponsor)

c. Application type: Database/ Web app

d. Description: SCoRE is the new name for the H2WS project. **S**almon **Co**nservation **R**eporting **E**ngine. This project serves as a fish program data aggregator and reporting application. It also drives a web frontend.

e. Number of users: >1000 (est.)

f. Agency programs, strategies, or business processes supported: Fish Program, 21st Century Salmon Initiative, Strategic Plan, external reporting

g. Implementation date: Phase 1 launches in Aug 2011

h. Date significantly modified: N/A

i. Number of technical FTEs for maintenance and support: 3-4 developers, 10-12 contributing database stewards.

j. Planned replacement or modifications: Phase 2 includes greatly enhanced reporting capabilities for regional entities

k. Ownership of application (agency, DIS, vendor): Agency

l. Application size and technical characteristics:
<10 GB file allocation on server for aggregator DB, much larger when including tributary DBs (all major fish program databases)

m. Interfaces to other major systems: Habitat Work Schedule, Agency web site, all major Fish Program datasets

n. Public availability of data (check all that apply):
☐ Not a public database
☐ Exempt from public disclosure
☐ Available by written request
☐ Documented request procedure on website (provide URL)
☒ Direct query on website (provide URL) TBD
☒ GIS online mapping (provide URL) TBD

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# H. Database Information

DIS' *Information Technology Portfolio Management Standards* states that mission critical databases support high risk application systems. With a mission critical database, even short-term loss of the functionality provided by the application and database would have significant negative impact on:

- The health or safety of the public or state workers;
- Income maintenance for citizens or government employees,
- Payments to vendors for goods and services; or
- The legal or fiscal integrity of state operations.

Databases deemed mission critical to WDFW business functions include the following:

- Auxiliary Fish Catch Record System (AFCRS) – see 3.H.1.
- Licenses and Fish Tickets (LIFT) – see 3.H.2.
- TotalTime – see 3.H.3.
- Wildlife Survey Data Management (WSDM) System - see 3.H.4.
- Hydraulic Permit Management System (HPMS) – see 3.H.5.
- Consolidated Phone Management System – see 3.H.6.
- Personnel Database – see 3.H.7.
- PHS Polygon Database (PHSPOLY) – see 3.H.8.
- Computerized Maintenance Management System (CMMS) – see 3.H.9.
- Washington Interactive License Database (WILD) – see 3.H.10.
- Equipment and Property Inventory Control (EPIC) – see 3.H.11.
- Contracts and Projects System (CAPS) – see 3.H.12.
- Info-Cop – see 3.H.13.
- Vehicle Mileage Tracking System (VMTS) – see 3.H.14.

- Sport Catch Harvest Data (CRC) – see 3.H.15
- Hatchery Data System – see 3.H.16.
- Spawning Ground Survey System – see 3.H.17
- Washington Lakes and Rivers Information System (WLRIS) – see 3.H.18.
- SSHIAP Database (Segments) – see 3.H.19.
- Local Habitat Assessment Database – see 3.H.20
- Intensively Monitored Watersheds Database – see 3.H.21.
- Fish Passage and Diversion Screening Inventory Database – see 3.H.22.
- Enforcement Activity Reporting System (EARS) – see 3.H.23.
- Habitat Work Schedule (HWS) – see 3.H.24.
- Coastal Trawl Logbook System (CTLS) – see 3.H.25.
- Forage Fish Database – see 3.H.26.
- Coded Wire Tag (CWT) Recoveries – see 3.H.27.
- Salmonid Stock Inventory (SaSI) – See 3.H.28.
- FishBooks – Hatchery Management System – See 3.H.29.
- CAD/RMS (new) – See 3.H.30.
- Salmon Conservation Reporting Engine (SCoRE) – See 3.H.31.

### *1. Auxiliary Fish Catch Record System (AFCRS - QuickReports)*

a. Database commercial name: Microsoft Access (Windows)/SQL Server

b. List of applications supported: MS Access Applications QuickSoft.accdb, QuickSoft_NWIFC_DataExchange.accdb

c. High-level description/type of data collected: In-season commercial salmon, steelhead, sturgeon, and Columbia River smelt summary catch data for Washington waters. Data source is commercial fish tickets, treaty data file input records, and non-treaty ticket data reported by dealers via phone, fax, e-mailed or mailed.

d. Location (Agency, DIS, vendor facility): Agency

e. Ownership of database: Sheila Smith, Fish Program (data steward)

f. Size of database (in terms of storage requirements): 110 MB

g. Number of records in database: Annual data tables are 10,000 records.

h. Frequency with which records are added, modified, and deleted: Daily - bi-weekly, depending on fishing season

i. Backup frequency:
☒ Included in the agency automated nightly backup system
☐ Other (specify):

j. Public availability of data (check all that apply):
☒ Not a public database
☐ Exempt from public disclosure
☒ Available by written request
☐ Documented request procedure on website (provide URL)
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL)

### *2. Licenses Information and Fish Tickets (LIFT)*

a. Database commercial name: Sybase

b. List of applications supported: WDFW commercial licensing, WDFW Fish Ticket catch accounting, NMFS/NOAA PacFIN research database, and various other departmental and external databases.

c. High-level description/type of data collected: Commercial fishing license sales and transfers, catch data statistics based on species / geographic area / capture-method / date / vessel / person / etc.

d. Location (Agency, DIS, vendor facility): Agency

e. Ownership of database:
- Bill Joplin, Technology & Financial Management Program, Licenses Division (data steward - licenses);
- Pam Singleton, Technology & Financial Management Program, Information Technology Division (data steward - fish tickets);
- Nancy Rosenthal, Technology & Financial Management Program, Information Technology Division (code responsibility)

f. Size of database (in terms of storage requirements): Operational and reporting requirements are roughly 5.5 GB

g. Number of records in database: 9 million (fish_ticket_detail table)

h. Frequency with which records are added, modified, and deleted: Daily

i. Backup frequency:
☒ Included in the agency automated nightly backup system
☐ Other (specify):

j. Public availability of data (check all that apply):
☒ Not a public database
☐ Exempt from public disclosure
☐ Available by written request
☐ Documented request procedure on website (provide URL)
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL)

### *3. TotalTime*

a. Database commercial name: Microsoft SQL Server, Microsoft Enterprise Active Directory LDAP

b. List of applications supported: TotalTime

c. High-level description/type of data collected: Timesheet data, Personnel Data (hours worked, leave, personnel profile)

d. Location (Agency, DIS, vendor facility): Agency

e. Ownership of database:
- Lee Rolle, Chief Financial Officer (project sponsor)
- Tara Thomas, Technology & Financial Management Program, Financial Services Division (data steward)
- Jason McKee, Technology & Financial Management Program, Information Technology Division (code responsibility)

f. Size of database: 200MB (data space allocation).

g. Number of records in database: 24 tables are associated with the application, with the largest containing ~3.5 million records.

h. Frequency with which records are added, modified, and deleted: Daily

i. Backup frequency:
☒ Included in the agency automated nightly backup system
☐ Other (specify):

j. Public availability of data (check all that apply):
☒ Not a public database
☐ Exempt from public disclosure
☐ Available by written request
☐ Documented request procedure on website (provide URL)
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL)

### *4. Wildlife Survey Data Management (WSDM)*

a. Database commercial name: Microsoft SQL

b. List of applications supported: WSDM supports the marbled murrelets, spotted owls, heritage, and herps datasets.

c. High-level description/ type of data collected: The WSDM database is the corporate database for wildlife observational data for both game and non-game species.

Data is entered into the database by the wildlife data stewards, who enter and manage data on a per-species basis. Fish and Habitat Program staff will also enter data into this database in the future.

d. Location (Agency, DIS, vendor facility): Agency

e. Ownership of database:

- Marbled Murrelets and Butterflies Data: Jane Jenkerson, Wildlife Program (database steward)
- Owls/Reptiles/Amphibians Data: Lori Salzer, Wildlife Program (database steward)
- General T&E (raptors, occprod) Data: Gretchen Blatz, Wildlife Program
- Raj Deol, Wildlife Program (technical support and maintenance)
- Randy Kreuziger, Director's Office – Operations, IT Services (geodatabase administrator)

f. Size of database (in terms of storage requirements): ~2.5 GB.

g. Number of records in database: In excess of 150,000 (relational SDE geo-database containing six feature classes and 25 tables).

h. Frequency with which records are added, modified, and deleted: Daily

i. Backup frequency:
☒ Included in the agency automated nightly backup system
☐ Other (specify):

j. Public availability of data (check all that apply):

- ☒ Not a public database
- ☐ Exempt from public disclosure
- ☐ Available by written request
- ☐ Documented request procedure on website (provide URL)
- ☐ Direct query on website
- ☐ GIS online mapping (provide URL)

### *5. Hydraulic Permit Management System (HPMS)*

a. Database commercial name: Microsoft SQL Server

b. List of applications supported: HPA approval process, HPA enforcement process, HPMS External Viewer.

c. High-level description/type of data collected: Information is collected from HPAs, letters, on-site visits and applications. Current data (1989 to present) has been converted to MS SQL Server.

d. Location (Agency, DIS, vendor facility): Agency

e. Ownership of database: Pat Chapman, Habitat Program

f. Size of database: 650 MB (server allocation)

g. Number of records in database: 90 tables (275,000 rows in largest)

h. Frequency with which records are added, modified, and deleted: Daily/weekly

i. Backup frequency: Daily

j. Public availability of data (check all that apply):
☐ Not a public database
☐ Exempt from public disclosure
☒ Available by written request
☐ Documented request procedure on website (provide URL)
☒ Direct query on website
☐ GIS online mapping (provide URL)

### *6. Consolidated Phone Management System*

a. Database commercial name: Microsoft SQL Server

b. List of applications supported: Consolidated Phone Management System *(see section 3.G.12)*

c. High-level description/type of data collected: Billing information for WDFW-owned phones

d. Location (Agency, DIS, vendor facility): Agency

e. Ownership of database:
- Lee Rolle, Chief Financial Officer (business process owner)
- Laura Burbank, Technology & Financial Management Program, Financial Services Division (cell phones data steward)
- Nikki Derringer, Technology & Financial Management Program, Information Technology Services Division (VoIP, handsets, cabling, PBX data steward)
- Doug Goodart, Technology & Financial Management Program, Information Technology Division (code responsibility)

f. Size of database (in terms of storage requirements): 1400 MB

g. Number of records in database: 33 tables are associated with the application, with the largest containing 3 million records.

h. Frequency with which records are added, modified, and deleted:
Daily (most new records are added shortly after the receipt of the monthly cell phone billing data).

i. Backup frequency:
☒ Included in the agency automated nightly backup system
☐ Other (specify):

j. Public availability of data (check all that apply):
☒ Not a public database
☐ Exempt from public disclosure
☐ Available by written request
☐ Documented request procedure on website (provide URL)
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL)

### *7. Personnel Database*

a. Database commercial name: Microsoft Access (WDFW_HRMS: WDFW Human Resource Management System [as opposed to the DOP HRMS system])

b. List of applications supported: Standalone; Ad-hoc reports used by agency managers.

c. High-level description/type of data collected: Human resource actions, tracking and workflow management; Employee training tracking.

