

# NGDA Dataset Report

**Official NGDA Title:** National Wetlands Inventory - Wetlands

**Metadata Record Title:** National Wetlands Inventory - Wetlands

**A-16 NGDA Theme:** Water - Inland

## Executive NGDA Theme Champion(s):

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## Metadata:

**Registration Status:** Complete

**Registered on** 1/1/9999

**GeoPlatform Link\*:** <http://www.geoplatform.gov/node/243/e0ef053d-f81d-409e-9ae7-a4738a69f78f>

**Data.gov Metadata Link\*:** <http://catalog.data.gov/harvest/object/a25d1222-0f6f-4d37-8f08-0d16d257dec5/html>

\*If the metadata has been updated and reharvested after publication of this report, the link may no longer be valid. The dataset may be searched for manually in Data.gov or GeoPlatform.gov.

# NGDA Lifecycle Maturity Assessment (LMA) Report

## Time Frame:

Baseline assessment responses include dataset activities from 1979 to 2015

## LMA Submission:

**Status:** Complete

**Date:** 10/6/2015

**Extension Requested:** No

## LMA Reviewer(s):

**Supervisor:** Jonathan Phinney, jonathan\_phinney@fws.gov

**Theme Lead:** Bill Wilen, bill\_wilen@fws.gov

**Executive Champion:** Did not review

**SAOGI\*:** Did not review

**Other:** Did not review

## LMA Verifier:

**Name:** Jonathan Phinney

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## Attachments:

To get access to any attachments referenced in the report, email the LMA Help Desk at [NGDA\\_LMA\\_help@fgdc.gov](mailto:NGDA_LMA_help@fgdc.gov). Please use the subject "Dataset Report Attachment(s)" and indicate the associated official NGDA title.

\*Senior Agency Official for Geospatial Information (SAOGI)

## Lifecycle Maturity Assessment (LMA) Summary

### Overall Maturity:

**Mature; Consistent**

General Questions: 72%

**Mature; Consistent**

Stage 4 - Access: 100%

**Optimized; Established**

Stage 1 - Define/Plan: 76%

**Mature; Consistent**

Stage 5 - Maintain: 100%

**Optimized; Established**

Stage 2 - Inventory/Evaluate: 50%

**Managed; Predictable**

Stage 6 - Use/Evaluate: 89%

**Mature; Consistent**

Stage 3 - Obtain: 75%

**Mature; Consistent**

Stage 7 - Archive: 100%

**Optimized; Established**

### NGDA Dataset Maturity Definitions:

How To Calculate Maturity: [https://www.geoplatform.gov/sites/default/files/How\\_to\\_Calculate\\_Maturity.pdf](https://www.geoplatform.gov/sites/default/files/How_to_Calculate_Maturity.pdf)

Maturity	Maturity Characteristics for All Lifecycle Stages
Optimized; Established Rank = 5	Dataset meets virtually all business needs of all users. The dataset is considered authoritative by owners and secondary users. It is curated across all stages of the approved lifecycle. Future needs are defined on a regular basis and resources for addressing both current and future business requirements are available.
Mature; Consistent Rank = 4	Dataset meets all the business needs of the primary owner and most of the secondary users. The dataset is curated and used as authoritative by the primary owner. Dataset is used widely by secondary users actively engaged in sustaining the dataset. Future needs are identified and steps are planned to address these. All stages are supported and reviewed on a recurring basis. The dataset is well managed in relation to the approved lifecycle.
Managed; Predictable Rank = 3	Dataset meets a significant number of the business needs of the primary owner and is widely used as an authoritative resource by secondary users. Benchmark activities are occurring in at least four of the approved lifecycle stages. Management practices in relation to the approved lifecycle is moderate but consistent. Dataset is integrating changing business requirements in lifecycle stages impacting overall maturity.
Transition; Transformation Rank = 2	Dataset meets business needs of the primary owner and has moderate use by secondary users. Benchmark activities are occurring in at least three stages. Efforts to integrate funding, include partners, and obtain data are not supported in a sustained manner. Management practices in relation to the stages of the approved lifecycle is limited.
Planned; Initial Development Rank = 1	Dataset limited in meeting business needs of the primary owner. Benchmark activities in the approved lifecycle are just starting to consider secondary uses, partnerships are forming to support additional dataset uses. Dataset development is in a very early stage. Minimal or limited management against the benchmarks in the approved lifecycle.
No Activity Rank = no activity	Dataset meets project or local business needs of the primary owner, secondary or additional uses or users were not considered, not recognized as an authoritative data or is part of a similar dataset. Not managed to any of the benchmarks in the approved lifecycle.

