NWRS I&M SURVEY PROTOCOL REVIEW PROCESS
(18 July 2016)

Revised Chapter 2 of Manual 701 that guides inventory and monitoring (I&M) in the National Wildlife Refuge System (NWRS; 701 FW 2), requires that all surveys use approved protocols. The following guidelines describe the review process that should be followed to approve survey protocols.

Prior to conducting a review it is important to distinguish between Initial Survey Instructions (ISI) and information that qualifies as a survey protocol. ISI are limited in scope and only provide some of the information that will be used to develop a protocol for an existing survey. For example, stand alone-standard operating procedures or a published paper that only describes methods but lack other required protocol elements (Survey Protocol Handbook: page 4) are ISI and do not qualify for the review the process described here. ISI are linked to a survey in the Planning and Review of Inventory and Monitoring for Refuges (PRIMR) data base.

There are two types of reviews depending on the type of survey protocol undergoing review (Figure 1). The first type is a quick assessment of an existing, peer-reviewed protocol. This is used to determine the applicability of a previously developed protocol. Protocols that partners have developed and have had peer-reviewed, generally will only need a quick assessment, regardless of whether they follow the formatting in the NWRS Survey Protocol Template (see Quick Assessments below). Existing survey protocols undergo the quick assessment before archiving in ServCat. The assessment form should be included as a digital holding along with any previous reviews.

The second process is used to provide formal peer review for newly developed survey protocols (Figure 1), or existing NWRS protocols that were never reviewed. The number and level of reviews is determined by the scope of the survey protocol (Figure 2; see also Formal Reviews, below).

Both types of reviews are coordinated by someone in NWRS I&M. Survey protocols that have been drafted but will be tested before sent to formal review can be entered into ServCat. Archiving the draft allows I&M to know that a particular survey protocol is being tested or is under review, and to focus on development or review of other needed protocols. Once the protocol is submitted for formal review, its status should be changed in ServCat to National or Region “In Review”. Lastly, once the protocol review is complete and it has been accepted, its status is changed to “Approved” and version 1.0 is uploaded along with the reviews (see versioning rules in the Survey Protocol Template). Site-specific survey protocol should undergo the formal review process (Figure 2) and be coordinated and tracked by I&M staff within each region.