d. Location (Agency, DIS, vendor facility): Agency

e. Ownership of database:
- Cindy Colvin, Director's Office - Operations, Human Resources Director (data steward)
- Bernie Triance, Technology and Financial Management Program, Information Technology Division (system support)

f. Size of database (in terms of storage requirements): 1.4 GB allocated

g. Number of records in database: 64 tables; > 400,000 records

h. Frequency with which records are added, modified, and deleted: Daily.

i. Backup frequency:
☒ Included in the agency automated nightly backup system
☐ Other (specify):

j. Public availability of data (check all that apply):
☒ Not a public database
☐ Exempt from public disclosure
☐ Available by written request
☐ Documented request procedure on website (provide URL)
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL)

### *8. PHS Polygon Database (PHSPOLY, PHSPTS, ZAPPOLY)*

a. Database commercial name: ArcGIS and ARCSDE (Spatial Database Engine), SQLServer RDBMS

b. List of applications supported: Ad hoc extractions are used to help answer 500-600 annual requests for information from the general public. The database also supplies information to Habitat, Wildlife, and Fish Program staff for HPA, forest practices act, and SEPA reviews.

c. High-level description: Database contains polygonal information about habitats and species defined as priorities for management, conservation, and preservation.

d. Location (Agency, DIS, vendor facility): Agency

e. Ownership of database:
- Katie Knight, Habitat Program (business process owner)
- Terry Johnson, Habitat Program (data steward)

f. Size of database (in terms of storage requirements): ~3.5 GB

ArcGIS:
- PHSPOLY Database (ArcGIS feature class and tables located in GeoLib and in the PHSDIGI/PHS_Mapping_and_Attribute_Entry workspace):
  26494 total polygons in the PHSPOLY feature class, 3956 polygons in the PHSREGION feature class, 46304 records in the PHSPOLY_XREF table, 5927 records in the PHSEO table, 5927 Records in the PHSDSCRP table, 8889 records in the PHSSRC table, and 2785 records in PHSLULC table in 1 geodatabase (master_database.mdb) in 1 workspace (number of total polygons will vary throughout the year) (135MB - size will vary throughout the year)

- PHS_Mapping_and_Attribute_Entry - PHS Digitizing Workspace (located at /resdat/gis_data_mgmt/PHS_Mapping_and_Attribute_Entry):
  3 permanent upper-level workspaces, 4 permanent geodatabases, and at least 8 permanent files. There will be various temporary workspaces, geodatabases, and files present during the year. (3.5 Gb - though size will vary throughout the year)

- IncomingUpdates and Test_Attribute Entry - Attribute Menu Workspace (located in the PHS_Mapping_and_Attribute_Entry workspace):
  Directory storing the Microsoft Access tables and forms for updating the attribute tables of the PHSPOLY database. (4 Mb – size will vary throughout the year)

- Misc_mxds - PHS ArcGIS Miscellaneous Map Document Workspace (located in the PHS_Mapping_and_Attribute_Entry workspace):
  Directory storing miscellaneous map documents for updating the PHSPOLY database. (4 MB – size will vary throughout the year)

- 1_phs_management_scripts - PHS Update Database Scripts Workspace (located in the PHS_Mapping_and_Attribute_Entry workspace):
  Directory storing the Python Constructor scripts for updating the feature classes of the PHSPOLY database. (80 KB)

- Master_database.mdb – Master PHS database (located in the PHS_Mapping_and_Attribute_Entry workspace):
  ArcGIS geodatabase storing the master copies of the PHSPOLY database feature classes and tables. Currently 2 feature classes and 5 tables in the geodatabase. (140 MB)

- Phs_updates.gdb – PHS update database (located in the PHS_Mapping_and_Attribute_Entry workspace):
  ArcGIS geodatabase storing the feature classes undergoing updates. Currently 1 permanent feature class and various temporary feature classes and tables in the geodatabase. (411 MB)

- Phs_attribute_entry.mdb –PHS update database for entering the new attribute information (located in the PHS_Mapping_and_Attribute_Entry workspace):
  ArcGIS geodatabase storing attribute tables in which new attribute information is entered. Currently 17 permanent tables in the geodatabase and numerous temporary tables. (175 MB)

- archive_database.mdb –PHS update database for archiving the old PHS feature class and attribute tables (located in the PHS_Mapping_and_Attribute_Entry workspace):
  ArcGIS geodatabase storing archived feature classes and attribute tables. Currently 11 permanent feature classes in the geodatabase. (2 Gb)

ArcSDE:

- PHSPOLY – Polygon Feature Class (ArcSDE data layer stored on SQLServer RDBMS):
  26494 total polygons in 1 data layer (number of total polygons will vary throughout the year) (100 MB - size will vary throughout the year)

- PHSREGION – Overlapping Polygon Feature Class (ArcSDE data layer stored on SQLServer RDBMS):
  3956 polygons) in 1 data layer (number of total polygons will vary throughout the year). (30 MB - size will vary throughout the year)

- PHS Attribute Tables (stored on SQLServer RDBMS):
  PHSPOLY_XREF (polygon cross-reference table for PHSPOLY) 46304 records; PHSEO (general information table) 5927 records; PHSDSCRP (descriptive information) 5927 records; PHSSRC (sources of information) 8889 records; PHSLULC (land use/land cover information) 2785 records, EOCODE_TBL (eocode descriptions) 942 records, and CRIT_TBL (mapping criteria code descriptions) 21 records.

g. Number of records in database: See above

h. Frequency with which records are added, modified, and deleted: Several times a year.

i. Backup frequency:
☒ Included in the agency automated nightly backup system
☐ Other (specify):

j. Public availability of data (check all that apply):
☒ Not a public database
☐ Exempt from public disclosure
☒ Available by written request
☒ Documented request procedure on website
(http://wdfw.wa.gov/hab/release.htm )
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL)

### *9. Computerized Maintenance Management System (CMMS)*

a. Database commercial name: Microsoft SQL Server.

b. List of applications supported: CMMS (see 3.G.9)

c. High-level description/type of data collected: Fleet and facilities management. This includes information pertaining to inventory, service, repair records, work orders, and scheduled maintenance.

d. Location (Agency, DIS, vendor facility): Vendor facility (B.C., Canada)

e. Ownership of database:
- Bill Phillips, Assistant Director, Capital and Asset Management Program (CAMP) - project sponsor
- Ross Fuller, CAMP - fleet data steward
- Glen Gerth, CAMP – facilities data steward
- Doug Goodart, Technology & Financial Management Program, Information Technology Division – WDFW IT contact
- Tero Consulting, Ltd. (http://www.teroconsulting.com) – code responsibility and database host

f. Size of database (in terms of storage requirements): ~350 MB

g. Number of records in database: ~250,000 records in largest table

h. Frequency with which records are added, modified, and deleted: Daily

i. Backup frequency:
☒ Included in the agency automated nightly backup system
☐ Other (specify):

j. Public availability of data (check all that apply):
☒ Not a public database
☐ Exempt from public disclosure
☒ Available by written request
☐ Documented request procedure on website (provide URL)
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL)

### *10. Washington Interactive License Database (WILD)*

a. Database commercial name: Sybase, Microsoft SQL Server, Oracle

b. List of applications supported: WILD System, WILD replicated database and WILD Reporting System (intranet and internet versions), and various other departmental and external databases.

c. High-level description/type of data collected: Recreational hunting and fishing license sales data, hunting and Puget Sound recreational crab harvest reports.

d. Location (Agency, DIS, vendor facility): Agency, DIS, and Active Outdoors vendor facilities (Nashville, TN)

e. Ownership of database:
- Bill Joplin, Technology & Financial Management Program, Licensing Division (business owner)
- Justin McCarron, Technology & Financial Management Program, Information Technology Division (data steward)

f. Size of database (in terms of storage requirements): Operational and reporting requirements are roughly 133 GB.

g. Number of records in database: 354,844,921

h. Frequency with which records are added, modified, and deleted: Near real-time at vendor, once per week at WDFW.

i. Backup frequency: Daily (to Weekly)

j. Public availability of data (check all that apply):
☒ Not a public database
☐ Exempt from public disclosure
☒ Available by written request
☐ Documented request procedure on website (provide URL)
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL)

### *11. Equipment and Property Inventory Control (EPIC)*

a. Database name: Microsoft Visual FoxPro 9.0

b. List of applications supported: EPIC *(see section 3.G)*

c. High-level description/type of data collected: Asset, location and cost information about WDFW-owned capital equipment and property.

d. Location (Agency, DIS, vendor facility): Agency

e. Ownership of database:

- Cathy Drew, Technology & Financial Management Program, Financial Services Division (business owner)
- Shawn Brown, Technology & Financial Management Program, Information Technology Division (data steward)

f. Size of database (in terms of storage requirements): 300 MB

g. Number of records in database: ~33,500

h. Frequency with which records are added, modified, and deleted: Daily

i. Backup frequency:
☒ Included in the agency automated nightly backup system
☐ Other (specify):

j. Public availability of data (check all that apply):
☒ Not a public database
☐ Exempt from public disclosure
☐ Available by written request
☐ Documented request procedure on website (provide URL)
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL)

### *12. Contracts and Projects System (CAPS)*

a. Database commercial name: Microsoft SQL Server

b. List of applications supported: CAPS Classic, CAPS Financial (see 3G6)

c. High-level description/type of data collected: Contracts and projects data (financial, legal, and administrative)

d. Location (Agency, DIS, vendor facility): Agency

e. Ownership of database:
- Lee Rolle, Chief Financial Officer (project sponsor)
- Kim Rader Technology & Financial Management Program, Information Technology Division (code responsibility)

f. Size of database:
- CAPS Classic: 1,800 MB
- CAPS Financial: 115 MB

g. Number of records in database:
- CAPS Classic : 130 tables (630,000 records in the largest table)
- CAPS Financial: 30 tables (442,000 records in the largest table)

h. Frequency with which records are added, modified, and deleted: Daily

i. Backup frequency:
☒ Included in the agency automated nightly backup system
☐ Other (specify):

j. Public availability of data (check all that apply):
☒ Not a public database
☐ Exempt from public disclosure
☒ Available by written request
☐ Documented request procedure on website (provide URL)
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL)

### *13. Info-Cop*

**PROJECT CLOSED 12/31/2010. See post-implementation project review in section 6B.**

a. Database commercial name: Microsoft SQL Server

b. List of applications supported: Info-Cop Application

c. High-level description/type of data collected: Officer's status entries, inquires, responses, chat and messages of officers utilizing the application.

d. Location (Agency, DIS, vendor facility): Agency

e. Ownership of database: Garret Ward, Enforcement Program

f. Size of database: 60 MB (server allocation).

g. Number of records in database: 200,000+

h. Frequency with which records are added, modified, and deleted: Daily

i. Backup frequency: Daily

j. Public availability of data (check all that apply):
☒ Not a public database
☒ Exempt from public disclosure
☐ Available by written request
☐ Documented request procedure on website (provide URL)
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL)

### *14. Vehicle Mileage Tracking System (VMTS)*

a. Database name: Microsoft SQL

b. List of applications supported: VMTS

c. High-level description/type of data collected:
Mileage and credit card cost information for WDFW-owned vehicles and other gas/diesel operated equipment.