## General Questions for All Stages

1) Is there a recurring process to obtain funding for all lifecycle stages of this dataset?

**Answer:** Funding support exists but is not adequate to meet known requirements, most lifecycle stages are supported.

**Justification Comment:**

**Attachment(s):** 1

Word document added with embedded links to resources for all questions – please use this for the URLs.

The National Wetlands Inventory (NWI) has appropriated funding. This funding supports 1.75 management staff in Headquarters, 2 administrative staff in Headquarters, 4 FTE's at the National Standards and Support Team who manage the NWI dataset and Wetlands Mapper, and 8 Regional Wetland Coordinators. Many of the Regional Wetland Coordinators have retired or have been redirected to conduct GIS support for their regional Ecological Services program, which has reduced the capability to 'Obtain' data through data acquisition and creation at the Regional level. Wetlands mapping project funds have declined for the past decade and have not been available since 2014, which has further reduced NWI's ability to 'Obtain' data.

The NWI utilizes the available funding and staff to Define (Plan), Inventory/Evaluate, Access, Maintain, Use/Evaluate and Archive the wetlands dataset. The ability to 'Obtain' new and updated data has hindered by the reduction in funding. This lifecycle stage is relying more heavily on cooperation and contribution from our stakeholders. The Director of the U.S. Fish and Wildlife Service, Dan Ashe, announced in letter to the Association of State Wetland Managers in April of 2014, "The Service is now moving from our vision of building the wetlands layer to maintaining and updating it as a Federal Geospatial Data Layer. We are asking our stakeholders such as Federal, State, Tribal, and territorial agencies to assume more wetland mapping responsibilities and to produce new and updated existing data for their areas of interest. We cannot maintain an updated wetland data layer for the nation without the continued support of the ASWM's Federal, State, and Tribal members."

2) Is there a process in place to ensure that open government and transparency guidelines are followed in all lifecycle stages for this dataset?

**Answer:** Process established, significant portions of the documentation is complete.

**Justification Comment:**

**Attachment(s):** 0

The NWI has provided clear and open documentation and process that follows open government and transparency guidelines in all lifecycle stages for this dataset. The NWI dataset does not include any Controlled Unclassified Information (CUI).

For the Lifecycle Stage Define (Plan), Wetlands Classification Standards, Wetlands Mapping Standards, Data Quality Control and Data Verification Tools have been implemented. The Wetlands Classification Standard was developed in 1977, vetted by the wetland scientific community and published in 1979. This standard was endorsed by the Federal Geographic Data Committee (FGDC) in 1996, revised and endorsed again in 2013. The Wetland Mapping Standard was proposed in 2006, drafted in 2007, publicly reviewed in 2007 and 2008 and endorsed by FGDC in 2009. The NWI published the National Standards and Quality Components For Wetlands, Deepwater and Related Habitat Mapping in 2004. Customized Wetlands Data Verification Toolset and Installation and User Information are provided to data creators on the NWI website.

For the Lifecycle Stage Inventory/Evaluate NWI has prepared a series of technical reports and webpages, that identify and describe the dataset and data structure. Users can evaluate the dataset by utilizing the mapping project metadata and data source interface on the Wetlands Mapper. The NWI also has a maintenance plan for updating, found in the Wetlands Layer population plan. This plan outlines the process for reviewing accuracy and quality of data and services for meeting evolving business needs, developing strategies for knowledge transfer and maintaining a user feedback

process.

For the Lifecycle Stage Obtain NWI has worked with over 165 data contributors for obtaining, creating and acquiring datasets. A Data Collection Requirements and Procedures for Mapping Wetland, Deepwater, and Related Habitats of the United States document has been published to guide data creators in producing compliant wetlands data. The NWI has also developed a Contributed Data webpage for stakeholders to obtain information about the standards and requirements for contributing data and provides users access to multiple levels of metadata that describe the content, quality and condition of the wetlands data.

For the Lifecycle Stage Access NWI has provided users access to the wetlands data via an on-line Wetlands Mapper application, Data download capability, Web Mapping Services and Keyhole Markup Language (KML). The 508 compliant NWI website contains over 100 webpages with supporting information and includes a document library of over 180 documents and publications. The NWI dataset is registered as a National Geospatial Data Asset (NGDA) and discoverable on Data.gov and Geoplatform.gov.

For the Lifecycle Stage Maintain has a maintenance plan for updating in the Wetlands Layer population plan and an IT Capital Planning and Investment Control (eCPIC) plan.

