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National Wetland Condition Assessment

Site Evaluation Guidelines



NOTICE

The goal of the National Wetland Condition Assessment (NWCA) is to provide a comprehensive assessment of the condition of the Nation's wetlands. The complete documentation of overall NWCA project management, design, methods, and standards is contained in four companion documents:

- National Wetland Condition Assessment: *Quality Assurance Project Plan (EPA-843-R-10-003)*
- National Wetland Condition Assessment: *Site Evaluation Guidelines (EPA-843-R-10-004)*
- National Wetland Condition Assessment: *Field Operations Manual (EPA-843-R-10-001)*
- National Wetland Condition Assessment: *Laboratory Operations Manual (EPA-843-R-10-002)*

This document, *National Wetland Condition Assessment: Site Evaluation Guidelines* (“Guidelines”) contains an overview of the process involved in locating a sampling site, evaluating the site to determine if it should be sampled, and selecting appropriate alternate sites when necessary. It is based on guidelines developed and followed in the Western Environmental Monitoring and Assessment Program (Peck et al., 2003) and the other National Aquatic Life Surveys conducted by EPA and the States and Tribes (<http://water.epa.gov/type/watersheds/monitoring/nationalsurveys.cfm>). Methods described in this document are to be used specifically in work relating to the NWCA. Mention of trade names or commercial products in this document does not constitute endorsement or recommendation for use. Further detail on the project overview and specific methods for field sampling, sample handling, and sample processing can be found in the appropriate companion documents listed above.

The suggested citation for this document is:

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NATIONAL WETLAND CONDITION ASSESSMENT (NWCA) SITE EVALUATION GUIDELINES

This document is provided to clarify the steps involved in the process of locating and evaluating a sampling site for the National Wetland Condition Assessment (NWCA). The primary purpose of site evaluation is to determine whether a random sample point selected by the NWCA design is a wetland in the target population for the NWCA and is accessible and sampleable by a field crew. There are four main steps involved in this process (Figure 1):

1. Locate the sampling point on an aerial image, topographic and/or similar map and determine whether the point is within or very near (within 60 meters of) a wetland that is in the target population for the NWCA.
2. Determine if the point is accessible.
3. Verify that the point is sampleable or can be relocated to a nearby location that is.
4. Sample the point *OR* replace with an alternate point.

