

U.S. Fish and Wildlife Service 2018-2023 Geospatial Services 5 Year Strategic Plan (GSSP)  
Annual Action Plan for Fiscal Year 2019

These Actions and Tasks will be reviewed and updated yearly by the FWS GIS Steering Committee (SC)

*Goal 1: Governance*

Provide leadership and direction regarding the use of geospatial science to accomplish the Service mission. Identify and prioritize geospatial needs, align Service and Departmental strategies and activities, and provide policy and oversight to ensure progress in achieving geospatial services goals.

*Objective 1.1* Update the Service Geospatial Services Strategic Plan (GSSP) every 5 years.

*Objective 1.2* Implement the GSSP by reviewing and updating the Service Geospatial Services Strategic Plan S.M.A.R.T. actions items annually.

Action Item 1.2.1 Quarterly review of FY19 Action Items and Tasks

Task - 1.2.1.1 - Quarterly review of Action Items at beginning GIS SC meetings by Goal Group Members to identify status and ensure communication.

Action Item 1.2.2 Review of objectives, development and prioritization of FY19 Actions

Task 1.2.2.1 -The FWS GIS Steering Committee Face to Face meeting for 2019 will include a process to identify Goal Group priority Action Items and develop a workplan for 2019.

*Objective 1.3* Participate in, and coordinate with, Department of the Interior geospatial committees.

Action Item 1.3.1 Ensure communication of Department, Federal information and data calls related to Geospatial Science are distributed throughout the FWS.

Task 1.3.1.1 - Report on DOI, Federal, and National Groups during monthly GIS Steering Committee Meetings via notes.

*Objective 1.4* Coordinate and collaborate on geospatial science activities at a national level.

Action Item 1.4.1 Hold FWS National GIS Steering Committee Face to Face Meetings to develop yearly work plans/action items and ensure communication

Task 1.4.1.1 Organize the 2019 Face to Face meeting in Henderson, Nevada on the dates of December 9th - 13th including meeting agenda, notes and information dissemination

Action Item 1.4.2 Coordinate attendance and involvement in geospatial user conferences

Task 1.4.2.1 Coordinate FWS involvement in the 2019 conferences related to our Esri ELA including attendance process, passes, poster sessions, and meetings.

Task 1.4.2.2 Communicate FWS involvement in geospatial related conferences through including them in the Steering Meeting notes and email communications (Ron Salz - ongoing 2019).

Action Item 1.4.3 - Prioritize Steering Committee representation and communication on national geospatial related working groups and assess needs and outcomes to improve efficiency.

Task 1.4.3.1 Develop a cost/benefit analysis of important and necessary national level groups, committees, meeting and coordination efforts.

Task 1.4.3.2 Encourage Regional/Program representation on the FWS GIS Steering Committee

Task 1.4.3.3 Identify current groups, representatives and update the existing contacts information on GIS sharepoint.

Action Item 1.4.4: Review and identify sections of the USFWS Manual chapter on GIS (270 FW 8) that require revision.

Task 1.4.4.1: Develop a process for the manual chapter to be updated by the Steering Committee, identify outcomes, and lead discussion on a regularly scheduled meeting <https://www.fws.gov/policy/270fw8.html>

Action Item 1.4.5: Update the FWS IT bulletin on geospatial metadata.

Task 1.4.5.1: Review the FWS IT bulletin on geospatial metadata and identify update needs.

Task 1.4.5.2: Solicit comments from the FWS SC, edit and review FWS IT bulletin on geospatial metadata.

Task 1.4.5.3: Publish, distribute and implement the FWS IT bulletin on geospatial metadata.

Action Item 1.4.6 Update the generic map templates into ArcGIS Pro format and make them available to Service employees

Task 1.4.6.1: Use the existing generic map templates to create new ArcGIS Pro format map templates and post these to X drive and sharepoint

Goal 2: Business Processes

Ensure common, unified, geospatial processes are integrated into priority Service activities and support improved decision making.

*Objective 2.1* Ensure improved geospatial processes are integrated with high priority Service activities. Identify and prioritize high priority FWS business activities with leadership and encourage geospatial analysis in the development and implementation of project plans.

Action Item 2.1.1 Identify high priority Service activities and provide support for consistent geospatial best practices.

- Task 2.1.1.1 Work to improve the Species Status Assessment website, disseminate/communication, and establish more specific guidance and best practices <https://sites.google.com/a/fws.gov/ssa/gis>
- Task 2.1.1.2 Develop processes and aid in using geospatial science for At-Risk Species projects and data gathering efforts.
- Task 2.1.1.3 Develop process to aid in using geospatial science for Hunting and Fishing.

Action Item 2.1.2 Identify, assess, and improve GIS capacity across FWS.