For the Lifecycle Stage Use/Evaluate NWI has provided a feedback loop for users on the website and Wetlands Mapper, developed MOU's with other agencies to ensure data interoperability, implemented use statistics on the website and on functions in the Wetlands Mapper to evaluate use and continue to conduct QAQC reviews to evaluate all contributed data.

For the Lifecycle Stage Archive NWI has developed an archive plan and archived the wetlands data with NARA.

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3) Are there processes and tools in place so that staff are sufficiently knowledgeable to ensure a continuity of the dataset for all stages of the lifecycle, especially during staffing transitions?

**Answer:** Processes and tools to ensure dataset continuity are defined and beginning to be implemented.

**Justification Comment:**

**Attachment(s):** 0

The NWI has created and implemented standard operating procedures (SOWs) for most Lifecycle stages.

For the Lifecycle Stage Define (Plan) the Wetlands Classification Standard, Wetland Mapping Standard, Data Quality Control document and Data Verification Tools have been created and are maintained by Wetlands Classification Steward and the Wetlands Dataset Steward.

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## STAGE 1 - Define/Plan

4) Are user and business requirements defined and formalized?

**Answer:** Ad hoc process is used for involving Partners/stakeholders in identifying requirements.

**Justification Comment:**

**Attachment(s):** 0

The NWI dataset has been an established dataset for over 40 years and continues to provide partners and stakeholders a product they can use in their business needs. The NWI is an active member in the FGDC Subcommittee on Spatial Water Data, the FGDC Wetlands Subcommittee, co-lead of the FGDC Inland Waters theme, works with the Associated of State Wetland Managers (ASWM) Wetland Mapping Consortium (WMC) to identify use requirements and has MOU's with other agencies to ensure data interoperability. Requirements identified by users have been implemented in the past and continue to occur, but with a dataset of over 30 million records modifications can be expensive and need to be thoroughly vetted. Updates to scale or timeliness of data is driven by available contributor funding.

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5) How are partners/stakeholders involved in the requirements collection process?

**Answer:** Ad hoc process is used for involving Partners/stakeholders in identifying requirements.

**Justification Comment:****Attachment(s):** 0

The NWI dataset has been an established dataset for over 40 years and has worked with over a 165 Federal, Tribal, State, regional and local governments, non-governmental organizations and universities to collect wetlands data. The wetlands data requirements collections process has been thoroughly vetted by partners and stakeholders and modifications to the standards have been implemented and have gone through intense involvement by partners and stakeholders. The Wetlands Classification Standard was developed in 1977, reviewed by the wetland scientific community and published in 1979. This standard was endorsed by the Federal Geographic Data Committee (FGDC) in 1996, revised and endorsed again in 2013. The Wetland Mapping Standard was proposed in 2006, drafted in 2007, publicly reviewed in 2007 and 2008 and endorsed by FGDC in 2009.

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6) Is there a quality assurance process for the dataset?

**Answer:** Quality assurance published as appropriate with respect sensitivity requirements.

**Justification Comment:****Attachment(s):** 0

A quality control and quality assurance process has been developed and implemented for the NWI dataset. It is outlined in section 4.3.2.i of the Data Collection Requirements and Procedures for Mapping Wetland, Deepwater, and Related Habitats of the United States document.

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7) Is there a process to evaluate the sensitivity, privacy, and confidentiality of this dataset?

**Answer:** Sensitivity, privacy, and confidentiality evaluations fully implemented, reviewed and updated on a recurring basis.

**Justification Comment:****Attachment(s):** 0

The NWI dataset does not include any Controlled Unclassified Information (CUI).

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8) Are defined data standards used in collecting, processing, and/or rendering the data?

**Answer:** Standards fully implemented documented and published as appropriate.

**Justification Comment:****Attachment(s):** 0

The Wetlands Classification Standard was developed in 1977, vetted by the wetland scientific community and published in 1979. This standard was endorsed by the Federal Geographic Data Committee (FGDC) in 1996, revised and endorsed again in 2013. The Wetland Mapping Standard was proposed in 2006, drafted in 2007, publicly reviewed in 2007 and 2008 and endorsed by FGDC in 2009. The NWI published the National Standards and Quality Components For Wetlands, Deepwater and Related Habitat Mapping in 2004. Customized Wetlands Data Verification Toolset and Installation and User Information are provided to data creators on the NWI website.

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## STAGE 2 - Inventory/Evaluate

9) Is there a process for determining if data necessary to meet requirements already exist from other sources (either within or outside the agency) before collecting or acquiring new data?