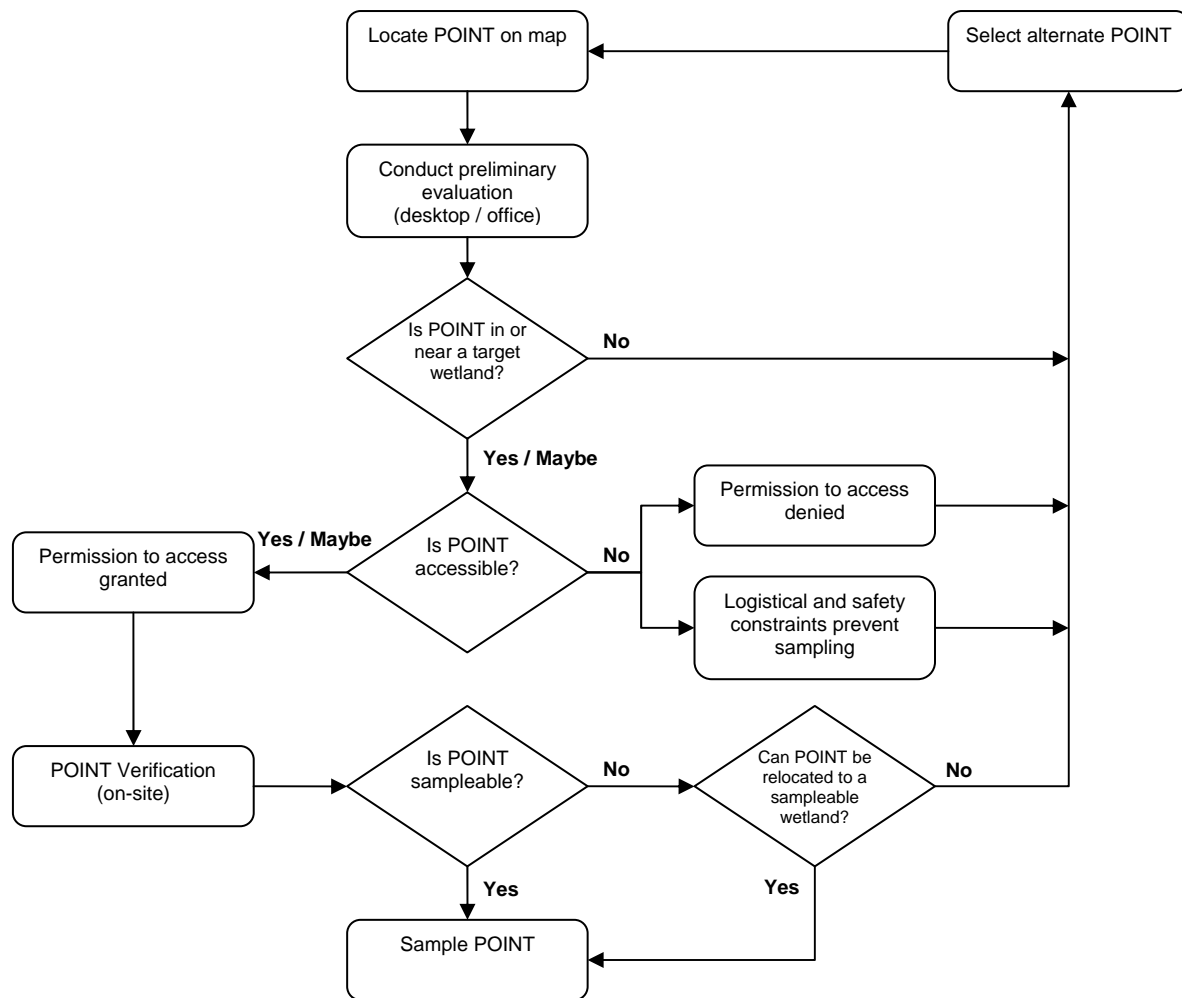


Figure 1 Process of point evaluation

In the process of completing each step in site evaluation, the Evaluation Team will also assemble a site packet that contains important location and access information for each site they are scheduled to visit. The site packet should contain appropriate maps, aerial images, contact information, photographs of the site, copies of landowner permission forms, all required permits to access and sample the site, and any other specific requirements or instructions for accessing the site. If the Evaluation Team does not include employees from a state or tribal agency, they should contact appropriate state and tribal personnel to determine if they are able to provide technical assistance in verifying sites within the state or tribal boundary. Before a site visit, the Evaluation Team should contact the landowner(s) listed in the site packet to ensure they have permission to access the site and to obtain relevant site access information. This information may include:

- Presence of locked gates, pets, livestock, or other things that could impede access
- Active hunting, farming, mining, or other activities on or near the site
- Whether the landowner wants to be informed when the crew is on site
- Other current conditions that could prevent access (i.e., high water, forest fires, etc)

1.0 IDENTIFICATION OF WETLAND SAMPLING LOCATIONS

Wetland sampling locations were chosen from a sample frame composed of wetland areas identified in the U.S. Fish and Wildlife Service’s National Wetlands Inventory Status and Trend (S&T) program. As part of this program, there are 5,048 S&T four square mile plots distributed across the conterminous United States and within each plot the landcover is classified as one of several wetland or upland habitat types (see Attachment 1 for a description of each type). S&T uses an adaptation of the Cowardin wetlands classification system (Cowardin et al., 1979), hereafter referred to as “S&T classification” (Dahl and Bergeson, 2009). Sample sites in the NWCA, hereafter referred to as “POINTS,” were selected from wetland designated polygons within the S&T plots using a General Random Tessellation Stratified (GRTS) survey design (Stevens and Olsen, 2004). The design was developed by EPA’s Office of Research and Development, Western Ecology Division, and customized for this survey.