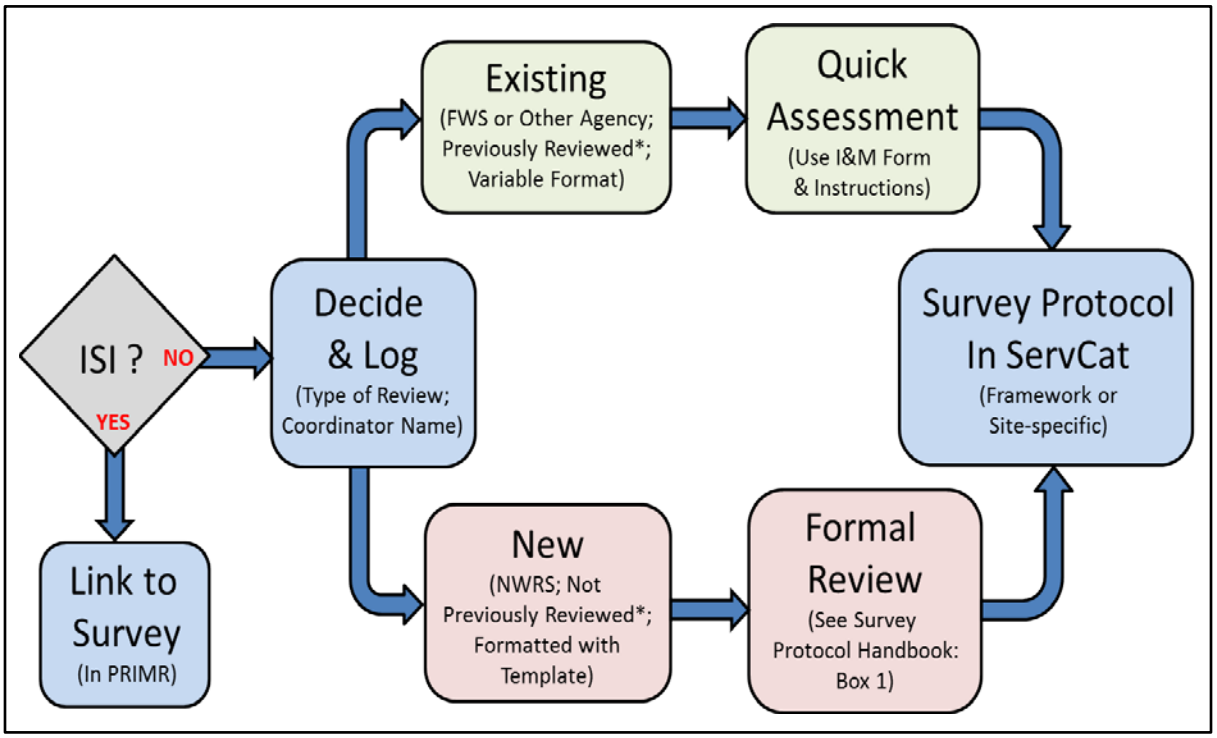


Figure 1. Two types of survey protocol reviews. Existing, previously reviewed protocols are quickly assessed for content before archiving as approved in ServCat. New protocols, or those not previously reviewed from any source, should undergo a formal review process outlined in the Survey Protocol Handbook (shown below in Figure 2). Both types of reviews for Survey Protocol Frameworks should be logged at the beginning of the review process. Initial Survey Instructions (ISI) are not completed protocols and don't need these reviews. Site-specific survey protocols are formal reviews independently coordinated by I&M within each region. * indicates a review by one or more peers, external to the authors' organization.

Quick Assessment of an Existing Protocol

Existing, previously reviewed survey protocols can provide a framework for developing site-specific survey protocols. The purpose of the quick assessment process is to communicate how well the existing content matches the NWRS survey protocol standards (as outlined in the Survey Protocol Handbook) and how that protocol should be used. The validity of the existing protocol to meet specific survey objectives, is typically not assessed during this review process, but rather relies on previous reviews.

In summary, quick assessments indicate that an existing protocol is available for use as a survey protocol framework. There is no need to focus on the quality and suitability of the survey protocol framework for developing a site-specific survey protocol, as this will be determined by a survey coordinator in consultation with I&M staff or other experts before its use.

To conduct a quick assessment:

1. Consult the Survey Protocol Review Log to determine if a quick assessment is in progress (Table 1).

2. If not, enter the protocol to be reviewed into the Survey Protocol Review Log.
   a. Recommend a contact to conduct or coordinate the quick assessment.
   b. NRPC may be able to assist with this if multiple refuges at two or more Regions are likely to need the survey protocol framework.
   c. If the survey protocol framework will be used primarily within a region, then that region's I&M Coordinator should take the lead in this effort.
   d. Fill in other descriptive information about the protocol being reviewed.
3. Conduct the quick assessment using the pdf form and instructions.
4. Archive as a *Survey Protocol Framework* (reference type) in ServCat following the instructions provided for this reference type (note: there are specific instructions that will save time if the assessment was of an existing NPS survey protocol).
   a. I&M Regional Data Managers and NRPC staff are available to assist with the technical details of cataloging protocols in ServCat.
5. Point to the URL where the existing protocol resides; provide links to a pdf AND an MS Word formatted document whenever possible.
6. Include the quick assessment and any non-confidential reviews as additional digital holdings.
   a. If previous reviews need to stay confidential, create a new ServCat reference for the reviews, upload the reviews and restrict ownership to private.
   b. Include a comment for those wishing to see the reviews to contact the owner of the ServCat reference; when suitable, the reference owner can give viewing permission to the person requesting the previous reviews for a set time (by adding the requesting viewer as an owner of the reviews).
   c. Alternatively, make the reviewers anonymous by placing just the comments with no information that could be used to identify the reviewers in a separate document and attach as a digital holding to the ServCat reference for the protocol.
7. Add the ServCat reference ID and link the survey protocol framework title in the spreadsheet log.

Supplemental assessments can be conducted by any I&M or sponsored staff when issues about a previously reviewed protocol arises, or if another Region differs in how the survey protocol framework should be used (see the Quick Assessment instructions).

Table 1. Example of the log for tracking quick assessments of existing survey protocols that can serve as Survey Protocol Frameworks.

Inventory and Monitoring Initiative Protocol Quick Assessment Log
(Use For Existing, Previously Reviewed Survey Protocols)

Date	Perviously Approved Protocol Title	Authors and Year	Protocol Affiliation	ServCat Record	Assessor (email)	Score (%)	Recommend For?	Date in ServCat	Link to Reviews	Project URL
10-Jul-13	Landbird Monitoring Protocol for the U.S. Fish and Wildlife Service, Midwest and Northeast Regions	Knutson et al. 2008	NWRS	15537	patrick_ward@fws.gov	93.8	National	23-Jan-13	reviews were confidential; contact patrick_ward@fws.gov or	
26-Mar-14	Rapid Ecological Assessment of Forests in the Laurentian Mixed Forest-Great Lakes Coastal Biological Network, Midwest Region, National Wildlife	Corace G and Petrillo H. 2014.	NWRS	26850	Sean_Blomquist@fws.gov/ Melinda_Knutson@fws.gov	100; reformatted to	Region 3	26-Mar-14	Reviews included as Supplemental Materials in protocol	
12-Dec-13	Geomorphological Monitoring Protocol: Ocean Shoreline Position	Psuty et al. 2010	NPS		bill_thompson@fws.gov		Region 5			
12-Dec-13	Geomorphological Monitoring Protocol: Coastal Topography	Psuty et al. 2012	NPS		bill_thompson@fws.gov		Region 5			
15-Jan-14	Grassland Monitoring Team Field Protocol	Vacek, Ahlering, and Carlson 2012	NWRS		melinda_knutson@fws.gov		Region 3			https://connect.doi.gov/fws/Portal/grassland/SitePages/Home.aspx
15-Jan-14	Native Prairie Adaptive Management	Gannon et al 2013	NWRS		pauline_drobney@fws.gov		National			https://connect.doi.gov/fws/Portal/R6DBR/NPAM/default.aspx
15-Jan-14	Reed Canary Grass Adaptive Management	Reinhardt Adams 2012	NWRS		TBD		National		http://pubs.usgs.gov/of/2013/1279/	https://connect.doi.gov/fws/Portal/rcg/SitePages/RCGAM%20Home%20Page.aspx