**Answer:** Process is being implemented to identify datasets promoting reuse and reduce duplication.

**Justification Comment:****Attachment(s):** 0

Existing similar wetland datasets at the local and state level have been identified and converted to meet the NWI Wetlands Classification and Wetlands Mapping Standards and integrating into the NWI dataset. Identifying similar existing wetland datasets has typically been conducted by the Regional Wetland Coordinators. With reduction in funding and staffing and the re-tasking of current Regional Wetland Coordinators, this ability has been reduced. Increased outreach to identify similar datasets has been conducted by adding language to Federal Grant Request for Proposals (RFP) about the requirement to follow the Wetlands Classification and Mapping Standards and submission of data to the NWI dataset if federal funds are used to conduct wetland mapping. Further outreach has been implemented by the creation of the NWI Contributed Data website and working with the Association of

State Wetland Managers (ASWM) to update the information on their website and utilize their outreach and communication mechanisms to reach potential wetland data producers.

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### STAGE 3 - Obtain

**10)** Is there a process for obtaining data in relation to this dataset?

**Answer:** Process is fully implemented, reviewed and updated on a regular basis.

**Justification Comment:**

**Attachment(s):** 0

The NWI has worked with over 165 data contributors for obtaining, creating and acquiring datasets. A Data Collection Requirements and Procedures for Mapping Wetland, Deepwater, and Related Habitats of the United States document has been published to guide data creators in producing compliant wetlands data. The NWI has also developed a Contributed Data webpage for stakeholders to obtain information about the standards and requirements for contributing data and provides users access to multiple levels of metadata that describe the content, quality and condition of the wetlands data. Language has been added to Federal Grant Request for Proposals (RFP) about the requirement to follow the Wetlands Classification and Mapping Standards and submission of data to the NWI dataset if federal funds are used to conduct wetland mapping.

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**11)** Is the metadata in a FGDC endorsed geospatial metadata standard?

**Answer:** Metadata is available in a format endorsed by the FGDC, it fully describes the dataset and provides all the information required to make the dataset discoverable, accessible, and usable.

**Justification Comment:**

**Attachment(s):** 0

FGDC metadata is attached to all data downloads, available on the NWI Metadata Website and accessible on Data.gov and Geoplatform.gov. The Wetlands Mapper, which is the public web interface to the data, provides links to FGDC metadata, project specific metadata and historic regional wetlands information from a pop-up box when any of the over 30 million wetland polygons is clicked on.

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**12)** How complete is the geographic coverage as defined in the requirements for the dataset?

**Part 1 Answer:** Business requirement targets identified for completing geographic coverage. Cyclic updates for refreshing dataset in early phases.

**Part 2 Answer:** Dataset presently about 75% complete per current requirement.

**Justification Comment:**

**Attachment(s):** 0

With the completion of wetland mapping for the Conterminous United States in May of 2014, the Service Directorate announced that it will no longer spend appropriated funds to collect new or update existing wetlands data. All new and updated data will come from cooperators. For this reason it is impossible to set target dates or goals for refreshing existing data. Going forward the development of new and updated data will be dependent on cooperators.

The National Standards and Quality Components For Wetlands, Deepwater and Related Habitat Mapping document was developed 2004 to define the geographic coverage and spatial resolution of the dataset. The present goal of the National Wetlands Inventory is to provide the citizens of the United States and its Trust Territories with current geospatially referenced information on the status, extent, characteristics and functions of wetlands, riparian, deepwater and related aquatic habitats in priority areas to promote the understanding and conservation of these resources. Within this context, the objective of mapping wetlands and deepwater habitats remains to produce reconnaissance level information on the location, type, size of these habitats such that they are accurate at the nominal scale of the 1:24,000 base map, and the 1:63,360 base map for Alaska.

As of May of 2014, the wetland geospatial data layer is complete for all of the conterminous U.S., Hawaii, Puerto Rico, the Virgin Islands, Guam, the major Northern Mariana Islands and 35% of Alaska. The completion of mapping for all of Alaska is too cost prohibitive in the current fiscal environment. Scalable map products may be generated within interior Alaska as initial or interim

information. These interim products may include map information at different scales, classification level(s), or resolution. The goal is to develop maps that can be expanded or upgraded on demand. The production of interim products is at the discretion of the Region with an approved waiver provided by the Service's Data Steward for Water Resources and Wetlands. They do need to conform to the specifications established for standard map products or data. Regional specifications will dictate the procedures used to produce and distribute any interim map information.

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## STAGE 4 - Access

**13)** Do you have a process for providing users access to the data in an open digital machine readable format?

**Answer:** User access process is fully implemented, data is available, process is reviewed and updated on a recurring basis.