The design ensures that POINTS have a known probability of inclusion and that their distribution is spatially balanced. The power of this survey design is that it ensures an unbiased estimate of the condition (with known probability and error rates) of the targeted wetland resources over a large geographic area despite the relatively small number of samples collected. More detailed information on the design of the NWCA and other National Aquatic Resource Surveys (NARS) is available at the NARS website (<http://water.epa.gov/type/watersheds/monitoring/nationalsurveys.cfm>).

POINTS were selected from wetland-designated polygons in the S&T plots that are consistent with the target population for this survey. **The target population for the NWCA is tidal and nontidal wetlands of the conterminous U.S., including certain farmed wetlands not currently in crop production. The wetlands have rooted vegetation and, when present, open water less than 1 meter deep.** A wetland’s jurisdictional status under state or federal regulatory programs is not considered in this definition. The following table displays the S&T wetland categories that are included in or excluded from the sample draw.¹

Included S&T Categories	Excluded S&T Categories
Estuarine Intertidal Emergent	Estuarine and Marine Intertidal Aquatic Bed
Estuarine Shrub / Forested	Estuarine Intertidal Unconsolidated Shore
Palustrine Emergent	Palustrine Unconsolidated Shore
Palustrine Scrub Shrub	
Palustrine Forested	
Palustrine Unconsolidated Bottom / Aquatic Bed (with conditions)	
Palustrine Farmed (with conditions)	

¹ Definitions of habitat categories used by the S&T report are provided in Appendix A of *Status and Trends of Wetlands in the Conterminous United States 1998 to 2004* (Dahl 2006).

The latitude and longitude of each candidate POINT is listed on a spreadsheet distributed electronically to EPA's Regional NWCA Coordinators (see Attachment 2 for complete NWCA contact information). The S&T classification of each POINT will also be specified. The Regional NWCA Coordinator will distribute spreadsheets containing candidate POINTS to each State or Tribe within his/her region. Each spreadsheet contains a list of "revisit," "base" and "oversample" POINTS in the state. The POINTS are listed on the spreadsheet in the order in which they were randomly selected. The first two POINTs are designated as revisit sites and each POINT is sampled on 2 separate occasions during the NWCA sampling period. POINTS designated as base sites are sampled once. All revisit and base POINTS must be evaluated and should be sampled unless they are determined to be non-sampleable for reasons identified later in this document. Oversample POINTS are replacement sites for revisit and base POINTS that cannot be sampled.

In addition to the spreadsheet, EPA will distribute site maps at different scales on which the POINT locations are marked. The maps include the POINT location at scales appropriate for 1) generally locating the POINT and determining how to access it, and 2) beginning the initial evaluation on whether the POINT is sampleable (i.e., is it a wetland in the target population for the NWCA, is it accessible, and is the wetland encompassing the POINT large enough to sample).

If you have any questions about the site maps or how to use the information provided in them please contact Gregg Serenbetz (202-566-1253, serenbetz.gregg@epa.gov). More detailed information about the survey design and the selection of candidate POINTS in the NWCA will be available on the NARS website (<http://water.epa.gov/type/watersheds/monitoring/nationalsurveys.cfm>).

2.0 DESKTOP EVALUATION

The primary purpose of desktop evaluation is to determine if the selected POINT is, or likely will be, in the target population during the 2011 sample period using data that is easily obtainable and verifiable without the expense of a more intensive field visit. The focus of the desktop evaluation should be on ruling out sites that are clearly not part of the target population for reasons described below. **If information obtained during the desktop evaluation is not conclusive then a field visit will be necessary.**

It is possible that some wetlands selected for sampling based on their classification in the S&T plots will not be consistent with the NWCA target population. These wetlands will most likely be in Palustrine Unconsolidated Bottom / Aquatic Bed or Palustrine Farmed categories and would possess few, if any, characteristics of naturally-occurring wetlands. An important component of the evaluation is to determine if POINTS in these categories contain features indicating that the POINT is not in the target population.