- Task 2.1.2.2 Part 2 - Assess and document potential to apply or adapt Region 8 GIS Workforce Planning process and/or results across other regions or nationally.
- Task 2.1.2.2 Review and document effect of DCOI/infrastructure changes/challenges on GIS capacity.

Action Item 2.1.3 Promote use and distribution of applications that have the potential to be useful at the national level.

- Task 2.1.3.1 Engage with CMS development team to support integration of GIS specific processes.

*Objective 2.2* Encourage Service's new Data Management Team and Regional Data Management Workgroups to develop data management strategies with adequate geospatial representation to improve and complement both data science and geospatial science.

Action Item 2.2.1 Effectively engage in Service-wide data management efforts and developmental processes.

- Task 2.2.1.1 Attend National Data Engagement monthly calls
- Task 2.2.1.2 Attend Regional Data Management calls if there is a team
- Task 2.2.1.3 Review Data Governance Board activities with Chief Data Officer

### Goal 3: Data Architecture

Provide Service staff, partners, and the public with the standardized geospatial information needed to carry out Service business processes, partner conservation needs, and/or make informed decisions.

*Objective 3.1* Promote best practices in geospatial data resource management as identified in 378 DM 1 (DOI Data Resource Management Policy).

Action Item 3.1.2 Schedule and deliver at least 1 working session to data stewards and data professionals who manage Service enterprise geospatial datasets

Task 3.1.2.1: Develop a work session(s) regarding enterprise GIS datasets for data stewards and data professionals that manage enterprise GIS datasets. Session topics may include available resources, policy, workflows, data management plans, required metadata, etc. Work with the Goal 5 group to determine training session implications.

*Objective 3.2* Identify and make available all actively maintained, complete enterprise datasets with compliant FGDC metadata and comprehensive database documentation.

Action Item 3.2.1 Identify existing enterprise geospatial datasets.

Task 3.2.1.1: Disseminate and communicate the definition of the term enterprise geospatial datasets.

Task 3.2.1.2: Consider and compile a list of enterprise geospatial datasets based on existing sources/data listing (e.g. known FWS authoritative datasets, FWS National Data Engagement listing, sharepoint website, recent FWS refuges, NWI, etc.) and make available to others.

Action Item 3.2.2 Assess level of maturity for identified enterprise geospatial datasets.

Task 3.2.2.1: Define level of maturity rating classification.

Task 3.2.2.2: Assign level of maturity rating classification to enterprise geospatial datasets.

Action Item 3.2.3 Publish enterprise geospatial datasets to the appropriate repositories.

Task 3.2.3.1 Identify appropriate repositories (e.g. Servcat, data.gov, data.doi.gov etc.) and based on available enterprise datasets listed, catalog existing repositories utilized by each dataset, and post to the FWS sharepoint site.

Task 3.2.3.2 Inform enterprise geospatial datasets data managers the appropriate repositories for publishing datasets and inform them of work session

#### Goal 4: Application and Technology Architecture

Provide Service staff and partners with recommended standardized geospatial infrastructure, applications and web mapping solutions. Enable the technology to collect, maintain, use, and publish geospatial data in support of the Service mission and business requirements. Support enterprise efforts that enable the design and implementation of a standard, enterprise-wide technical architecture.

*Objective 4.1* Achieve efficiencies and cost savings by centralizing Service geospatial technology and applications where appropriate.

Action Item 4.1.1 Implement Enterprise Data Warehouse (EDW) components to comply with data center consolidation and other IT security compliance needs.

Task 4.1.1.1 Assist in development of strategies, plans, communications, and outreach for implementation of the components of the Enterprise Data Warehouse initiative.

Task 4.1.1.2 Geospatial Data Services (GDS) and Migratory Birds pilot will test, develop, and implement a process utilizing High Performance Computing Environment (HYPR) infrastructure to analyze aircraft, satellite, and UAS remote sensing data.

Task 4.1.1.3 - Enable, test and report on the use of Citrix for GIS by field offices to access EDW components by fostering training, software, and infrastructure and assisting with the Citrix environment designed for low to mid-level GIS use.

Action Item 4.1.2 Support best practices and platforms for enterprise server integration to host geospatial data and raster data as part of EDW.

Tasks 4.1.2.1 - GDS will develop and optimize the ArcGIS Enterprise platform and databases for Service-wide use to increase efficiencies by clustering resources and by collaborating with Esri on the Esri Enterprise Assistance Program (EEAP).

Tasks 4.1.2.2 - GDS will research, implement, and manage internet and intranet platforms for geospatial data hosting and map sharing including ArcGIS Online and FWS Internal Map Portal.

Action Item 4.1.3 GDS and SC will research, implement, and maintain enterprise shared drive solutions to promote Service-wide collaboration through shared infrastructure as part of EDW.