d. Location (Agency, DIS, vendor facility): Agency

e. Ownership of database:
- Lee Rolle, Chief Financial Officer (project sponsor)
- Karen McManus, Technology & Financial Management Program, Financial Services Division, General Accounting Office (project manager)
- Jason McKee, Technology & Financial Management Program, IT Services Division (code responsibility)

f. Size of database: 240 MB (server allocation)

g. Number of records in database: >1.5 million

h. Frequency with which records are added, modified, and deleted: Daily. (Most new records are added shortly after the last workday of each month.)

i. Backup frequency:
☒ Included in the agency automated nightly backup system
☐ Other (specify):

j. Public availability of data (check all that apply):
☒ Not a public database
☐ Exempt from public disclosure
☐ Available by written request
☐ Documented request procedure on website (provide URL)
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL)

### *15. Sport Catch Harvest Data (CRC)*

a. Database Commercial name: Microsoft Access (Windows), SAS

b. List of applications supported: None

c. High-level description/type of data collected: Estimated sport harvest - salmon, steelhead, sturgeon, marine fish, Dungeness crab

d. Location (Agency, DIS, vendor facility): Agency

e. Ownership of database: Eric Kraig, Fish Program (data steward)

f. Size of database (in terms of storage requirements): 50 MB

g. Number of records in database: app. 52,000 records.

h. Frequency with which records are added, modified, and deleted: Annual catch data added; occasional revisions.

i. Backup frequency:
☒ Included in the agency automated nightly backup system (Access database)
☒ Other (specify): Weekly (SAS data)

j. Public availability of data (check all that apply):
☒ Not a public database
☐ Exempt from public disclosure
☒ Available by written request
☐ Documented request procedure on website (provide URL)
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL)

### *16. Hatchery Data System*

a. Database Commercial name: Microsoft Access (Windows)

b. List of applications supported: Standard retrieval, error-check and summarization reports designed for internal use only (MS Access), SQL.

c. High-level description/type of data collected: adult salmonid returns to WDFW hatcheries; eggs taken, disposition of adult carcasses, juveniles reared and released by size, age, species, stock

d. Location (Agency, DIS, vendor facility): Agency

e. Ownership of database: Catie Mains, Fish Program (data steward)

f. Size of database (in terms of storage requirements): 7 GB

g. Number of records in database: >700,000

h. Frequency with which records are added, modified, and deleted: Daily to weekly, depending on time of year and particular dataset

i. Backup frequency:
☒ Included in the agency automated nightly backup system
☒ Other (specify): Monthly, to external drive

j. Public availability of data (check all that apply):
☒ Not a public database
☐ Exempt from public disclosure
☒ Available by written request*
☐ Documented request procedure on website (provide URL)
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL)

* Some data available via Agency web site (i.e. Weekly planting reports): http://wdfw.wa.gov/fishing/plants/weekly/, weekly escapement: http://wdfw.wa.gov/hatcheries/escapement/, Future Brood Document: http://wdfw.wa.gov/hatcheries/future_brood.html and RMIS: http://www.rmpc.org/

### *17. Spawning Ground Survey System*

a. Database Commercial name: Microsoft SQL Server 2008

b. List of applications supported: Standard retrieval, error-check and summarization reports designed for internal use only (MS Access)

c. High-level description/type of data collected: Wild adult salmonid live and dead counts, wild adult redd counts in streams of Washington.

d. Location (Agency, DIS, vendor facility): Agency

e. Ownership of database: Are Strom, Fish Program (data steward)

f. Size of database (in terms of storage requirements): 220 MB

g. Number of records in database: 300,000+

h. Frequency with which records are added, modified, and deleted: Daily to monthly, depending on time of year (peak from January through May)

i. Backup frequency:
☐ Included in the agency automated nightly backup system
☒ Other (specify): Daily

j. Public availability of data (check all that apply):
☐ Not a public database
☐ Exempt from public disclosure
☒ Available by written request
☒ Documented request procedure on website:
http://www.swim.wa.gov (type "SGS" in search)
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL)

### *18. Washington Lakes and Rivers Information System (WLRIS)*

a. Database Commercial name: ESRI ArcGIS 9.2 / 9.3 SDE over SQL-Server 2000 geodatabase

b. List of applications supported: ArcGIS 9.2 / 9.3 ArcMap. Data entry, editing, analysis, cartography. Data distribution.

c. High-level description/type of data collected: spatial data representations of the 1:24,000 resolution streams and lakes of Washington state; anadromous and resident fish distribution; known spawning and rearing usage; salmonid stock identification and status (SaSI); agency facilities

d. Location (Agency, DIS, vendor facility): Agency

e. Ownership of database: Andrew Weiss, Fish Program (data steward)

f. Size of database (in terms of storage requirements): 1.87 GB

g. Number of records in database: 740,126 (includes lookup and other related tables)

h. Frequency with which records are added, modified, and deleted: Weekly, or as needed

i. Backup frequency:
☒ Included in the agency automated nightly backup system
☒ Other (specify): Quarterly to CD-ROM also

j. Public availability of data (check all that apply):
☐ Not a public database
☐ Exempt from public disclosure
☒ Available by written request
☒ Documented request procedure on website:
http://wdfw.wa.gov/hab/release.htm
☒ Direct query on website:
http://wdfw.wa.gov/mapping/salmonscape/index.html
☒ GIS online mapping:
http://wdfw.wa.gov/mapping/salmonscape/index.html

### *19. SSHIAP Database (Segments)*

a. Database commercial name: ArcView 9 personal geodatabase (MS Access Database), ArcSDE (Spatial Database Engine), SQLServer RDBMS

b. List of applications supported: Ad hoc extractions are used to help answer requests for information from the general public. The database also supplies information to Habitat and Fish Program staff for HPA, forest practices act, and SEPA reviews. Stream_Net is the base layer in the Family Forest & Fish Passage Upstream Habitat Estimator application. Segments and EDT layers are displayed on the SalmonScape IMS application.

c. High-level description: Segments feature class contains polyline information about stream gradient, confinement, channel habitat, and Rosgen. Stream_Net is a geometric network with network connectivity and flow direction. Stream_Net_Junctions is a network junction layer with one junction at every polyline end. EDT_pres is a polyline feature class which stores Ecosystem Diagnosis and Treatment Preservation results. EDT_rest is a polyline feature class that stores Ecosystem Diagnosis and Treatment Restoration results.

d. Location (Agency, DIS, vendor facility): Agency

e. Ownership of database:
- Habitat Program, David Price (business process owner)
- Habitat Program, Ken Pierce (data steward)

f. Size of database (in terms of storage requirements):

ArcView 9 Personal Geodatabase:
- WRIA# Database (ArcView 9 personal geodatabase):
  One personal geodatabase exists for each WRIA. Segments, Stream_Net (geometric network built on segments layer), and EDT_pres & EDT_rest are contained in this database. The size of the database varies depending on the size and stream density of the WRIA.

- SSHAIP Staging_Area Workspace:
  Working directories for updating the SSHIAP personal geodatabase (contains ArcMap projects and WRIA# personal geodatabase). Each personal geodatabase contains a segments, Stream_Net, and Stream_Net_Juctions feature class split at the WRIA boundary. WRIAs 22- 29 contain EDT_pres and EDT_rest feature classes. There is one directory for each WRIA (size of

directory will vary depending on WRIA). Size of Staging_Area directory: 19 GB.

- SSHAIP Statewide Workspace:
  Working directory for merged statewide SSHIAP layers
  (12 GB)

ArcSDE:

- Segments – Polyline Feature Class (ArcSDE data layer stored on SQLServer RDBMS):
  1120716 total polylines in 1 database.

- EDT_pres - Polyline Feature Class (ArcSDE data layer stored on SQLServer RDBMS):
  5745 total polylines in 1 database.

- EDT_rest - Polyline Feature Class (ArcSDE data layer stored on SQLServer RDBMS):
  17279 total polylines in 1 database.

g. Number of records in database: See above

h. Frequency with which records are added, modified, and deleted: As changes get made to the agencies hydro layer or more EDT data becomes available.

i. Backup frequency:
☒ Included in the agency automated nightly backup system
☐ Other (specify):

j. Public availability of data:
☐ Not a public database
☒ Exempt from public disclosure
☒ Available by written request
☒ Documented request procedure on website:
http://wdfw.wa.gov/hab/release.htm
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL

### *20. Local Habitat Assessment Database*

a. Database commercial name: ArcGIS Desktop: ArcInfo/ArcEdit

b. List of applications supported: Data models are developed and used to determine a ranking of the current wildlife habitat throughout a county level scale for landscape planning activities by local governments.

c. High-level description: Data layers are primarily a raster based GRID format and include ecoregional assessment, road density, and land conversion. These layers are each similarly ranked from low to high wildlife value, and then digitally combined to derive a composite of information depicting wildlife habitat value. PHS and WDFW Heritage significant areas are then combined with this composite product to produce a final representation of wildlife habitat value.

d. Location (Agency, DIS, vendor facility): Agency

e. Ownership of database: Habitat Program:
- Tim Quinn (business process owner)
- John Jacobson (data steward)

f. Size of database (in terms of storage requirements): 500 MB per county and currently includes Kitsap, Whatcom, Thurston, Jefferson, San Juan, Island, Lewis, and Skagit Counties.

g. Number of records in database: Each data layer is processed to produce a ranking of 1 to 10, with 10 discrete integer value records.

h. Frequency with which records are added, modified, and deleted: The database model allows at any time for data deletion, updating of existing data, and adding new data as it becomes available.

i. Backup frequency:
☒ Included in the agency automated nightly backup system
☐ Other (specify):

j. Public availability of data (check all that apply):
☐ Not a public database
☐ Exempt from public disclosure
☒ Available by written request
☐ Documented request procedure on website (provide URL)
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL)

### *21. Intensively Monitored Watersheds Database*

a. Database commercial name: Microsoft Access and Microsoft Access with SQL Server back end.

b. List of applications supported: For use by WDFW personnel, other public agencies, researchers, etc.

c. High-level description: Intensive and extensive surveys of streams, including smolt, spawner, and redd counts.

d. Location (Agency, DIS, vendor facility): Agency

e. Ownership of database:
   e. Habitat Program, Tim Quinn (business process owner)
   f. Habitat Program, Kevin Samson (data steward)

f. Size of database (in terms of storage requirements): N/A (still in developmental stage) except for Intensive Survey dB (see below)

   a. Intensive Survey dB:
   2100.00 MB. Will hold EMAP-Protocol data collected from summer Intensive Survey, starting from 2004 survey.

   b. Extensive Survey dB:
   Will hold data from on-going Extensive Survey, starting from 2004 survey.

   c. Fish Program Data dB:
   Pending. Will hold data from smolt, spawner, and redd surveys.

g. Number of records in database: N/A (still in developmental stage) except for Intensive Survey dB (see below)
   d. Intensive Survey dB: 1246

h. Frequency with which records are added, modified, and deleted: Several times a year.

i. Backup frequency:
☒ Included in the agency automated nightly backup system
☐ Other (specify):

j. Public availability of data (check all that apply):

- ☐ Not a public database
- ☐ Exempt from public disclosure
- ☒ Available by written request
- ☐ Documented request procedure on website:
  http://wdfw.wa.gov/hab/imw/index.htm
- ☐ Direct query on website (provide URL)
- ☐ GIS online mapping (provide URL)