A number of sources of information will be useful for the desktop evaluation. These include aerial images, topographic maps, National Wetlands Inventory datasets, state, county, or tribal wetland resource data, the National Hydrography Dataset (NHD), soil maps, crop maps, road maps, personal and local knowledge, literature and scientific reports, land ownership records, and the internet. The use of these sources is at the discretion of the Evaluation Team but all information gathered will enhance POINT evaluation and help to ensure that proper POINTS are sampled.

The procedures for conducting the desktop evaluation are detailed in the steps below. Information found during the evaluation should be recorded on the NWCA Site Evaluation Electronic Form (Electronic Evaluation Form). EPA will provide each state or entity conducting sampling as part of the NWCA an Excel spreadsheet specific to that state that can be filled out electronically. Instructions for completing this electronic form are provided in Attachment 3. **Site evaluation information must be completed for all revisit and base POINTS in the spreadsheet, as well as any oversample POINTS that are evaluated, regardless of whether the POINT is selected for sampling or not.** The information provided on the form will contribute to the statistical analyses of data from the survey.²

Step 1. Locate the POINT on the most recent aerial imagery that can be obtained. Using this imagery and any supplemental sources of information, determine if the POINT is in or near (within 60 meters of) a wetland in the target population. If the image or other sources of information provide **conclusive** evidence that the POINT **is not** in or near a target wetland, select the appropriate non-target category (see Figure 2 for a list) on the Electronic Evaluation Form, detail any explanatory information under additional comments, and follow the procedures for selecting an alternate POINT in Section 5.0.

² The use of the GRTS design allows for the correction of results to account for sampling errors (e.g., non-target POINTS) and for the dropping of POINTS in the target population because they are unsampleable (e.g., access is denied).

Sampleable/Non-Sampleable Categories

Use these categories as a guide to help determine the sampling status of the POINT.

Sampleable Categories

- *E2EM - Estuarine Intertidal Emergent*
- *E2SS - Estuarine Scrub Shrub / Forest*
- *PEM - Palustrine Emergent*
- *PSS - Palustrine Scrub Shrub*
- *PFO - Palustrine Forested*
- *PUBPAB - Palustrine Unconsolidated Bottom / Aquatic Bed.* Ponds that are not used solely for waste treatment or for other strictly industrial, aquacultural, or agricultural purposes.
- *Pf - Palustrine Farmed.* Farmed wetlands that are not currently being intensively managed for crop (row and close grown crops, rice, horticulture) production.

Non-Sampleable - Temporary Categories (site may be sampleable during index period)

- *Temporarily non-sampleable* – The site could not be sampled on the day of sampling but could be at a later date during the index period. Examples include a recent precipitation event or temporary flooding that has caused unrepresentative conditions. The site should be rescheduled for sampling at a later date.

Non-Sampleable - No Access to Site Categories

- *Access permission denied* – Access to site denied by landowner(s).
- *Permanently inaccessible* – Site is unlikely to be sampled by anyone due to physical barriers that prevent access to site (e.g., dangerous conditions)
- *Temporarily inaccessible* – Site cannot be reached at the present time due to barriers that may not exist at a future date (e.g., major flooding, fire) but are expected to persist throughout the index period.

Non-Sampleable – Non-Target Categories

- *Map error* – There is no evidence that a target wetland type is present.
- *Non target wetland type* – The wetland type present is not in the target population for the NWCA (i.e., palustrine or estuarine unconsolidated shore, estuarine and marine intertidal aquatic bed).
- *Active crop production during index period* – There is conclusive evidence that the site will be intensively managed for crop (row, rice, horticulture) production during the index period.
- *Strictly used for an industrial/agricultural/aquacultural purpose* – There is conclusive evidence that the site is used solely to treat waste or other strictly industrial, agricultural, or aquacultural purpose.
- *Inundated by water > 1 m in depth (over 90% of 60 m around pt)* – Water over 1 meter in depth covers 90% or more of the area in a 60 meter radius around the POINT.
- *Other* - explain in additional comments.

