NGDA Dataset Report

Official NGDA Title: Watershed Boundary Dataset (WBD)

Metadata Record Title: USGS National Watershed Boundary Dataset (WBD) Downloadable Data Collection - National Geospatial Data Asset (NGDA) Watershed Boundary Dataset (WBD)

A–16 NGDA Theme: Water - Inland

Executive NGDA Theme Champion(s):

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Metadata:

Registration Status: Complete

Registered on 12/17/2014

GeoPlatform Link*: https://www.geoplatform.gov/node/243/4fce9f0d-3355-42c3-ab0a-a9d76f674927

Data.gov Metadata Link*: http://catalog.data.gov/harvest/object/dc412858-c8f6-46d1-8bf5-e349df9528f7/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:

Commentary dates back to 1970s, multiple comments from 2010 WBD evaluation as well as current activities (2015).

LMA Submission:

Status: Complete

Date: 9/28/2015

Extension Requested: No

LMA Reviewer(s):

Supervisor: Vicki Lukas; vlukas@usgs.gov

Theme Lead: Al Rea; ahrea@usgs.gov

Executive Champion: Did not review

SAOGI*: Did not review

Other: Karen Hanson (retired), Susan Buto

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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. 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:

Optimized; Established

General Questions: 48%

Transition; Transformation

Stage 1 - Define/Plan: 93%

Optimized; Established

Stage 2 - Inventory/Evaluate: 100%

Optimized; Established

Stage 3 - Obtain: 100%

Optimized; Established

Stage 4 - Access: 100%

Optimized; Established

Stage 5 - Maintain: 100%

Optimized; Established

Stage 6 - Use/Evaluate: 100%

Optimized; Established

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

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

Each year many core tasks are not completed because of lack of resources. Edit tool support, database management and delivery staff are often over allocated and unable to accomplish the scope of work that should be addressed annually. Partnerships and interagency agreements, while effective, are not adequate to meet the known requirements of the dataset. Priority datasets (for example imagery, soils and climate) often trump funding of other datasets. WBD data improvements rely heavily upon states and state-federal partnerships for funding and execution.

Per 2010 WBD evaluation: WBD provided potential federal agency funders (partners) with information on the purpose and goals of the dataset and what the dataset managers might accomplish with their support (funding). NRCS has leveraged partnerships since WBD's inception because of insufficient funding/resources. Some of the monthly mapping and resource management reports have helped leverage partnerships and resources. There are interagency agreements for funding transfers and deliverables. NHD/WBD integration may provide more formal agreements between these groups. A preliminary funding plan has been started, but more planning and the 5-year strategy are needed to further this element of structuring stewardship and maintenance roles, responsibilities and actions. Some WBD processes heavily depend on states for funding and execution. The states need to support updating the data, which may be contingent upon funding. The availability of resources (i.e. funding and staffing) to complete and maintain mapping activities is a big concern. Without a formal maintenance plan and infrastructure, the data may not be maintained at the desired levels and may not meet certification, business or user requirements. As part of the development through state interagency groups, USGS evaluates the data as a part of common services. NRCS performs these evaluations as a part of the Financial Line of Business to prioritize funding and target Farm Bill dollars (e.g. RWAs). USGS does not have a formal tracking process. In trying to build out some applications, however, the importance of the WBD has begun to show. A formal system may help provide statistical information and ensure sustainable funding.

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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 under development.

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

Open government and transparency practices are in place although not formalized. WBD steering committee quarterly meeting minutes and membership information are open and accessible through the Advisory Committee on Water Information website (http://acwi.gov/spatial/wbd-huc/index.html). Stewardship and point of contact information is openly available through the stewardship website (http://usgs-mrs.cr.usgs.gov/usgssteward/) and NRCS-maintained stewardship information page (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/water/watersheds/?cid=nrcs143_021620). Stewards and stakeholders are regularly engaged in webinars via the state stewardship workgroup and hydrography technical exchange meeting as well as through NHD advisory committee calls. Publicly available standards for the dataset are published and regularly updated (http://pubs.usgs.gov/tm/11/a3/). All data are public domain information. WBD data model is fully implemented and publicly available (http://nhd.usgs.gov/WBDposter_6_30_09a.pdf).