### *22. Fish Passage and Diversion Screening Inventory Database*

a. Database commercial name: Microsoft Access with SQL Server back end

b. List of applications supported: WDFW uses the data to identify, locate, and prioritize correction of human-made fish passage barriers and unscreened surface water diversions. Data have been provided to SSHIAP, Conservation Commission limiting factors analysis, regional fisheries enhancement groups, counties, cities, tribes, etc for salmon recovery planning. The database also supports the Fish Passage Barrier components of Salmonscape, Streamnet and Geolib Fish Passage Barrier Inventory dataset.

c. High-level description: Database contains information on the fish passage status of human-made instream structures and the screening status of surface water diversions.

d. Location (Agency, DIS, vendor facility): Agency

e. Ownership of database:
- David Price, Habitat Program/Ecosystem Restoration Unit (business process owner)
- Brian Benson, Habitat Program/ Ecosystem Restoration Unit (data steward)

f. Size of database (in terms of storage requirements):
- Tables (SQL Server): 100+ MB
- Images (jpeg): 2.8 GB
- Workstations (MS Access) - FPDSI user interface; 33 users including 1 administrator, 23 data entry, 9 read only; 7MB each.

g. Number of records in database: ~40,000 in the primary table plus related tables.

h. Frequency with which records are added, modified, and deleted: Daily.

i. Backup frequency:
☒ Included in the agency automated nightly backup system
☐ Other (specify):

j. Public availability of data (check all that apply):

- ☐ Not a public database
- ☐ Exempt from public disclosure
- ☒ Available by written request
- ☐ Documented request procedure on website (provide URL)
- ☐ Direct query on website (provide URL)
- ☒ GIS online mapping (provide URL)

*SalmonScape*
http://wdfw.wa.gov/mapping/salmonscape

### *23. Enforcement Activity Reporting System (EARS)*

a. Database commercial name: Microsoft SQL Server.

b. List of applications supported: Supported the Enforcement Activity Reporting System until the application was closed 10/10/2010.

c. High-level description/type of data collected: Enforcement Officer time spent on various activities during a particular 28-day reporting period.

d. Location (Agency, DIS, vendor facility): Agency

e. Ownership of database:
- Chief Bruce Bjork, Enforcement Program (business process owner)
- Garrett Ward (program contact)
- Jason McKee, Technology & Financial Management Program, Information Technology Division (code responsibility)

f. Size of database: 195 MB

g. Number of records in database: 1.2 million records (in 21 tables)

h. Frequency with which records are added, modified, and deleted: Data entry ended October, 10, 2010.

i. Backup frequency: Daily backup provided by agency automated backup system. (May choose to end backup service, as database used only for historical reporting.)

j. Public availability of data (check all that apply):
☒ Not a public database
☐ Exempt from public disclosure
☐ Available by written request
☐ Documented request procedure on website (provide URL)
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL)

### *24. Habitat Work Schedule (HWS)*

**This database is now the responsibility of the Recreation and Conservation Office (RCO) and is no longer tracked in the WDFW IT Portfolio.**

For information on the HWS database or the associated application, please contact Jennifer Johnson at Jennifer.Johnson@gsro.wa.gov.

- Project web page:
  http://hws.ekosystem.us/?p=Page_3a153ffc-91a2-47bd-b5e7-41243cc7f7e0

- About HWS:
  The Lead Entity Habitat Work Schedule system is the mapping and project tracking tool that allows Lead Entities to share their habitat protection and restoration projects with the public. The purpose of the HWS system is to help put restoration actions on the ground. By mapping projects, linking them to each other and recovery goals, and making it all available on the web, the HWS system makes salmon recovery more accessible to partners, potential funders, and the public.

### *25. Coastal Trawl Logbook System (CTLS)*

a. Database commercial name: Multi-user data entry with MS Access forms into SQL Server tables (most recent 10 years of data). Export to ASCII files (archive) that are maintained, processed, and reported on using a collection of FORTRAN programs and Unix scripts. Data ultimately becomes part of a relational database in Oracle maintained by PacFIN.

b. List of applications supported: CTLS internal reporting and monthly data delivery to the PacFIN system (proportions of catch by area and aggregated effort). Also, a facsimile of the unreduced CTLS data is stored on the PacFIN system, along with similar data from OR and CA, and updated semiannually.

c. High-level description (type of data collected): Estimates of bottomfish trawl catch in Washington State by area, species, depth, etc., as well as fishing effort by area.

d. Location (Agency, DIS, vendor facility): Agency

g. Ownership of database: Fish Program - Greg Konkel (code responsibility)

h. Size of database (in terms of storage requirements): Approximately 200 megabytes.

g. Number of records in database: Approximately 5 million rows in a multi-line, card image format.

h. Frequency with which records are added, modified, and deleted: Daily

i. Backup frequency:
☒ Included in the agency automated nightly backup system
☐ Other (specify):

j. Public availability of data (check all that apply):
☒ Not a public database
☐ Exempt from public disclosure
☒ Available by written request
☐ Documented request procedure on website (provide URL)
☐ Direct query on website *(in progress)*
☐ GIS online mapping (provide URL)

### *26. Forage Fish Database*

a. Database commercial name: Microsoft Access with SQL Server back end.

b. List of applications supported:
- SalmonScape – Intertidal Forage Fish layers
- Geolib – doc_Smelt_Spawning, doc_Sand_Lance_Spawning, Forage_Fish_Surveys, and Forage_Fish_Survey_Pts feature classes
- Priority Habitat and Species (PHS)
- Various Habitat Program research activities and field sampling efforts
- Area Marine Habitat Biologists review of HPAs
- County shoreline management

c. High-level description: These data represent the results of spawning habitat surveys for surf smelt *(Hypomesus pretiosus)* and Pacific sand lance *(Ammodytes hexapterus)* conducted by WDFW and others along the marine shorelines of Washington State over the past 30 years.

d. Location (Agency, DIS, vendor facility): Agency

e. Ownership of database:
- Brian Benson, Habitat Program/Ecosystem Restoration Unit (data steward)
- David Price, Habitat Program/Ecosystem Restoration Unit (business process owner)

f. Size of database (in terms of storage requirements): 250 MB

g. Number of records in database:
- Survey_D – 22235
- Beach_D – 20422
- Egg_Count_D – 67839
- Egg_Stage_D – 28487
- Spawn_Intensity_D – 3126
- Substrate_Sample_D - 25811

h. Frequency with which records are added, modified, and deleted: Variable, dependent on field sampling protocols and timing.

i. Backup frequency:
☒ Included in the agency automated nightly backup system
☐ Other (specify):

j. Public availability of data (check all that apply):

- ☐ Not a public database
- ☐ Exempt from public disclosure
- ☒ Available by written request
- ☐ Documented request procedure on website (provide URL)
- ☐ Direct query on website (provide URL)
- ☒ GIS online mapping (provide URL)

*SalmonScape*
http://wdfw.wa.gov/mapping/salmonscape

### *27. Coded-Wire Tag Recoveries*

a. Database commercial name: Microsoft SQL Server

b. List of applications supported: Taglab.accdb Microsoft Access application.

c. High-level description/type of data collected: Data records of micro-tagged salmon and steelhead and associated sampling information. 12 data tables; 15 look-up tables (CWT Historical Recoveries); 6 cwt data tables, 10 look-up tables, 10 associated data tables (CWT Initial Recoveries).

d. Location (Agency, DIS, vendor facility): Agency Windows server

e. Ownership of database: Gil Lensegrav, Fish Program (Data Steward)

f. Size of database (in terms of storage requirements): 2.4 GB

g. Number of records in database: Approximately 6.0 million records among the major data tables and associated data tables in the database.

h. Frequency with which records are added, modified, and deleted: Daily

i. Backup frequency:
☒ Included in the agency automated nightly backup system
☐ Other (specify):

j. Public availability of data (check all that apply):
☒ Not a public database
☐ Exempt from public disclosure
☒ Available by written request
☐ Documented request procedure on website (provide URL)
☒ Direct query on website *(via PSMFC Regional Mark Information Center, http://www.rmpc.org)*
☐ GIS online mapping (provide URL)

### *28. Salmonid Stock Inventory (SaSI)*

a. Database name (Sybase, Oracle, etc.): Microsoft SQL Server 2008

b. List of applications supported: Supports the agency ARCIMS website for salmon recovery titled *SalmonScape*. Updates provided for the website occur on a monthly basis. Plans are also underway to link SaSI to *GENSAS*, an access database designed for the genetics laboratory. SaSI data entry is through the SaSI Web Funnel web-enabled Java application.

c. High-level description/type of data collected: Fish stock delineation, origin, status rating, annual escapement, genetic analysis, strength indicators, ESA listings, run timing, spawning distribution.

d. Location (Agency, DIS, vendor facility): Agency

e. Ownership of database:
- Jim Scott, Fish Program (business owner)
- Vacant, Fish Program (data steward)
- Are Strom, (data manager)

f. Size of database (in terms of storage requirements): Currently 125 MB and expanding weekly

g. Number of records in database: 13,000 and growing weekly.

h. Frequency with which records are added, modified, and deleted: Daily

i. Backup frequency:
☒ Included in the agency automated nightly backup system
☐ Other (specify): Weekly

j. Public availability of data (check all that apply):
☐ Not a public database
☐ Exempt from public disclosure
☒ Available by written request
☐ Documented request procedure on website
http://www.swim.wa.gov/
☒ Direct query on website
http://wdfw.wa.gov/mapping/salmonscape/
☒ GIS online mapping
http://wdfw.wa.gov/mapping/salmonscape/

### *29. FishBooks – Hatchery Management System*

a. Database commercial name: Web (Browser) based Java Server Pages (JSP). MS SQL Server 2008 database.

b. List of applications supported: FishBooks Application. Supports hatchery databases of hatchery plants and adults

c. High-level description: User interface allows hatchery users to enter adult, egg and fish information. Report interface allows managers and headquarters staff to review information and produce summaries. The database is used by 300 internal staff. Application depends on Perl Express, SQL server Management Studio, Ireports, Jasper Server Report in the future.

d. Location (Agency, DIS, vendor facility): Agency

e. Ownership of database: Catie Mains, Fish Program (data steward)

f. Size of database (in terms of storage requirements): 300 MB

g. Number of records in database: 380,000(+) records to date, (6/20/11). Application was launched to users 9/1/08.

h. Frequency with which records are added, modified, and deleted: Daily

i. Backup frequency:
☒ Included in the agency automated nightly backup system
☐ Other (specify)

j. Public availability of data (check all that apply):
☒ Not a public database
☐ Exempt from public disclosure
☐ Available by written request
☐ Documented request procedure on website (provide URL)
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL)

### *30. Computer Aided Dispatch/Records Management System (CAD/RMS)*

a. Database commercial name: Oracle

b. List of applications supported: CAD/RMS

c. High-level description: Database stores all information required for CAD/RMS and is maintained by the vendor (Cody Systems, Inc.).

d. Location (Agency, DIS, vendor facility): DFW Data Center

e. Ownership of database: DFW. Garret Ward, Enforcement Program (project manager)

f. Size of database (in terms of storage requirements): 83 GB

g. Number of records in database: ~ 1.6 million records

h. Frequency with which records are added, modified, and deleted: Daily

i. Backup frequency:
☒ Included in the agency automated nightly backup system
☐ Other (specify)

j. Public availability of data (check all that apply):
☒ Not a public database
☒ Exempt from public disclosure
☐ Available by written request
☐ Documented request procedure on website (provide URL)
☐ Direct query on website (provide URL)
☐ GIS online mapping (provide URL)

### *31. Salmon Conservation Reporting Engine (SCoRE)*

a. Database commercial name: Salmon Conservation Reporting Engine (SCoRE)

b. List of applications supported: All major Fish Program databases

c. High-level description: This project serves as a fish program data aggregator and reporting application. It also drives a web front end.

d. Location (Agency, DIS, vendor facility): WDFW

e. Ownership of database:
- Brodie Cox, Fish Program (project manager)
- Max Pham/TBD, Fish Program (database manager)

f. Size of database (in terms of storage requirements): <10 MB

g. Number of records in database: TBD

h. Frequency with which records are added, modified, and deleted: Daily

i. Backup frequency:
☒ Included in the agency automated nightly backup system
☐ Other (specify)

j. Public availability of data (check all that apply):
☐ Not a public database
☐ Exempt from public disclosure
☐ Available by written request
☐ Documented request procedure on website (provide URL)
☒ Direct query on website (provide URL) TBD
☒ GIS online mapping (provide URL) TBD

END OF SECTION 3.H.