Non-Sampleable – Assessment Area (AA) Cannot Be Established Categories

- *Sampleable area too small* – Sampleable area is less than 0.1 hectare or less than 20 meters in width.
- *Unsampleable area greater than 10%* – More than 10 % of the AA is non-target or unsafe to sample.
- *Sampleable area crosses a hydrogeomorphic (HGM) boundary* – AA contains more than one HGM type or includes a tributary to the reach of the river or stream associated with the POINT

Figure 2 Sampleable / Non-sampleable categories in NWCA

Step 2. Determine the predominant wetland type for the POINT. See Figure 2 for sampleable wetland categories and Attachment 1 for technical descriptions of the S&T wetland categories included in the NWCA.

2A. If the wetland type at the POINT is Palustrine Unconsolidated Bottom / Aquatic Bed, review the aerial image and other sources of information to determine whether there is **conclusive** evidence that the POINT **is** in a wetland that is:

- 1) Strictly used to treat waste (e.g., wastewater lagoons, mining ponds),
- 2) Strictly used for industrial, agricultural, or aquacultural purposes (e.g., cooling ponds, livestock ponds, fish pens, commercial cranberry bogs),
- 3) Lined wholly with concrete or other manufactured barrier,
- 4) Inundated by water greater than 1 meter in depth that covers most of the area (90% or more) within a 60-m radius of the POINT.

If the POINT meets one or more of these criteria, note the reason(s) for this conclusion on the Electronic Evaluation Form and follow the procedures for selecting an alternate sample POINT in Section 5.0.

2B. If the wetland type at the POINT is Palustrine Farmed, review the aerial image and other sources of information and determine whether there is **conclusive** evidence that the wetland will be in managed crop production during the growing season either immediately prior to or during the NWCA sample period. Factors that should be considered include:

- 1) Presence of row or close grown crops (corn, sugar cane, soybeans, etc),
- 2) Terraced land (or other evidence of rice cultivation),
- 3) Recent evidence that the soil has been mechanically tilled,
- 4) Any other evidence uncovered during evaluation.

If the POINT meets one of these criteria or there is other information that provides **conclusive** evidence that the POINT lies in a Palustrine Farmed wetland that will be managed for crop production and will not have any characteristics of naturally-occurring wetlands, note the reason(s) for this conclusion on the Electronic Evaluation Form and follow the procedures for selecting an alternate sample point in Section 5.0. Use any information obtained through the evaluation to also estimate the wetland type that would be present if the POINT was not actively cropped and note this on the form.

Step 3. Review maps, other collected information, or enlist the assistance of someone with personal knowledge of the location of the POINT to determine if it is physically accessible by Field Crews and safe to sample. If these sources of information indicate **conclusively** that the point **is not** accessible, note the reason(s) for this conclusion on the Electronic Evaluation Form and follow the procedures for selecting an alternate POINT in Section 5.0.

In order to achieve the most robust results possible with the probabilistic sampling design, every effort must be made to sample the base points generated by the design. POINTS should not be rejected based on inconvenience in access. POINTS that require lengthy hikes from road access or the use of alternative vehicles (e.g., air boats, canoes) should not automatically be rejected. However, safety concerns for the field crew and permanent physical barriers (e.g., cliffs) that prevent access are legitimate reasons to reject POINTS.

- Step 4.** Review maps, other collected information, or enlist the assistance of someone with personal knowledge of the location of the POINT to determine if the wetland encompassing the POINT is large enough to sample³.

If the POINT is determined to be **non-sampleable**, follow the procedures for selecting an alternate POINT in Section 5.0.

If the POINT is determined to be **sampleable**, follow the procedures for obtaining permission to access the POINT in Section 3.0. If you are certain that the POINT is in the target population, accessible, and the wetland encompassing it is large enough to sample, then the POINT may be scheduled for sampling during the NWCA index period. Make sure to document any relevant site access issues or special requirements uncovered during desktop evaluation on the Electronic Evaluation Form.

If the status of the POINT is **uncertain** after desktop evaluation, then a field evaluation (Section 4.0) should be conducted, after first obtaining permission to access the location of the POINT.