Per 2010 WBD evaluation: The WBD Standard is in the process of becoming an extended standard. In the future, WBD plans to look into history and management as well as assess transparency to define

data standards. NRCS consults with its FOIA officer on programmatic areas to ensure no personal information is shared. There are no real user constraints as all data are public domain information, therefore no attributes are hidden or any date truncation occurs due to FOIA. The WBD website is 508-compliant, as webmasters of the organization are required to confirm 508 Compliance. There is a waiver against mapping compliance.

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 under development.

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

Concerns listed in the 2010 WBD evaluation (noted below) still exist. Relying on interagency agreements and unsure funding sources mean that staff members are often hired for short term appointments to cope with funding fluctuations. Very few staff members have a long history with the dataset making transitions difficult and prone to loss of information. The presence of published standards and open information exchange alleviates some of these issues. There is room for improvement with respect to knowledge transfer during staffing transitions.

Per 2010 WBD evaluation: In the 5-year plan currently under development, the group hopes to identify current staff and skills, and see where gaps exist and where additional investment may be needed. Training will be a necessary component of future staffing and retention planning for WBD and will become a part of establishing or verifying data stewardship and management responsibilities. NRCS plans to submit an issue paper to WBD leadership recommending that people from the states who are involved in the development of the database also be involved in the stewardship process. The group may also use the Supplemental Guidance as a reference/resource when developing future state for WBD/NHD and its management. The WBD community of stakeholders developed and distributed an issue paper on these concerns. This issue paper is being acted upon. The availability of resources (i.e. funding and staffing) to complete and maintain mapping activities is a big concern. Without a formal maintenance plan and infrastructure, the data may not be maintained at the desired levels and may not meet certification, business or user requirements.

STAGE 1 - Define/Plan

4) Are user and business requirements defined and formalized?

Answer: A recurring process is in place, including defining new partner and stakeholder business needs as they arise, and is fully implemented.

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

Regular steward workgroup and technical exchange meetings keep stewards and WBD staff engaged and updated on user needs and requirements. Standards are regularly updated to reflect changing dataset requirements in response to user input and changing data models. Standards documents contain current information about coordination and stewardship. Stewardship agreements exist between USGS and some State and other Federal partners.

Per 2010 WBD evaluation: The WBD team is unsure of the process used to define user and business requirements in the past. Recently, WBD provided potential federal agency funders (partners) with information on the purpose and goals of the dataset and what the dataset managers might accomplish with their support (funding). There has been no structured analysis of requirements, however 5 or 6 agencies are using WBD information for various purposes. The NRCS uses the data for watershed planning that is now a part of an integrated accountability system, which runs Performance Results System (PRS) reports. (http://ias.sc.egov.USDA-NRCS.gov/PRSHOME). The data is also being used for rapid watershed assessments (RWAs). The Environmental Protection Agency (EPA) uses information for watershed conservation and assessments. WBD plans to research how agencies use

WBD to conduct business. Customers/Users can request local watersheds and boundary information. WBD has a number of performance measures to help ensure NRCS meets agency strategic plan goals. These tracked measures —[provide] essential data elements… [to] make it possible to meet agency reporting requirements. WBD is performance layer for reporting system (e.g. of how customers can request information http://datagateway.NRCS.USDA-NRCS.gov/). This information represents —as isǁ; NRCS would like a more formal structure or a template to capture this information needs more linkages back the business supported by WBD data. There is a need for reporting structure to better define these requirements or how data meets needs. NRCS does not have a data dictionary or an entity relationship diagram; however some information flows and business processes may be captured in the following documents: WBD Participant Coordination (http://pubs.usgs.gov/tm/tm11a3/pdf/TM11-A3.pdf, page 5) WBD Certification Process(http://pubs.usgs.gov/tm/tm11a3/pdf/TM11-A3.pdf, page 47) National Verification Procedure flow chart (ftp://ftp-fc.sc.egov.USDA-NRCS.gov/NCGC/products/watershed/hu-standards.pdf, page 57)

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

Answer: A recurring process exists for gathering partners/ stakeholders requirements is in place and is in the beginning stages of implementation.