# 4. Current Technology Project/Investment Summaries

The table below provides summary information on technology investments active in FY2011.

| Title | Description | Cost Estimate | FTE's | Schedule | Scope | Business Strategy | Executive Sponsor | Project Manager |
|---|---|---|---|---|---|---|---|---|
| Business Systems, Recreational Licenses | The WILD system (recreational license sales) replacement project in 2006 resulted in the deployment of a new license sales system to retail sales agents. Most of the core functionality has been delivered, with some items still in progress. The vendor is ActiveOutdoors. | The operating and development costs are covered by a transaction fee. Estimated revenue to the system contractor is $1.7M per year. Another $1.3 million in system maintenance and development, call center and dealer support, and other goods and service like merchant processing fees and fulfillment for internet sales. | Est. 4 FTE during FY11.<br><br>Agency will manage some services internally | Essential services now complete. Work continues on several system elements, and system enhancements. | Statewide with public impact. | Implement processes that produce sound and professional decisions | Joe Stohr<br>Deputy Director<br>(360) 902-2650<br>joe.stohr@dfw.wa.gov | Bill Joplin<br>Licenses Manager<br>(360) 902-2302<br>bill.joplin@dfw.wa.gov |
| LIFT2 Planning | Scope and determine high level requirements and resources needed to upgrade current LIFT system with new technology and functionality to support the business | $30k for PM contract services | 0 Marginal agency FTEs needed to identify business needs | October 31st 2011 | Agency, NWIFC | Implement processes that produce sound and professional decisions | Jim Scott<br>Assistant Director<br>Fish Program<br>(360) 902-2736<br>jim.scott@dfw.wa.gov | Rod Martin<br>rodney.martin@dfw.wa.gov |

| Title | Description | Cost Estimate | FTE's | Schedule | Scope | Business Strategy | Executive Sponsor | Project Manager |
|---|---|---|---|---|---|---|---|---|
| Enforcement Program Efficiency | WDFW Enforcement will implement new technologies including Computer Aided Dispatch, Records Management, and integration with Radio over Internet Protocol. | Est. $500K for FY11, from Federal and internal resources | Agency support, ~2.5FTE | Completed Phase 1 of Records Management in FY2010. | Multiple agency and external stakeholders | Implement processes that produce sound and professional decisions | Bruce Bjork<br>Enforcement Chief<br>(360) 902-2373<br>bruce.bjork@dfw.wa.gov | Garret Ward<br>Enforcement Pgm Project Manager<br>(360) 902-2794<br>garret.ward@dfw.wa.gov |

END OF SECTION 4

# 5. Planned Projects/Investments

This table captures the major technology investments identified by WDFW as the top priorities for fiscal years 2012 through 2014.

| Title | Description | Cost Estimate | FTE's | Impact on Existing Investments | Schedule | Scope | Business Strategy | Executive Sponsor | Project Manager |
|---|---|---|---|---|---|---|---|---|---|
| Business Systems, Recrea-tional Licenses | The WILD system (recreational license sales) project resulted in the deployment of a new license sales system to retail sales agents. The outsourced vendor is ActiveOutdoors | Operating and development costs are covered by a transaction fee. Projected revenue is expec-ted to increase in FYs 12-14 as WDFW sells the State Park's Dis-cover Pass. Pass forecasted sales will generate approx. $2.1M each FY provid-ing payment of $3.8M to the vendor. Approx. another $3.8M in system main-tenance and development, call center and dealer support, and other goods and services like merchant processing fees and fulfillment for internet sales. | IT support: 4 FTES in FYs12-14.<br><br>Agency will manage some services internally | Replaces some existing agency systems with contractor-managed capabilities.<br><br>Avoids maintenance and upgrade costs.<br><br>ISB risk level assessment 1 | Operational status will include ongoing maintenance and upgrades performed by the vendor. | Statewide with public impact. | Implement processes that produce sound and professional decisions | Joe Stohr<br>Deputy Director<br>(360) 902-2650<br>joe.stohr@dfw.wa.gov | Bill Joplin<br>Licenses Manager<br>(360) 902-2302<br>bill.joplin@dfw.wa.gov |

| Title | Description | Cost Estimate | FTE's | Impact on Existing Investments | Schedule | Scope | Business Strategy | Executive Sponsor | Project Manager |
|---|---|---|---|---|---|---|---|---|---|
| LIFT2 | Upgrade current Licenses and fish Tickets (LIFT) system with new technology and functionality to support the business | TBD | TBD | Standardizes IT architecture. Replaces obsolete technology. Reduces maintenance costs. | TBD | Agency, Tribal groups | Implement processes that produce sound and professional decisions | Jim Scott<br>Assistant Director<br>Fish Program<br>(360) 902-2736<br>jim.scott@dfw.wa.gov | TBD |
| Enforce-ment Program Efficiency | WDFW Enforcement will implement new technologies including Computer Aided Dispatch, Records Management, and integration with Radio over Internet Protocol. | Est. $100K for FY12, from Federal and internal resources. | Agency support, ~2.5 FTE | Enhances the ability of patrol officers to use current technology. | Expect Dispatch and mapping/ AVL to be completed in FY12-13 | Multiple agency and external stakehold-ers | Implement processes that produce sound and professional decisions | Bruce Bjork,<br>Enforcement Chief<br>(360) 902-2373<br>bruce.bjork@dfw.wa.gov | Garret Ward<br>Enforcement Program Project Manager<br>(360) 902-2794<br>garret.ward@dfw.wa.gov |

*(continued next page)*

| Title | Description | Cost Estimate | FTE's | Impact on Existing Investments | Schedule | Scope | Business Strategy | Executive Sponsor | Project Manager |
|---|---|---|---|---|---|---|---|---|---|
| Increased IT Security Require-ments | WDFW is seeking additional funding to comply with statewide IT security policies that agencies must comply with by August 2012. Among them are encryption of confidential data, network access security, and event monitoring and logging. | The Legislature did not fund a DFW request for 2011-13. DFW expects to request $650K via the supplemental budget process. | Agency support, 1 FTE | Will require internal business process changes | DFW can achieve partial compliance within existing resources. DFW will work on this through the 20011-13 biennium, but has identified new costs that will require funding to accomplish. | Multiple agency and external stakehold ers | Implement processes that produce sound and professional decisions (Implement ISB Policy 401-S4) | Joe Stohr<br>Deputy Director<br>(360) 902-2650<br>joe.stohr@dfw.wa.gov | Michael DeAngelo<br>Chief Information Officer<br>(360) 902-2320<br>Michael.DeAngelo@dfw.wa.gov |

END OF SECTION 5

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# 6. Project Reviews and Annual Certification

## A. Post-Implementation Project Review: Enforcement Activity Reporting System (EARS)

### *1. Executive Summary*

The Enforcement Activity Reporting System (EARS) enabled Fish and Wildlife Police Officers to record work activity (hours, contacts, arrests, warnings, etc.) from a mobile environment. The application also allowed for the extraction of data to be used for analysis and reporting purposes.

Implemented in 2003, the Info-Cop application served approximately 150 Enforcement users, until it was replaced by the current Computer Aided Dispatch/Records Management System (CAD/RMS) in October of 2010.

### *2. Background*

Prior to EARS, the Enforcement Program used a system called PARADOX to record officer activity. Based on the need for more detailed data in order to respond to requests for information, the Enforcement Program moved to EARS in 2003.

### *3. Project Goals and Objectives*

The goals of the EARS project were:

- More detailed data collection
- Ability to record activity data while in a mobile environment.
- Ability to report on, and analyze data collected
- Ability to respond to requests for information about activity, deployment, enforcement actions, etc.

**Data collection was more detailed** – Officers could record activity data on contacts, arrests, warnings, defining these activities by location, species, type (arrest), etc..

Ability to work in a mobile environment – Officers were able to record activity data while from their patrol trucks using their mobile data terminal and an air card connection.

Ability to report on and analyze data collected – Headquarters and command staff had the ability to report on and analyze the activity data that was collected. Data could be exported out of EARS to a .csv file and then analyzed for used for reporting purposes.

Respond to requests for information – Using EARS, the Enforcement Program could respond to requests for information from other agency programs, the Legislature, stakeholder groups, etc.

## *4. Actual Functionality and Benefits*

All expected functionality and benefits were realized.

## *5. Lessons Learned*

EARS was replaced with the Computer Aided Dispatch/Records Management System (CAD/RMS) that allows WDFW Enforcement officers to utilize new technologies including Computer Aided Dispatch (CAD), Records Management System (RMS) and integration with Radio over Internet Protocol (RoIP). The new system allows for even more detailed data collection, while allowing collected records to be more easily accessible to field staff in a mobile environment.

*Submitted by*
*Garret Ward*
*Project Manager*
*WDFW Enforcement Program*
*garret.ward@dfw.wa.gov*

# B. Post-Implementation Project Review: Info-Cop

## *1. Executive Summary*

The Info-Cop application enabled Fish and Wildlife Police Officers to make inquiries to Criminal Justice Databases. The application allowed officers to make entries into the application database, which was linked to the information from the criminal justice databases. This functionality allowed Enforcement officer comments to be made available when the subject or vehicle was the result of a future inquiry. In addition, officers posted their current location and /or status to facilitate operations and officer safety. The application also provided chat and message functionality to application users.

Implemented in 2004, the Info-Cop application served approximately 135 Enforcement users, until it was replaced by the current Computer Aided Dispatch/Records Management System (CAD/RMS) in January 2011.

## *2. Background*

Prior to Info-Cop, officers typically used telephones while in their offices to access criminal justice information databases. In the field, they used their police radios. A more responsive approach was needed, in order to minimize time loss while awaiting information in the field, and to maximize Officer safety.

## *3. Project Goals and Objectives*

The goals of the Info-Cop project were to:

- Improve Customer Service
- Improve Access to Information
- Improve Officer Efficiency
- Improve Resource Management
- Improve Public and Officer Safety

**Customer service is improved** – Enforcement officers can respond faster to citizen requests.

**Access to information is improved** – Mobile access to information databases allows Enforcement officers to request the information when and where it is needed.
**Officer efficiency is improved** – Officers can complete reports in their vehicle and transmit the information immediately when necessary.