Information and data sources used in the desktop evaluation should be retained as part of the project record and incorporated into the official site packet for each POINT. If you have questions about whether information should be deemed conclusive evidence of a POINT's status, please contact your EPA Regional NWCA Coordinator and/or Gregg Serenbetz.

³ As part of the sampling protocol for the NWCA an Assessment Area (AA) is established around the POINT in a prescribed manner outlined in the NWCA Field Operations Manual (FOM). The AA must be at least 0.1 hectares in area and at least 20 meters wide. Detailed information on establishing the AA is provided in Chapter 3 of the FOM.

3.0 OBTAINING PERMISSION TO ACCESS AND SAMPLE CANDIDATE SITE

Landowner permission is required to traverse, access, and sample any POINT that falls on privately-owned land. Each Field Crew is responsible for obtaining the permissions necessary to access their assigned sampling POINTS. Field Crews should follow protocols already established by their State, Tribe, or organization to obtain permission to access private land. If no protocols exist, Field Crews should employ the most personal contact practicable, enlisting the aid of any partners, groups or organizations that may be able to provide meaningful assistance (e.g., NRCS agents, local cooperative extension staff, state or tribal staff, USGS) and be potentially more effective at obtaining landowner permission. **It is vital for the integrity of the survey to sample all POINTS that are in the target population whether they fall on public or private land. All efforts should be made to obtain permission to sample POINTS on private land.**

An in-person visit is an effective way to establish contact with land owner(s) and could be incorporated into field evaluation of the POINT (see Section 4.0). Past surveys have found that landowners are more likely to grant permission if they meet with a study representative than if their only contact is through a phone call or letter. If a personal visit cannot be made, a phone call is considered the best alternative. If attempts to reach the landowner(s) through an in-person visit or telephone call are unsuccessful, a letter should be mailed with a fact sheet on the survey and a permission slip for the landowner(s) to return. Included in this package should be a return-addressed and postage-paid envelope with a specific date by which the permission slip should be returned. See Figure 3 for an example of a permission letter signed by an EPA Regional Coordinator. Attachments 4, 5, and 6 provide a sample landowner permission slip, a letter sent to landowners in the Gulf of Mexico Pilot Assessment, and a survey fact sheet. A signed permission slip is important documentation to have when visiting the site for field evaluation or sampling, and becomes part of the project record.

Landowner information can be obtained from the county tax assessor's office. Tax assessor maps display landowner boundaries, addresses and, oftentimes, phone numbers. This information enables the Field Crew to contact landowners before accessing the POINT and will identify the landowners of parcels Field Crews may have to traverse to reach the POINT. For some counties, these records are available through a publicly-accessible electronic database that is searchable online. For other counties, it may require a visit to the assessor's office to manually search these records.

Field Crews will also need to be aware of and follow any special conditions and requirements for accessing and sampling on state, tribal, or federal lands. POINTS that fall on federal or tribal lands will be identified when the site lists are distributed to states and tribes. Field Crews should work with appropriate state, tribal, and federal agencies to determine whether any permits or special conditions apply to these lands. EPA will provide assistance to Field Crews in coordinating efforts with federal land management agencies and with state and tribal agencies as needed.

[Date]

Dear Landowner:

The U.S. Environmental Protection Agency, in cooperation with State agencies, is conducting an ecological assessment of wetlands across the United States. A computer was used to randomly select sampling locations throughout the United States. A total of 900 wetland sites were selected for sampling in 2011. We will be conducting a site survey that will last 5-6 hours and will require no permanent structures. Our sampling area will be small, consisting of a 40-meter radius circle around the computer-selected point. The primary focus of the survey is to record observations about plant species, soil, hydrology, and water chemistry to assess the health of wetlands nationally. A minimal amount of water, soil, and vegetation will be collected from the site. The data collected is to be used for scientific purposes and copies of the final reports will be provided to landowners upon request.