**Justification Comment:**

**Attachment(s):** 0

The NWI has provided users access to the wetlands data via an on-line Wetlands Mapper application, Data download capability, Web Mapping Services and Keyhole Markup Language (KML). The 508 compliant NWI website contains over 100 webpages with supporting information and includes a document library of over 180 documents and publications. The NWI dataset is registered as a National Geospatial Data Asset (NGDA) and discoverable on Data.gov and Geoplatform.gov.

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## STAGE 5 - Maintain

**14)** Is there a maintenance process for updating and storing the dataset?

**Answer:** Dataset maintenance process is fully implemented and processes are reviewed and periodically updated.

**Justification Comment:**

**Attachment(s):** 0

Standard Operating Procedures (SOPs) have been developed for all dataset maintenance and backup procedures and an IT Capital Planning and Investment Control (eCPIC) plan is updated annually.

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**15)** Is there an error correction process as part of dataset maintenance?

**Answer:** Error correction process includes user notification, process reviewed on a recurring basis.

**Justification Comment:**

**Attachment(s):** 0

The NWI has developed and fully implemented error correction processes that include robust standards, data collections documents and data feedback loops with Regional Wetland Coordinators and National Quality Assurance staff. These processes are outlined in both the National Standards and Quality Components For Wetlands, Deepwater and Related Habitat Mapping document and the Data Collection Requirements and Procedures for Mapping Wetland, Deepwater, and Related Habitats of the United States document.

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## STAGE 6 - Use/Evaluate

**16)** Is there a process to determine if the dataset meets user needs?

**Answer:** Process is complete and being implemented on ad hoc basis.

**Justification Comment:**

**Attachment(s):** 0

An informal feedback mechanism exists to elicit user's needs of the dataset by availability of multiple 'contact us' email mechanisms. User feedback is also elicited during presentations at national wetland meetings and the Association of State Wetlands Managers (ASWM) Wetland Mapping Consortium (WMC) outreach efforts. A wetlands mapping training needs assessment will be conducted October 2015 via a webinar and survey by ASWM WMC. NWI staff also participate in the FGDC Subcommittee on Spatial Water Data, the FGDC Wetlands Subcommittee, the National Technical Committee for Hydric Soils, the National Panel for the National Wetlands Plant List and co-lead the FGDC Inland Waters theme. An MOU with the USGS National Geospatial Program identifies

the open communication and implementation of dataset user needs.

**17)** Is there a process to provide users information on how to access and properly use the dataset?

**Answer:** Process is fully implemented supporting access and proper use, process is reviewed on a recurring basis.

**Justification Comment:**

**Attachment(s):** 0

The NWI provides users with dataset accessibility and use information in many locations and formats on the website, in the metadata and on data discovery portals. The NWI FGDC Metadata identifies data download, web application and web mapping services locations, includes data use limitations, precautions and user information and has thorough documentation on field descriptions and resource URLs. This metadata is available on the NWI Metadata webpage, Data.gov, Geoplatform.gov, ESRI ArcGIS.com and many other private and public agency data discovery portals. The NWI website also includes Disclaimer, Data Limitations, Exclusions and Precautions, Wetlands Geodatabase User Caution, and Wetlands Product Summary webpages. The Wetlands Mapper application includes links to these pages and also includes a video on How to find and use the U.S Fish and Wildlife Service's Wetlands Mapper. The wetland classification and coding system is thoroughly described on the Wetlands Codes webpage and includes links to the NWI Map Code Diagram, the Classification of Wetlands and Deepwater Habitats of the United States document, the Data Collection Requirements and Procedures for Mapping Wetland, Deepwater and Related Habitats of the United States document and the NWI Water Regime Restriction Table.

**18)** Are the business processes and management practices assessed to meet changing technology?

**Answer:** Assessment process is fully implemented for taking advantage of changing technology, process is reviewed on a recurring basis.

**Justification Comment:**

**Attachment(s):** 0

The NWI has been at the forefront of digital technologies used for the acquisition, storage and distribution of data in all stages of its lifecycle. This process includes interagency agreements with the U.S. Geological Survey, annual training of staff on new technologies and reviews of business processes and management practices by leaders in the field of geospatial technology.

## **STAGE 7 - Archive**

**19)** Is there an archiving process for the dataset?

**Answer:** Archival and disposition processes are fully implemented.

**Justification Comment:**

**Attachment(s):** 0

The NWI has developed and implemented Standard Operating Procedures (SOPs) for dataset backup procedures, an archive plan and archived the wetlands dataset with NARA in 2015. Divestiture plans have been developed and implemented in accordance with records management and legal principles for the disposition of copies of hardcopy maps, supporting information and imagery used to obtain the wetlands dataset.