**Resource Management is improved** – WDFW benefits through immediate access to agency license data, allowing the Enforcement officer to analyze data sooner for decision-making.

**Public and Officer Safety is improved** – Enforcement officers can access online information, including Department of Corrections custody information and outstanding warrants, so that a measured and informed response can be made with less risk to public or officer safety.

### *4. PIR Measurement Criteria*

a. Schedule

- The system project began in December 2001 with two laptop systems that accessed databases utilizing the Bellingham Police Department infrastructure.
- After the successful pilot, a deployment of 80 notebook systems was installed in officer vehicles, beginning in November 2002.
- WDFW entered into a partnership with the Thurston County Communications Department CAPCOM to enable the use of wireless communications to access criminal justice databases.
- An additional 60 notebook systems were deployed by November 2003.
- After the successful roll-out of the CAPCOM system, Info-Cop was implemented as its replacement in 2004.

b. Actual Costs

- The project was funded in part with $546,750 from the U.S. Department of Justice COPS More grant program. These funds were used to purchase initial mobile data terminals (MDTs) for the officers.
- Total costs for the Info-Cop project software and maintenance were approximately $195,000.

c. Actual Functionality and Benefits

- All expected functionality and benefits were realized.

## *5. Lessons Learned*

The CDPD (cellular digital packet data) technology, while it had limited coverage, was the only viable alternative for the initial CAPCOM project. Info-Cop allowed WDFW to take advantage of newer wireless technologies to improve access speed, and in some instances, coverage.

Info-Cop also allowed WDFW to access, through an Interagency Agreement with the Washington State Patrol, the ACCESS Communications switch via the DIS intergovernmental network.

Info-Cop was replaced with the Computer Aided Dispatch/Records Management System (CAD/RMS) that allows WDFW Enforcement officers to utilize new technologies including Computer Aided Dispatch (CAD), Records Management System (RMS) and integration with Radio over Internet Protocol (RoIP).

*Submitted by*
*Garret Ward*
*Project Manager*
*WDFW Enforcement Program*
*garret.ward@dfw.wa.gov*

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# C. Director's Certification

**2011 ISB IT Portfolio Certification for Department of Fish and Wildlife**

| | |
|---|---|
| My agency has reviewed and updated its IT Portfolio information in the IT Portfolio Management System (ITPMS) application. ITPMS can be found at http://ssvapolyptmg1p.ssv.wa.lcl/niku/app.<br><br>NOTE: To be compliant, agencies must provide updated information in the following sections of ITPMS: IT Portfolio overview; agency strategic business plan; GIS resources (if applicable); personal & workgroup computing; projects; applications; and, databases. | ☒ Yes ☐ No |
| My agency has entered its actual IT-related expenditures and inventory information for Fiscal Year 2011 into the IT Portfolio Management System. | ☒ Yes ☐ No |
| My agency has updated its projected and budget IT-related expenditures and inventory for Fiscal Years, 2012, 2013, and 2014 into the IT Portfolio Management System. | ☒ Yes ☐ No |
| My agency has updated its applicable geographic information systems (GIS) information into the IT Portfolio Management System. | ☒ Yes ☐ No |
| My agency has updated and tested its disaster recovery/business resumption plan. | ☒ Yes ☐ No |
| My agency has reviewed and updated its IT Security Program. | ☒ Yes ☐ No |
| If you completed your security audit between September 1, 2010 and August 31, 2011, please provide the completion date: _____ | |

Your signature below indicates your agency has complied with the ISB IT Portfolio Policy and Standards:

Agency Executive Signature — Date: 8-23-2011

Phillip Anderson
Print Name

Please send a signed scanned or PDF copy of the portfolio certification form to:
submitportfoliocompliance@dis.wa.gov

or in hard copy to:
Mike Ricchio, Acting Director
PO Box 42440
Olympia, WA 98504-2440

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# Appendix A:

## Washington Department of Fish and Wildlife
## 2011-17 Strategic Plan

The Washington Department of Fish and Wildlife (WDFW) has published its 2011-17 Strategic Plan, which is reproduced on the pages that follow.

This document, as well as any future revisions, is also available from the WDFW Internet site at: http://wdfw.wa.gov/about/strategic_plan/

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# 2011-17 Strategic Plan

Washington Department of FISH and WILDLIFE

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# Washington State Fish and Wildlife Commission

The Washington Fish and Wildlife Commission (FWC) oversees the Washington Department of Fish and Wildlife (WDFW). The Commission consists of nine members, each serving six-year terms. Members are appointed by the Governor and confirmed by the senate. Three members must reside east of the summit of the Cascade Mountains, three must reside west of the summit, and three may reside anywhere in the state. However, no two commissioners may reside in the same county.

While the Commission has several responsibilities, its primary role is to establish policy and direction for management of fish and wildlife species and their habitats in Washington. The Commission appoints and supervises the WDFW Director and monitors policy implementation of the goals and objectives it sets for the Department. The Commission also classifies wildlife and establishes the basic rules and regulations governing the time, place, manner and methods used to harvest or enjoy fish and wildlife.

| | | |
|---|---|---|
| Vacant<br>Western WA position | David Jennings | Conrad Mahnken, Ph. D. |
| Gary Douvia<br>(vice-chair) | Miranda Wecker<br>(chair) | Chuck Perry |
| Roland Schmitten | Bradley Smith | Vacant<br>Eastern WA position |

# A message from the Director

Thank you for your interest in fish and wildlife in Washington state. For more than a century, individuals and organizations have worked throughout the state to protect and restore our fish and wildlife resources and the natural habitat they need to survive. As director of the Washington Department of Fish and Wildlife (WDFW), I am inspired by our history of citizen stewardship and want to encourage everyone to join us in this important work.

This Strategic Plan sets out WDFW's priorities for fish and wildlife management in our state and strategies for how we plan to achieve them. As you will see, conservation of fish and wildlife is a central focus of this plan. At a time when human pressures are putting an increasing number of species and their habitats at risk, WDFW is realigning its work to protect the fundamental ecological processes that sustain them.

At the same time, WDFW is committed to improving hunting and fishing opportunities throughout the state. Hunters and fishers were one of the first major forces for conservation in our state, and they have continued to support responsibly resource management to this day.

In developing this strategic plan, we invited the public to comment on their priorities for the future and we listened to what they said. All of us bring something to the table when it comes to developing solutions to the challenges before us and we will continue to seek your help in defining our priorities for fish and wildlife management in the future.

Phil Anderson
Director

# Mission

***Preserve, protect and perpetuate fish, wildlife and ecosystems while providing sustainable fish and wildlife recreational and commercial opportunities.***

**Legislative mandate (RCW 77.04.012):**

"Wildlife, fish, and shellfish are the property of the state. The commission, director, and the department shall preserve, protect, perpetuate, and manage the wildlife and food fish, game fish, and shellfish in state waters and offshore waters.

The department shall conserve the wildlife and food fish, game fish, and shellfish resources in a manner that does not impair the resource. In a manner consistent with this goal, the department shall seek to maintain the economic well-being and stability of the fishing industry in the state. The department shall promote orderly fisheries and shall enhance and improve recreational and commercial fishing in this state."

## Vision

**Conservation** of Washington's fish and wildlife resources and ecosystems.

## About WDFW

The Washington Department of Fish and Wildlife (WDFW) is the state agency charged with protecting native fish and wildlife, and providing sustainable fishing, hunting and wildlife viewing opportunities for millions of residents and visitors (see the inset "Legislative mandate).

Working throughout the state, WDFW's employees --field biologists, enforcement officers, land stewards, lab technicians and customer service representatives-- manage hundreds of fish and wildlife species, maintain nearly a million acres of public wildlife lands, provide opportunities for recreational and commercial fishing, wildlife viewing and hunting, protect and restore habitat and enforce laws that protect fish and wildlife resources. Our much-treasured quality of life in the Pacific Northwest depends on healthy and thriving fish and wildlife populations. As the principal steward of these resources, WDFW is committed to continue building a solid organizational foundation and cooperative relationships with our partners and stakeholders that support both resource and human needs, now and in the future.

**Conservation.** Protection, preservation, management, or restoration of natural environments and the ecological communities that inhabit them; including management of human use for public benefit and sustainable social and economic needs. *(Adapted from The American Heritage® Science Dictionary Copyright © 2005)*

# Introduction

WDFW's strategic plan is built on a hierarchy of increasing detail, from long-term Goals and Objectives to shorter-term Strategies and Projects that implement those goals. The plan documents the Department's mission, priorities and commitment to our long-term goals, which help to guide decisions and focus Department efforts to achieve desired results.

The plan was developed by Department leaders, with guidance from the Washington Fish and Wildlife Commission and feedback and suggestions from customers, stakeholders and WDFW employees. In accordance with this guidance, the Department applied the following principles in pursuing its strategic goals and managing toward long-term results:

- **Conserve and restore biodiversity** - Conservation of species and effective stewardship of public lands are essential in managing Washington's fish, wildlife and habitat resources. Enforcing rules and increasing voluntary compliance are critical core functions.
- **Ensure the health of our ecosystems** - Manage at the ecosystem level, integrating multiple factors into management plans to reflect the interconnectedness and interactions within and among systems. Strengthen the scientific basis for decisions.
- **Ensure sustainable social and economic utilization of Washington's fish, wildlife and habitat natural resources** - When allowing use for current public benefit and enhancing recreational opportunities, ensure consistency with our primary conservation focus. Emphasize collaboration with landowners.
- **Earn public and staff trust and confidence** - Improve and maintain sound business systems, management practices and effective communications. In allocating services, rank resource importance and revenue impacts to the Department. Strengthen and modernize communications and public education efforts. Build relationships with non-traditional Department constituents.

## Introduction

This plan was developed in the midst of the worst economic downturn since the Great Depression. WDFW's capacity was significantly reduced as the result of a 35 percent cut in state General Fund support during the 2009-2011 Biennium, coupled with reductions in funding from other sources. The General Fund revenue forecast for the 2011-13 Biennium was revised downwards for the fourth consecutive time. In an effort to decrease WDFW's vulnerability to future reductions, the Department continues to be responsiveness to variations in General Fund support, while expanding our funding base from other sources.

Progress in implementing this strategic plan will be reviewed regularly during executive management meetings and specially scheduled internal performance reviews. Progress on projects and priorities will be communicated through staff messages and the Department's website.

# Key Initiatives

## Renewing Our Conservation Focus

Washington is experiencing unprecedented challenges and threats to our fish and wildlife resources, and the habitats on which they depend. Increases in population growth and urban sprawl, habitat fragmentation and invasive species have put a growing number of species and habitats at risk. In addition, the emerging threats from climate change will have profound impacts on the ecosystems that sustain life for fish, wildlife and humans.

At the core of this shift is the need to increase our emphasis on ecosystem processes and functions as a means to ensure the long-term viability of fish, wildlife, and the continued consumptive and recreational use by human populations. To meet this challenge, WDFW is embarking on a new initiative to align our work with conservation management principles, as defined by WDFW's Chief Scientists. This initiative will enable us to articulate and integrate conservation priorities and better address unmet conservation needs.