Task 4.1.3.1 Branch of Geospatial and Data Service (GDS) will implement and maintain an enterprise shared drive solution (hardware and data structure) to promote Service-wide collaboration of GIS and remote sensing data through shared infrastructure to be usable by everyone.

Task 4.1.3.2 GDS and the Steering Committee will research and develop best practices and proposals for housing large quantities of raster data.

Action Item 4.1.4 Develop metrics to show we are achieving the objective of increasing efficiencies and saving money.

Task 4.1.4.1 Develop specific workflow statistics showing cost savings using enterprise GIS solution.

*Objective 4.2* Manage and consolidate national geospatial software to reduce costs and duplication of effort.

Action Item 4.2.1 Implement and manage enterprise level software agreements, national servers, and software distribution processes.

Task 4.2.1.1 GDS will monitor software use and streamline national software acquisition to increase cost avoidance and lower administrative costs and research new acquisitions based on user needs to include in shared costs narratives.

Task 4.2.1.2 GDS and volunteers will maintain a software testing process and distribute enterprise software and installation guides through AppsToGo, SCCM, and the GIS sharepoint site.

Task 4.2.1.3 GDS will continue to purchase, maintain, and distribute software licensing as part of the Esri and GIS Toolset suite of software and post full information and guides on [https://fishnet.fws.doi.net/projects/gisnew/gisinfo/SitePages/Software\\_and\\_Applications.aspx](https://fishnet.fws.doi.net/projects/gisnew/gisinfo/SitePages/Software_and_Applications.aspx).

*Objective 4.3* Provide technical support to Service end users on software use, technology, and architecture.

Action Item 4.3.1 Maintain an information site with best practices and user guides to encourage information dissemination and awareness.

Task 4.3.1.1 - GDS and the SC will maintain Sharepoint, website, user access forms, how-tos, and videos to be updated on a regular basis and upgrade to the new version of Sharepoint <https://fishnet.fws.doi.net/projects/gisnew/gisinfo/default.aspx>.

Task 4.3.1.2 Update SharePoint to SharePoint 2016; update content and modernize the interface.

Action Item 4.3.2 Promote communication of remote sensing in the FWS through membership on national committees and groups dealing with remote sensing.

Task 4.3.2.1 Collaborate and coordinate on RS groups: 3D Elevation Working Group, National Digital Orthoimagery Program, Multi Resolution Land Characteristics Consortium, DOI Remote Sensing Working Group, DOI Unmanned Aircraft System Group, FWS Remote Sensing Task Group, and the FWS Unmanned Aircraft System Task Group.

Task 4.3.2.2 Remote Sensing Task Group (RSTG) will coordinate and create the FWS component of the Annual DOI Remote Sensing Report and Annual President's Aeronautics and Space Report and all other RS related datacalls.

Task 4.3.2.3 Improve distribution and access to remote sensing products for the Service using existing interagency and public sites.

Task 4.3.2.4 RSTG will maintain a well-managed SharePoint Site for Remote Sensing resources and assist with the implementation of the remote sensing component of the shared drive

[https://fishnet.fws.doi.net/projects/gisnew/gisinfo/SitePages/Remote\\_Sensing.aspx](https://fishnet.fws.doi.net/projects/gisnew/gisinfo/SitePages/Remote_Sensing.aspx) (Dec 2019)

Action Item 4.3.3 Create a node for FWS on the ESRI GeoNet site.

Task 4.3.3.1 Investigate process for creating a GeoNet Node

*Objective 4.4 Foster compliance with Information Technology policies, directives and bulletins.*

Action Item 4.4.1 Update geospatial related IT bulletins and GIS manual chapters to comply with IT policies related to geospatial applications and technology.

Task 4.4.1.1 GDS and SC will work on reviewing IT bulletins for geospatial related impacts.

Task 4.4.1.2 GDS and SC will work with IT on geospatial related IT policies.

Action Item 4.4.2 Support network improvements for geospatial application and technology use by encouraging documentation of network issues and resolutions

Task 4.4.2.1 Educate end users to submit IT help tickets on network issues and possibly provide a map and system for monitoring the station network connections

Task 4.4.2.2 Work towards quantifying and spatially locating (likely) low bandwidth offices by working with IT to identify offices dependent on LAN to LAN connection.

Task 4.4.2.3 White paper to show the impacts that poor network connectivity is having on the ability to do GIS in some locations. Need to build case to get IT to work on this. Or tell stations why they can't use these tools (that we are spending millions of dollars on).

Task 4.4.2.4 Develop alternate solutions, or best practices for remote stations to deal with poor connectivity which results in their inability to fully utilize GIS software.

*Objective 4.5* Coordinate GPS and mobile activities to enable technology, hardware, software and infrastructure to support the Service mission and business processes.