Formal Peer Reviews

For use in the NWRS, newly developed protocols or those not previously reviewed, intended for use as either a framework or a site-specific protocol must be reviewed. All of the new NWRS survey protocols should follow the format provided by the Survey Protocol Template. The appropriate level of review will vary, but is easily determined (See Figure 2). Existing NWRS protocols should be treated as ISI until formally reviewed.

As with the Quick Assessments, the first step is to determine who will coordinate the review. The person coordinating or conducting a formal review will:

1. Enter the protocol to be reviewed by completing a record in the Survey Protocol Review Log (switch to 'Formal Reviews' worksheet; Table 2).
2. Following instructions provided in the Survey Protocol Handbook (Figure 2), determine the appropriate number and level of reviews to be conducted.
    a. Log the reviewers' names and contact information in the spreadsheet.
3. Solicit the reviews with instructions to the reviewers and a deadline. Honoraria may be paid to reviewers that are not federal agency scientists.
4. Compile and submit to the approving authority all reviews with any recommendations. Refer to the signature page on the Survey Protocol Template for additional guidance.
5. Upon approval, archive the survey protocol in ServCat using the appropriate FWS I&M reference type, either *Survey Protocol Framework* or *Site-specific Survey Protocol*. A template for each of these reference types can be found in the ServCat help files. Note, do not reference the type labeled 'Protocol' or 'SOP'.
6. Status of the survey protocol framework or site-specific survey protocol is based on a progressive process ranging from a 'Complete Draft' to 'Approved'. Please refer to the Survey Protocol Handbook for specific guidance on determining status.
7. Upload the protocol as a digital holding. Also upload a zipped folder of reviews as a digital holding.
8. Add the ServCat reference ID and link the survey protocol framework title in the spreadsheet log.

Table 2. Example of the log of formal reviews conducted on new or revised NWRS survey protocol frameworks.

Survey Protocol Frameworks Needing NWRS Formal Review									
Proposed Reference ID	Title	Authors	Review Lead	Reviews Needed Int.	Reviews Needed Ext.	Reviewers Assigned Int.	Reviewers Assigned Ext.	Date Review Initiated	Due Date
NWRS-NPF-001-1	National Protocol Framework for the Monitoring of Migratory Shorebirds	Schmidt, Stephanie R. and Brad Winn	Lee O'Brien	2	2	0	0		
NWRS-NPF-002-1	Regional Protocol Framework for the Monitoring of Breeding Landbirds: Southwest and Mountain-Prairie Regions	Blakesley, Jennifer A.	Lee O'Brien	2	2	0	0		
NWRS-NPF-003-1	National Protocol Framework for the Inventory and Monitoring of Bees	Droege, Sam, Joseph D. Engler, Elizabeth Sellers and Lee E. O'Brien	Lee O'Brien	2	2	0	0		
NWRS-NPF-004-1	National Protocol Framework for the Inventory and Monitoring of Secretive Marshbirds	Conway, Courtney, Mark Seamans, Socheata Lor (may change)	Lee O'Brien	2	2	0	0		

Box 1. What is the appropriate level of protocol review?

Protocol Type	Development Stage	Content Reviewed	Internal reviews±	External reviews±	Total reviews
National Framework	New	All	≥2	≥2	≥4
National Framework	Revision	Revised	≥2	0–2	≥2
Regional Framework	New	All	≥2	≥1	≥3
Regional Framework	Revision	Revised	≥2	0–2	≥2
Site-specific	New	All	≥1	0–1	≥1
Site-specific	Modified*	Added	1	0	1
Site-specific	Revision	Revised	≥1	0–1	≥1

* Modified from a protocol framework or a site-specific protocol from another refuge.

± Number of reviews determined by the expected use of the survey protocol.

Figure 2. Guidance on number of formal reviews of newly developed or revised NWRS survey protocols from Box1 in the Survey Protocol Handbook. External refers to reviewers outside of NWRS.