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

Partners are involved through requirements benefits studies, generally on an annual cycle. Stewards and other parties are engaged through regular scheduled calls (state steward workgroup, NHD advisory committee, WBD technical exchange meetings). WBD staff is engaged and open to input from stakeholders. Engagement is not formalized.

Per 2010 WBD evaluation: WBD was established in the 1970's. To collect data, NRCS worked closely with states to use what they had in place and to avoid —reinventing the wheel. The WBD team is aware of many individual agency requirements, but there is no matrix/list. NRCS plans to research how agencies use WBD to conduct business. In the future, stakeholders will be able to provide input on how data are published, what services are offered and on the data itself. There is a business process reengineering effort underway for the Data Gateway to test for building data architecture to meet needs; This effort has included listen sessions and feedback sessions where work group participants provided feedback for deployment; format for delivery provided. As a component of future management plans, the group hopes to collect stakeholder input, lessons learned and local knowledge, which can be used in several ways. This process will start with a subgroup that establishes a draft plan, solicits comments and then sends the plan up the chain for review and comment. Currently, NRCS has two informal questionnaires for data on the Gateway (not just WBD) to receive feedback on data quality, updates, etc. One questionnaire is in the form of a pop-up box on the website and the second is a survey sent to an email distribution list of NRCS GIS professionals. The WBD community of stakeholders developed and distributed an issue paper on these concerns. This issue paper is being acted upon.

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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

Quality assurance and quality control processes are well documented in the published standards for the WBD dataset (http://pubs.usgs.gov/tm/11/a3/ , chapter 7). Hydrologic units are delineated and verified through an interagency process. Before newly delineated hydrologic unit boundaries are submitted for the WBD, the boundaries must be reviewed for conformance to these guidelines by the WBD In-State Steward originating agency and/or designated members of an interagency hydrologic unit coordinating group within the State. Qualified reviewers typically would be hydrologists or natural

resource and GIS specialists with background and experience in hydrologic unit delineation. Representatives of the interagency hydrologic unit coordinating group and/or regional/local parties should participate in the development and review of delineations before the data are submitted for national review for compliance with the required standard and release to the public. The WBD In-State Steward should thoroughly review the data before submitting it to the WBD NTC for national review. It is recommended that reviews and edit checks be done throughout the delineation process. At a minimum, edit checks should be made after the hydrologic units are delineated, mapped, and digitized. See the published standards for more details.

Per 2010 WBD evaluation: QA/QC occurs at various levels as part of certification, but there is no formal QA/QC plan. QA/QC Checklists include: NRCS Guidelines Section 8 includes a checklist used in QA/QC (ftp://ftp-fc.sc.egov.USDA-NRCS.gov/NCGC/products/watershed/hu-standards.pdf) NRCS QA/QC checklist (ftp://ftp.ftw.NRCS.USDA-NRCS.gov/pub/wbd/hu_qa/HU_QA_Review_Checklist.doc) USGS Guidelines Section 7 contains QA/QC information used in re-certification (http://pubs.usgs.gov/tm/tm11a3/pdf/TM11-A3.pdf) Some plans indicate that data needs to be at —X‖ quality to be used. (—X' indicates a specific level of quality as defined by the agency or state).

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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

A Privacy Act assessment is not applicable as neither personal names nor property are involved. To the best of the WBD team's knowledge, a sensitivity evaluation does not take place.

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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

All data submitted is reviewed against Federal Standards Procedures for the National Watershed Boundary Dataset (WBD) (http://pubs.usgs.gov/tm/11/a3/). Chapters 2 – 9 of the standards provide guidance on dataset coordination, considerations for delineation, required data sources, coding and naming guidance, data structure, and quality control procedures. Data are quality controlled by a national technical team before inclusion in the national dataset.