Action Item 4.5.1 Promote communication of mobile technologies and GPS in the FWS through membership on national committees and groups dealing with mobile technology.

Task 4.5.1.1 Attend meetings and contribute to national efforts on the DOI Geospatial Advisory Committee Position, Navigation, and Timing Group.

Action Item 4.5.2 The Mobile and GPS Task Group (MGPSTG) will maintain a well-managed SharePoint Site for mobile and GPS resources for Service personnel.

<https://fishnet.fws.doi.net/projects/gisnew/gisinfo/SitePages/GPS.aspx>

Task 4.5.2.1 Create and maintain a Mobile and GPS purchase and use decision support tool for field users with yearly updates and additions of hardware

Task 4.5.2.1 Create and maintain a best practices GPS equipment list for field users with yearly updates and additions of hardware.

Task 4.5.2.2 MGPSTG will support Mobile and GPS collection processes and application technology and will create and facilitate training

*Goal 5: Education, Promotion and Application*

Promote the education and effective application of geospatial science across all programs and applicable conservation efforts within the Service.

*Objective 5.1* Build support for Geospatial science at all levels (management and staff) of the organization.

Action Item 5.1.1: Maintain a Directorate level liaison for continued management support.

Task 5.1.1.1: Work on finding a new FWS Geospatial Science Liaison to the Deputies Group.

Task 5.1.1.2: Create a draft presentation on the Geospatial Services Strategic Plan and GIS Steering Committee for the new Service ACIO.

Action Item 5.1.2: Draft a Communication Plan for guiding actions to reach audiences with targeted message and what action you want them to take.

Task 5.1.2.1: Create a Matrix of audience, message, potential communication venues, action you want the audience to take so that this Matrix can feed into a formal communication plan.

Task 5.1.2.2: Identify communications specialist to draft plan and help with messaging

Action Item 5.1.3: Create a chartered Geospatial Science Education Task Group (GeoED) to further build capacity and work on training action Items. This Group would interface with NCTC regularly and manage needs surveys.

Task 5.1.3.1 Identify a chair and/or co-chair for the GeoED

Task 5.1.3.2 Develop a Charter and have the FWS GIS Steering Committee edit and approve it

Task 5.1.3.3 Build an instructor corps for NCTC and Regional training and prepare them (i.e., Train the Trainer series).

Action Item 5.1.4: Communicate between Committee members to improve collaboration

Task [5.1.4.1](#): Develop a process and need and purpose for improved collaboration (possible video series, presentations, etc) including audience and messages, format and schedule

Action Item 5.1.5: Foster communication of Geospatial Science throughout the Service

Task 5.1.5.1: Continue to create a 2-page newsletter (first page general for all Service employees and second page specific to GIS users) on a quarterly basis and distribute by gis list serve

*Objective 5.2* Increase capabilities of Service workforce to effectively use and apply geospatial science.

Action Item 5.2.1: Follow on the FY18 ArcGIS Pro training strategy for the FWS workforce to migrate to ArcGIS Pro.

Task 5.2.1.3 Develop a way to determine how many more Pro classes are needed and what aspects of Pro are needed (Beginner, Intermediate, manage data, layouts, etc.) possibly through a survey

Action Item 5.2.3: Start the planning for the next Geospatial Training Workshop in Feb 2020.

Task 5.2.3.1: Review and evaluate the post Geospatial Training Workshop evaluations/survey, to see if we want use the same format.

Task 5.2.3.2: Nominate and establish the new members of the Geospatial Training Workshop planning committee for 2020.

Task 5.2.3.3: Determine if we should invite the NPS to the next workshop.



Action Item 5.2.4: For the purposes of training and capacity building, identify necessary competencies by roles to effectively use geospatial science to meet Service mission.

Task 5.2.4.1: Learn from BLM role-based competencies matrix and/or other available resources and determine how to approach it for FWS.

Task 5.2.4.2: Develop a methodology for identifying roles, competencies, and staff deficiencies for a matrix for FWS and competencies of Geospatial science..

Task 5.2.4.3: Develop a training plan for geospatial science from the competency matrix.

Action Item 5.2.5: Review the current places to house reference material and make a proposal for a centralized location. Topics could include ArcGIS Pro, AGOL, Collector, Survey123 and others so that users can have ready access. Determine top ideas for consideration by the SC.

Task 5.2.5.1 Identify and compare places to share information including Esri's GeoNet, sharepoint, ServCat, X drive, ListServ, Fishnet Library, and other places.

Task 5.2.5.2 Implement the selected options for sharing information and develop training and presentations to support end users.

Action Item 5.2.6: Develop a survey (or similar) to determine what all training needs are for next fiscal year both online and classroom.

Task 5.2.6.1 From the Survey, identify classes needed to address training needs and start creating and scheduling them.