## Addressing Climate Change

Increasing evidence shows that global warming and climate change are significantly impacting the earth's environment, adding to existing threats on fish and wildlife species and their habitats. Climate change is expected to result in: increased water temperatures in streams, rivers and lakes; loss of freshwater and wetland habitats; inundation of coastal habitats; increased temperatures; drought; increased wildfires; and expansion of invasive species, pests and diseases. Due to these wide-ranging impacts, natural ecological systems may lose their resiliency and become unable to support a number of fish and wildlife species.

In order to fulfill its mission to protect and preserve fish and wildlife, WDFW must ensure that climate impacts to species and ecosystems are addressed in statewide climate research and monitoring initiatives, adaptive management efforts, and renewable energy and infrastructure development. We must increase our understanding about the risks to

Key Initiatives

ecosystems and species in order to develop policy and action plans that will guide the future management of fish and wildlife in light of a changing climate and uncertain future conditions.

The state is taking action to respond to anticipated environmental impacts associated with climate change. One significant step taken by the Legislature was the passage of the state's Climate Change Act in 2008 and the passage in 2009 of legislation requiring the development of an "integrated climate change response strategy." WDFW participates on the state agency steering committee overseeing development of this response strategy, and leads a stakeholder group focused on developing adaptation strategies for species, habitats and ecosystems. WDFW will continue to work with the Department of Ecology, the state agency steering committee and other partners to ensure that the needs of fish and wildlife are represented in the final adaptation strategy submitted to the Legislature and subsequent implementation.

Within WDFW, a climate action plan is being developed, that will incorporate climate change considerations into key functions and activities, with the aim of:

- Maintaining healthy and sustainable fish and wildlife populations.
- Preventing climate change effects from pushing at-risk species closer to extinction.
- Maintaining healthy ecosystems to prevent the loss of critical ecological functions, such as protective cover and wildlife forage.
- Following sound science to make resource management decisions in regard to climate uncertainty.

WDFW is also a primary partner in other state and regional efforts, including development of a comprehensive study to assess the relative vulnerability of species and their habitats to projected climate change impacts, with preliminary products expected during the next fiscal year.

Key Initiatives

## Achieving a Healthy Puget Sound

In a healthy state, Puget Sound supports an incredible diversity of fish, wildlife and habitats, as well as the quality of life that people here enjoy. However, the natural bounty of this estuary of national significance is at risk from environmental degradation. The Legislature recognized this and established a goal in 2007 of restoring the Puget Sound by 2020, naming the new Puget Sound Partnership to coordinate the effort. WDFW is a committed partner, and is responsible for delivering species and habitat science, ecosystem and habitat restoration and protection, and enforcement of environmental regulations to support Puget Sound recovery.

WDFW's commitment to recovery of the Sound is an expression of the Department's renewed conservation focus. WDFW is looking at the whole ecosystem to understand how best to:

- Deliver scientific information on key species – from marine mammals to threatened rockfish and seabirds – to assess their status, how they respond to our management, and what trends in their health tell us about progress toward Puget Sound recovery;
- Improve the condition of Puget Sound by removing blockages from streams, protecting and restoring estuary and other nearshore habitats, and bringing science and technical expertise to salmon recovery efforts led by watershed groups;
- Protect Puget Sound species and habitats by regulating construction projects in or near water that may harm fish, and enforcing environmental, fishing, and hunting laws.

Key Initiatives

## Supporting Sustainable Fishing and Hunting

Under state law, WDFW is directed to "maximize recreational fishing and hunting opportunities … in a manner that does not impair the resource." Fulfilling that mandate has become increasingly challenging as more species are listed for protection and the amount of land open to hunting and fishing has declined. Still, the department is maintaining – and even expanding – fishing and hunting opportunities in a variety of ways:

- **Recreational fishing:** In 1991, WDFW tested its first mark-selective fishery for salmon off the state's southern coast, requiring anglers to release any coho they caught that were not clearly marked as hatchery fish. Today, the majority of all salmon and steelhead fisheries are mark-selective, allowing anglers to catch their limit of hatchery fish while preserving weak wild stocks – many protected under the federal Endangered Species Act. If WDFW had not begun mass-marking hatchery fish for identification, many state fisheries would have been closed or greatly curtailed. In 2010, the department applied selective fishing rules to Columbia River summer Chinook for the first time, and will continue to expand those rules to other salmon fisheries in future years.

- **Commercial fishing:** The next challenge is to expand mark-selective fishing to commercial salmon fisheries on a broader scale. A mark selective fishery – using tangle nets – was initiated for spring Chinook in the lower Columbia River in 2002. Since 2009, WDFW has also been testing various types of fishing gear – primarily purse seines, beach seines and trap nets – as possible alternatives to gillnets for fall fisheries on the Columbia River. While gillnets are highly effective at catching salmon, alternative gears may provide an economically viable way for fishers to release wild fish in good condition. In addition, fisheries utilizing

Key Initiatives

alternative gear can also contribute to the recovery of listed species by increasing the harvest of hatchery-produced salmon – thereby reducing the number of hatchery fish that reach natural spawning areas.

- **Hunting:** The amount of land open to hunting has steadily declined as the state's human population continues to grow. For this reason, hunters consistently rank access to suitable hunting areas as one of their top concerns. In 2010, WDFW launched an initiative to address these concerns by providing new incentives for private landowners – primarily farmers, ranchers and timberland owners – who agree to open their lands to hunting. Initial funding for this effort was generated by changes in the application process for special hunting permits, which generated $400,000 to improve hunter access. Based in part on that commitment, WDFW qualified for two successive grants totaling $2.5 million for that purpose from the U.S. Department of Agriculture. That money is being used to open up an estimated 200,000 acres of private land to hunters by 2015.

# Financial Capacity

Like most state agencies, WDFW has experienced a precipitous drop in financial support from General Fund State (GF-S) revenues in the years following the economic downturn of 2007. Faced with multi-billion-dollar revenue shortfalls, the state Legislature imposed sharp reductions in the department's GF-S appropriations, affecting core services ranging from business services to fish and wildlife protection. New revenues generated by higher fees for state hunting and fishing licenses have helped to preserve some services, but have only partially offset reductions in GF-S revenues (which fell from 32 percent of WDFW's operating budget in 2007-09 to 19.4 percent in 2011-13). With future economic and revenue growth uncertain, WDFW is focusing on new ways to meet its core responsibilities.

## Managing Reductions in Financial Support

For WDFW, the deepest budget cuts came in the 2009-11 biennium, when the department lost $35 million (30 percent) of its GF-S revenue, along with 163 staff positions. Additional cost-cutting measures in the supplemental budget required many employees to take 10 days of unpaid leave and transferred $5.2 million in GF-S expenses to the state Wildlife Account, which is supported primarily by fishing and hunting license fees. While a temporary 10 percent surcharge on recreational license fees helped to offset $6.1 million of those reductions, WDFW was required to reduce funding for fish hatcheries, habitat protection and a wide range of other activities.

The Legislature also reduced GF-S funding in the 2011-13 operating budget, but adopted two measures designed to sustain fishing and hunting opportunities, reinforce WDFW land maintenance and support other activities funded through the Wildlife Account.

- **License fee restructuring:** With the 10 percent surcharge set to expire in June, 2011, WDFW proposed a permanent, broad-based restructuring of fishing, hunting and other license fees,

designed to generate additional revenues and achieve several other departmental goals (e.g. aligning fees with the costs of providing opportunities). Effective Sept. 1, 2011, the average cost of recreational hunting and fishing licenses will increase about 10 percent, although fees for youth, seniors and disabled veterans will go down. Licensing fees for commercial fisheries also increase under the new law. In all, the restructuring of license fees is expected to generate about $15 million in the 2011-13 biennium. Most of these funds will support existing hunting, fishing and resource-protection programs that would have otherwise been curtailed.

- **Discover Pass:** Effective July 1, 2011, a new pass is generally required for vehicle access to state parks, and to recreation lands (including water-access sites) managed by WDFW and the state Department of Natural Resources (DNR). An annual pass costs $30 plus dealer and transaction fees, and a one-day pass is available for $10. However, a Discover Pass is not required for access to WDFW lands and water-access sites for those who display a vehicle-access pass, issued free with most annual fishing licenses and all annual hunting licenses. While the Legislature's primary goal in creating the Discover Pass was to establish an alternative funding source for State Parks, WDFW and DNR are expected to each receive 8 percent of the revenue generated by sales of the pass for land maintenance in the 2011-13 biennium.

## Charting a New Financial Future

During the 2011 Legislative Session, hunters and fishers demonstrated strong support for increases in licensing fees, helping to avert cutbacks in recreational opportunities that would have otherwise been required to balance the Wildlife Account in 2011-13. In addition, approval of the Discover Pass will provide a dedicated source of revenue to address long-deferred maintenance of WDFW Wildlife Areas.

## Financial Capacity

On the other hand, WDFW entered the 2011-13 biennium with a GF-S appropriation down 37 percent from the amount approved four years earlier with no lessening of its statutory responsibilities. Those dollars support a wide range of conservation efforts ranging from habitat protection to fish and wildlife enforcement that benefit the public at large, not just those who buy fishing and hunting licenses. For that reason, recent gains in the Wildlife Account are not a solution to losses in GF-S funding. The department has made a concerted effort to clarify those funding responsibilities in recent years, and does not plan to reverse that course.

But the need for additional funding nonetheless remains acute for some WDFW activities that have traditionally relied on GF-S support. The Hydraulics Project Approval (HPA) program, established in 1949 to protect fish habitat, was chronically underfunded even before losing $1 million in cuts to the 2011-13 budget. WDFW is looking for new ways to provide adequate funding for that program along with other critical activities ranging from controlling invasive species to removing barriers to fish passage.

In addition, the department is working to forge new relationships with other natural resource agencies to achieve mutual goals more efficiently. WDFW, DNR and State Parks are working together to implement the new Discover Pass on their lands, and have also begun to look for ways to collaborate on land management, a major responsibility for all three agencies. That partnership could spark new ideas about other ways help address the revenue gap left by recent reductions in GF-S appropriations.

While no one knows when the state economic and revenue projections will improve, pressures on WDFW and other agencies to protect the natural environment and provide public access to state lands are all too apparent. WDFW is committed to working with its partners and the general public to meet those challenges in the years ahead.

# **Goal 1:** Conserve and protect native fish and wildlife

## Objective A:

Enhance conservation practices to improve protection and restoration of fish, wildlife and habitat

### Strategies

1. Promote compliance with natural resource laws.
2. Identify and implement hatchery reform actions to reduce risks to native salmon and steelhead.
3. Ensure fishery impacts on native fish are reduced to levels consistent with conservation goals.
4. Initiate new and enhance existing partnerships with conservation and other organizations to help conserve Washington's fish and wildlife.
5. Complete and implement the highest priority conservation actions.

## Objective B:

Increase protection and restoration of ecosystem functions

### Strategies

1. Implement, and coordinate with partners on, a climate change initiative to conserve fish and wildlife biodiversity.
2. Improve compliance and effectiveness of the HPA program.
3. Minimize impacts to fish, wildlife and their habitats from traditional and new, green energy projects.
4. Promote ecosystem management to achieve conservation goals.
5. Successfully implement WDFW's near term actions as identified in the Puget Sound Partnership's Action Agenda.
6. Protect fish, wildlife and their habitats by providing the best available science to inform local government and others' decision-making.
7. Maintain and restore salmonid populations through fish passage, screening and habitat restoration.