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 for determining appropriate data is being reused fully implemented, reviewed, and updated on a regular basis.

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

A series of workshops were held to engage users and discover existing datasets during the development of this generation of WBD. Workshops continue as the process of international harmonization progresses. User engagement is encouraged through technical exchange meetings and multi-agency partnerships to ensure new data sources are evaluated as the data are updated.

Per 2010 WBD evaluation: In the 1970s, the USGS developed 4 levels of hydrologic units (HU): regions, subregions, Accounting Units (AU) and Cataloging Units (CU). The WBD reflects the effort to further expand the hydrologic unit code (HUC) system to the watershed and subwatershed scales: levels 5 and 6, respectively. NRCS considers user feedback when creating the next version of WBD standards. In the far past, feedback was addressed via formal workshops. More recently, feedback has been less formal, via email/phone. NRCS uses a number of bottom-up feedback loops, including a

state stewardship work group that speaks regularly about items not captured in the Watershed guidance, state and regional workshops and other Communities of Interest (COIs). WBD also has representation on the Federal Geographic Data Committee (FGDC) Spatial Water Data Subcommittee where WBD representation can offer updates regarding the WBD Steering Committee.

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

Data acquisition standards and procedures are outlined in detail in the Federal WBD Standards (http://pubs.usgs.gov/tm/11/a3/) and the WBD National Technical coordinators work with stewards and user communities to ensure standards are met. In addition, memoranda of understanding between data stewards and the USGS outline state-specific processes.

Per 2010 WBD evaluation: NRCS converts legacy data as frequently as possible. Unfortunately, converting legacy data does not always work because the resulting data does not meet program needs. Once NRCS tried to contract obtaining of data out, but found that locally-led consortiums worked best. NRCS reviews methods used to obtain data and incorporates past experience into future datasets. For example, for the state of Alaska, one lesson learned highlights the use of WebEx to address states where they —could not fly.‖ Lessons learned are currently maintained by the WBD National Technical Team, but in the future lessons learned will be identified and maintained by a formal users group (in the early stages of development). Informal reviews of results may come from WBD National Technical Team's work with the WBD user community.

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 compliant metadata as well as feature-level metadata is delivered with the data upon download from the National Map (http://viewer.nationalmap.gov/basic/) or from the National Seamless WBD download (ftp://rockyftp.cr.usgs.gov/vdelivery/Datasets/Staged/WBD/) and from the NRCS Data gateway (https://gdg.sc.egov.usda.gov/). Data checked out for editing cannot be returned to the database without feature-level metadata being generated to document edits. Historical metadata are available for direct download for each state (ftp://rockyftp.cr.usgs.gov/ngtoc/hydro/outgoing/WBDArchivedMetadata/)

Per 2010 WBD evaluation: Future version of WBD will have a new access format allowing state stewards to edit the information. Edits will be tracked (metadata, who edited, when edited, etc) using NHD's GeoEditToolxviii. The editing feature for WBD is a part of the stewardship plan.

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

Part 1 Answer: Business requirements for cyclic updates identified and a process is in place.

Part 2 Answer: Dataset has presently attained the greatest geographic coverage as defined by the current requirements or roughly 100%.

Justification Comment: **Attachment(s):** 1

WBD is a dynamic dataset. Although the intended geographic extent was met in 2009, continual improvements and additional content occur. Recent updates include population of all 10- and 12-digit hydrologic units with Canada and Mexico, and now 14- and 16-digit (optional) for select areas of the country.