## Objective C:

Enhance and improve land and water stewardship to meet conservation goals

### Strategies

1. Ensure department lands, fishways, screening structures, water intakes, dams and dikes are compliant with regulations.
2. Provide sound management of department lands and access sites.
3. Preserve and enhance agency water rights and usage that balances working landscape, instream flow, and hatchery needs.

# **Goal 2:** Provide sustainable fishing, hunting and other wildlife-related recreational experiences

## Objective A:

Increase the economic benefits and public participation derived from sustainable fish and wildlife opportunities

### Strategies

1. Seek partnerships and increase awareness of opportunities for fish and wildlife and other related recreational experiences.
2. Develop and implement fishing gears and techniques that reduce the incidental fishing mortality and stocks of conservation concern
3. Increase public participation and economic benefits of commercial and recreational fishing by developing promotional partnerships, expanding sustainable fishing opportunities, and optimizing the use of hatchery programs.
4. Increase access to private lands to enhance hunting and wildlife viewing opportunities.

# **Goal 3:** Use sound business practices, deliver high-quality customer service

## Objective A:

Maintain high-quality customer service aligned with agency priorities and capacities

### Strategies

1. Enhance public communications and customer service through the WDFW web site and social media.
2. Engage stakeholders and other citizens through proactive outreach efforts.

## Objective B:

Improve business systems

### Strategies

1. Ensure resources are focused on highest priorities through budget and strategic planning processes, including the Department's conservation initiative.
2. Develop and maintain effective business and performance management systems and practices.

## Objective C:

Effectively and efficiently manage agency assets

### Strategies

1. Ensure resources are focused on the highest priorities through effective asset management.
2. Develop and maintain an effective approach to addressing the Department's deferred maintenance backlog.

# **Goal 4:** Maintain a highly skilled and motivated workforce

## Objective A:

Improve the organizational capacity by striving for excellence in recruitment and retention practices

### Strategies

1. Develop and implement an affirmative action plan to increase workforce diversity.
2. Expand management and supervision training.
3. Improve the agency's hiring processes to ensure the best qualified candidate for every job
4. Review and revise the agency's return to work policy and program for injured workers

## Objective B:

Improve work environments to respond to employee feedback

### Strategies

1. Continue frequent, candid communications with staff and respond to employee surveys and other staff feedback.
2. Develop and implement actions to support workforce skills development and maintenance.
3. Improve safety practices through training and accountability for meeting safety standards.

# 2011-17 Strategic Plan

Washington Department of FISH and WILDLIFE

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# Appendix B

## GIS Significant Geo-Datasets

The information on the pages that follow will provide the reader with detailed information on WDFW's significant geo-datasets.

For additional information on GIS resources in use by WDFW, see Section 3.D.

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# Washington Department of Fish and Wildlife

## SIGNIFICANT GEO-DATASETS

Updated 7/9/2011

**Definitions:**
Geo-datasets are digital collections of spatial information primarily managed or edited by Geographic Information System (GIS) software. Although some computer aided design (CAD) systems have GIS like functions, for purposes of this definition, CAD systems are not considered GIS.

Significant geo-datasets' must meet one or more of the following criteria:

1. Geo-dataset is mission critical for agency or major program or is required for regulatory purposes and/or,
2. Estimated or expected life cycle costs or investment exceed $500,000 and/or,
3. Geo-data is regularly distributed outside agency and/or,
4. Geo-data holding has been designated significant by Information Services Board.

| Dataset Description | Layer Names | WDFW Program | DataSteward (Individual Responsible For Metadata) | Comments | Descriptions |
|---|---|---|---|---|---|
| Priority Habitats and Species (PHS) Polygons | phsregion, phspoly | Habitat | Terry Johnson | | This dataset consists of polygons that describe occurrences of habitats and species considered priority by WDFW. |
| Priority Habitats and Species (PHS), Habitat Points | phspts | Habitat | Terry Johnson | | This dataset consists of priority habitat sites that cannot be represented as polygons in the PHS polygon database. |
| Bald Eagle Regulatory Buffers | baldeagle_bf | Habitat | Terry Johnson | | Regulatory buffers generated around known observations of Bald Eagles including nests and communal roosts |
| National Wetlands Inventory | niwpoly, nwiarcs | Habitat | Terry Johnson | | This dataset identifies wetlands and deep water habitats as either polygons or linear features. The wetlands are classified within a hierarchical organization according to plants, soils, and frequency of flooding. |

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 12 | **Dataset Description** | **Layer Names** | **WDFW Program** | **DataSteward (Individual Responsible For Metadata)** | **Comments** | **Descriptions** |
| 17 | WDFW Standardized Datasets | wdfw_phsplus_ln, wdfw_phsplus_poly, wdfw_phsplus_pt, wdfw_phspluspublic_ln, wdfw_phspluspublic_poly, wdfw_phspluspublic_pt | Habitat | Terry Johnson | | Standardized datasets created for PHS data release products such as PHSonTheWeb. Rollup summary of selected Department datasets. |
| 18 | Fish Passage Barrier Inventory | dams,<br>misc barriers,<br>road crossings | Habitat | Brian Benson | | This dataset contains information on the location, physical characteristics and barrier status of man made fish ways, culverts and dams. |
| 19 | Forage Fish | Doc_Sand_Lance_Spawning<br>Doc_Smelt_Spawning<br>Forage_Fish_Surveys<br>Forage_Fish_Survey_Pts | Habitat | Brian Benson | | Survey and occurrence data related to distribution of sand lance and smelt. |
| 20 | Salmon and Steelhead Habitat Inventory and Assessment Program(SSHIAP) | segments | Habitat | Ken Pierce | | This dataset contains information on a 1:24,000 scale stream network broken down into segments of like gradient. |
| 21 | StreamNet | banks, resfish, str100, lakes,<br><br>facility | Fish | Andy Weiss<br><br>Leslie Sikora | The following layers have been retired after being rolledup into fishdist: anadfish, anadpres, anadrear, anadspwn, barriers,bullchar, phsfish | This dataset includes 1:100,000 scale streams with major lakes and double banked streams; fish presence with known spawning and rearing; locations of natural and artificial barriers to anadromous fish; and production facilities including hatcheries and off-site rearing and staging areas. |
| 22 | Washington Lakes and Rivers Information System (WLRIS) | fishdist, sasi, str24, wby24 | Fish | Andy Weiss | | This dataset includes 1:24,000 scale streams and water bodies and fish presence with know spawning, rearing and stock status. It also includes presumed and potential presence based on habitat |

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 12 | **Dataset Description** | **Layer Names** | **WDFW Program** | **DataSteward (Individual Responsible For Metadata)** | **Comments** | **Descriptions** |
| 23 | Marine Resources | abalone, aba_town, clam clamhard, clamsubt, crabline, oyster, razrclam, rocksole, shrmppan, urchin, shellfish_summary | Fish | Dale Gombert | The following layer are now obsolete: SandLanz and Smelt | This dataset is a collection of information concerning marine fish and shellfish resources in the coastal and inland marine waters of Washington. |
| 24 | Marine Resources cont'd | herrspwn, herrhold | Fish | Adam Lindquist | | |
| 25 | Marine Resources cont'd | geoduck | Fish | Ocean Eveningsong | | |
| 26 | Klickitat County Oak | klickoak | Wildlife | Shelly Snyder | | Oak canopy classification for Klickitat County. |
| 27 | Shrubsteppe | lc_east | Wildlife | Shelly Snyder | | Shrubsteppe habitat for eastern Washington. |
| 28 | Old Growth | og1988 | Wildlife | Shelly Snyder | | 1986 mapping of forest stand type categories in western Washington |
| 29 | Game Management Units | Game_Management_Units_2010 | Wildlife | John Talmadge | Includes historical datasets back to 2004 | Boundaries used for big game hunt seasons |
| 30 | Deer Units | DA10 | Wildlife | John Talmadge | Includes historical datasets back to 2004 | Boundaries used for deer hunts |
| 31 | Elk Units | EA10 | Wildlife | John Talmadge | Includes historical datasets back to 2004 | Boundaries used for elk hunts |
| 32 | Goat Units | MGU10 | Wildlife | John Talmadge | Includes historical datasets back to 2004 | Boundaries used for goat hunts |
| 33 | Sheep Units | BSU10 | Wildlife | John Talmadge | Includes historical datasets back to 2004 | Boundaries used for bighorn sheep hunts. |
| 34 | WDFW Ownership | WDFW_Lands | Wildlife | Marc McCalmon | | This dataset contains general boundaries of lands that WDFW owns or manages. |
| 35 | Water Access Sites | WaterAccessSites | Wildlife | Jeff Foisy | | Water access sites managed by WDFW |
| 36 | Sage Grouse Distribution | sage | Wildlife | John Talmadge | | Current and historic sage grouse distribution for western states. |
| 37 | Sharp-tailed Grouse Distribution | sharptail | Wildlife | John Talmadge | | Current and historic sharp-tailed grouse distribution for western states. |

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 12 | **Dataset Description** | **Layer Names** | **WDFW Program** | **DataSteward (Individual Responsible For Metadata)** | **Comments** | **Descriptions** |
| 38 | Road Management and Abandonment Planning | RMAP | Wildlife | Richard Tveten | Richard is actively managing these data. | Inventory of road conditions on WDFW owned lands in compliance to the forest practices rules. |
| 39 | Marine Bathymetry | bsurface1, mfcan, mfcol_a, mfcol_b, mfcol_c, willapasand, shorez10, netcovz10, mfcoast, mfpuget | Wildlife | Shelly Snyder | This is a raster layer that is accompanied by 10 vector layers | This dataset contains information on measurements of the depth of large bodies of water in Puget Sound, Strait of Juan De Fuca and Washington marine coast. |
| 40 | Tribal Ceded Areas | Tribal_Ceded_Areas | Wildlife | John Talmadge | | WDFW interpretation of tribal ceded area boundaries. |
| 41 | GAP | land cover, mammals, reptiles/amphibians, birds | Wildlife | Shelly Snyder | | This dataset contains land cover information and modeled species distributions. |
| 42 | Marbled Murrelets | ws_mmadj8sects, ws_mmdetsec, ws_mmoccbuf | Wildlife | Jane Jenkerson | | This dataset contains information on marbled murrelet occupancy detection locations and areas. |
| 43 | Spotted Owls | ws_owlsitecenters, ws_owlstatus_buf | Wildlife | Lori Salzer | Retiring: bfhsterr, bfnoterr, bfterr | This dataset contains information on spotted owl site center locations and various associated polygon buffers. |
| 44 | Seal/Sea Lion Haulout sites | haulouts | Wildlife | Raj Deol | | Contains locations of seal and sea lion haulout sites in Washington waters. |
| 45 | Seabird Colonies | sbirdcat | Wildlife | Raj Deol | | Contains locations surveyed for breeding seabirds. |
| 46 | Wildlife Survey Data Management (WSDM) | ws_occurpoint, ws_occurpolygon | Wildlife | Raj Deol | | This dataset contains information on documented site observations of wildlife including state and federal listed species of concern. |

# Credits

The following WDFW staff contributed information to the 2011 Information Technology Portfolio:

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