Per 2010 WBD evaluation: See appendix A. Status maps generated monthly until US certified as completed in 2012. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs143_021570.pdf

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

Several mechanisms exist for user access to the data. Data may be downloaded from the National Map (http://viewer.nationalmap.gov/basic/), from the National Seamless WBD download (ftp://rockyftp.cr.usgs.gov/vdelivery/Datasets/Staged/WBD/), and from the NRCS Data gateway (https://gdg.sc.egov.usda.gov/). Stewards and editors can access the data for revision by following guidelines outlined in chapter 8 of the Federal WBD standards (http://pubs.usgs.gov/tm/11/a3/)

Per 2010 WBD evaluation: Currently, NRCS just makes data available on the Data Gateway. In the future, stakeholders will be able to provide input on how data are published, what services are offered and on the data itself. There is a business process reengineering effort underway for the Data Gateway to test for building data architecture to meet needs; This effort has included listen sessions and feedback sessions where work group participants provided feedback for deployment; format for delivery provided. Shape files are the standard format for USDA service center agencies, so NRCS uses ESRI shape files for their current format. However, NRCS would like to expand to a geodatabase structure/format. During data development, NRCS requires ARC Coverage (legacy standard) or geodatabase (added at 8.x). USGS will use a geodatabase format. In the future, the WBD team hopes to establish or identify editing/publishing tools that will enforce formatting. WBD and NHD are in the process of integration. Integration will make both datasets available together and allow users to use WDB and NHD in conjunction with one another. The WBD/NHD partnership will also allow for better data quality and better database functionality. NRCS may, as a result of the integration, establish partnership with NHD partners.

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

Data maintenance is done on a continual basis via stewards and in the national support shop in the USGS Utah Water Science Center. Continual funding for updates is always in question with some coming from national programs and some from interagency agreements and state funding. Updates are not performed on a standard frequency but on an as-needed and as-funded basis.

Per 2010 WBD evaluation: Formal maintenance plans for WBD are under development. NRCS' WBD data management plan indicates maintenance will be performed —as needed. The WBD/NHD integration charter focuses on getting data online, but not managing the data or maintaining the data once it is online. NRCS foresees that another charter will help coordinate efforts to manage and maintain the data. NRCS uses current Geospatial Data Warehouse (GDW) infrastructure to maintain WBD and is planning to expand to the USDA Geospatial Enterprise Data Center (GeoEDC). At USGS,

Stephen Daw was hired specifically for migration and maintenance of WBD. Currently, the NHD site includes —data management mechanismsǁ to help users and editors efficiently track the history of data edits. Once WBD is integrated with NHD, WBD may also be supported by some of the management mechanisms, after modification. Access will be limited to trained stewards. The update cycle is not of standard frequency. USGS and NRCS are in the process of developing requirements for schedules and snapshots. NRCS has a snapshot process of version control, but it is not transactional; it is time-stamped instead. The Pacific North West region maintains a tracking system to catalogue all changes made to the data. This tool was implemented as the dataset was developed. A future NRCS metadata tool may need to include such a tracking capability. Refer to 2010 WBD evaluation (maintenance section).

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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

Error corrections are done under guidance of state and national stewards as outlined in chapter 7 of the Federal WBD standards (http://pubs.usgs.gov/tm/11/a3/). Errors can be reported by notifying the appropriate state or national stewards. A contact list is available (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/water/watersheds/?cid=nrcs143_021620). Issues or errors can also be brought to light via technical exchange meetings and the state stewardship workgroup. No updates occur into the WBD without in-state steward approval.

Per 2010 WBD evaluation: As a component of future management plans, the group hopes to collect stakeholder input, lessons learned and local knowledge, which can be used in several ways. This process will start with a subgroup that establishes a draft plan, solicits comments and then sends the plan up the chain for review and comment. NRCS plans to submit an issue paper to WBD leadership recommending that people from the states who are involved in the development of the database also be involved in the stewardship process. The group may also use the Supplemental Guidance as a reference/resource when developing future state for WBD/NHD and its management. NRCS considers user feedback when creating the next version of WBD standards. In the far past, feedback was addressed via formal workshops. More recently, feedback has been less formal, via email/phone. NRCS uses a number of bottom-up feedback loops, including a state stewardship work group that speaks regularly about items not captured in the Watershed guidance, state and regional workshops and other Communities of Interest (COIs). WBD also has representation on the Federal Geographic Data Committee (FGDC) Spatial Water Data Subcommittee where WBD representation can offer updates regarding the WBD Steering Committee.

STAGE 6 - Use/Evaluate

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

Answer: Process is fully implemented and repeated on a recurring basis.

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

Input from stakeholders and users is gathered formally via the National Hydrography Requirements Benefit Study and informally via technical exchange meetings, community of use surveys, and the state stewardship workgroup. Federal WBD standards (http://pubs.usgs.gov/tm/11/a3/) define future data directions to meet user needs with guidance on data updates to meet higher resolution elevation data and finer resolution watershed delineation (i.e. delineation of 7th and 8th level hydrologic units).

Per 2010 WBD evaluation: As a component of future management plans, the group hopes to collect stakeholder input, lessons learned and local knowledge, which can be used in several ways. This process will start with a subgroup that establishes a draft plan, solicits comments and then sends the plan up the chain for review and comment. Currently, NRCS has two informal questionnaires for data

on the Gateway (not just WBD) to receive feedback on data quality, updates, etc. One questionnaire is in the form of a pop-up box on the website and the second is a survey sent to an email distribution list of NRCS GIS professionals.

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 Federal WBD standards provide information about the data model and use (http://pubs.usgs.gov/tm/11/a3/). Regular technical exchange meetings and hydrography community of use meetings are conducted. Presentations are regularly given at hydrology-related meetings, seminars, and conferences. The USGS hydrography website (http://nhd.usgs.gov/wbd.html) provides access the data, contact information, and dataset information. Information about WBD is featured regularly in the NHD newsletter.

Per 2010 WBD evaluation: The WBD team does not use a CRUD matrix to manage access. The Gateway is purely for download (i.e. Read, Use as users cannot Create, Edit, or Delete the data). Users can suggest changes to state coordinators via email if necessary. NRCS offers different levels of access to Gateway data based on if the user is USDA personnel or non-USDA personnel. Future version of WBD will have a new access format allowing state stewards to edit the information. Edits will be tracked (metadata, who edited, when edited, etc) using NHD's GeoEditToolxviii. The editing feature for WBD is a part of the stewardship plan.

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 dataset is assessed in light of changing technology and user needs at recurring and planned monthly and annual meetings including NHD management team meetings and WBD steering committee meetings (http://acwi.gov/spatial/wbd-huc/index.html). Data model changes are reviewed via the National Geospatial Program Systems Design Board.

Per 2010 WBD evaluation: The WBD/NHD integration charter focuses on getting data online, but not managing the data or maintaining the data once it is online. NRCS foresees that another charter will help coordinate efforts to manage and maintain the data. NRCS is using existing resources and legacy infrastructure to maintain the data and believes the integration of WBD and NHD will impact storage and management needs and processes, although they do not yet know the nature of the impact. NRCS is developing a strategy for updating the process of maintaining WBD data. This process may mirror the NHD process. A revised strategy anticipated in the next year. The integration of WBD and NHD may be complete in 2010. The integration team is formulating a 5-year strategy to further scope out the project. The WBD/NHD integration charter focuses on getting data online, but not managing the data or maintaining the data once it is online. NRCS foresees that another charter will help coordinate efforts to manage and maintain the data. Often priority datasets (for example imagery, soils and climate) trump funding of other datasets. One benefit of integrating WBD with NHD is that WBD will become a part of the National Map, which is better resourced.

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

Yes. Since 2012 the WBD is backed up on a weekly basis. Recovery of all or any specific data dating back to 2012 is possible. The WBD is also archived off site for long term preservation at regular intervals.

Per 2010 WBD evaluation: NRCS Geospatial Data Warehouse replicates the geospatial databases at NCGC to USDA FSA APFO in Salt Lake City. There are failover systems on multiple servers and the data are stored in the ASM tape library. The Information Technology Services team at Fort Worth stores offsite copies of the data at One Safe Place in accordance with our Disaster Recovery Plan.