One or more of the 900 randomly selected sites [is located on your property] / [requires a field crew to cross your property in order to reach the site]. We are contacting you prior to visiting the site to obtain your permission (form enclosed) to access the sampling site. We have enclosed a copy of a map(s) with the site(s) identified by a red circle at the specific point in the wetland to be sampled. We realize that working on your property is a privilege and we will respect your rights and wishes at all times.

Please return the completed Landowner Access Permission Form in the enclosed postage-paid envelope by [date]. If you have any questions concerning this request, please contact me [phone number]. We are looking forward to your reply.

Sincerely,

[Name]

EPA Regional Monitoring Coordinator

Figure 3 Example of a permission letter

4.0 FIELD EVALUATION

The components of the field evaluation of the POINT are similar to those outlined for the desktop evaluation and the primary purpose is the same – to determine if the selected POINT is, or likely will be, in the target population during the 2011 sample period, accessible by a Field Crew under the constraints of the NWCA, and within a wetland that is large enough to sample. Information obtained during the field evaluation should be documented on the POINT Verification Form (Attachment 7). **A form should be completed for every POINT assessed in the field, regardless of whether it is ultimately scheduled for sampling.** When using this form for field evaluation done prior to sampling, make sure to mark the circle labeled “RECON” next to VISIT at the top of the form.

The Evaluation Team that conducts the field evaluation should consist of at least 2 people, and one should have experience in wetland delineation. An important component of the field evaluation will be to determine if the POINT is in a wetland⁴, and if not, to determine if it is possible to relocate the POINT to a nearby area that is a wetland (see Section 4.2). This will be achieved more easily and quickly if one member of the Evaluation Team is experienced in wetland delineation and can recognize wetland characteristics in a variety of situations.

The field evaluation is also an important opportunity to invite and meet with Natural Resource Conservation Service (NRCS) extension agents and soil scientists to utilize their assistance. They will be valuable partners in coordinating with landowners and providing expertise in sampling soils and analyzing soil conditions.

4.1 POINT VERIFICATION

The first task in field evaluation of the POINT is to verify that the site is accessible, the POINT is in the target wetland population identified for the NWCA, and an Assessment Area can be established that encompasses the POINT. The following steps document the procedures to accomplish this task.

Step 1. Record a detailed description of the route taken to access the POINT (roads, trails, etc) on the POINT Verification Form starting from an appropriate central road intersection. In addition, note any access issues or requirements (locked gates, permits, etc). This information will be provided to the Field Crew as part of the site packet used on the day of sampling.

⁴ The NWCA uses the same definition of wetland as the U.S. Fish and Wildlife Service in its Wetlands Status and Trends study. See *Technical Procedures for Conducting Status and Trends of the Nation's Wetlands*, p. 10 (Dahl and Bergeson, 2009).

Step 2. If permission to access the POINT has not yet been obtained, meet with respective landowner(s) to discuss the survey and access to the POINT. This is also a good opportunity to get information about the area that includes the POINT from the landowner. In particular, if it is a Palustrine Farmed wetland, ask if the area will be in managed crop production⁵ during the 2011 sample period.

Step 3. Navigate to the POINT and verify the latitude and longitude of the POINT using a GPS receiver set to reference NAD 83. Use at least one other map source to confirm your location. If it is not possible or practicable to navigate to the exact location of the point due to high water (over 1 meter in depth), safety, or other reason, detail this on the POINT Verification Form and determine whether this is likely to prevent sampling during the NWCA index period. Take a digital picture to further document conditions at the POINT. The picture(s) should be representative of the prevailing conditions at the POINT. Digital pictures should be saved electronically and catalogued with NWCA site and date evaluated information to allow for future retrieval.

Step 4. Determine the predominant NWCA wetland type for the POINT. See Figure 2 for sampleable wetland categories and Attachment 1 for technical descriptions of the S&T wetland categories included in the NWCA.

4A. If the wetland type at the POINT is Palustrine Unconsolidated Bottom / Aquatic Bed document any evidence that the POINT is in a wetland that is:

- 1) Strictly used to treat waste (e.g., wastewater, mining ponds),
- 2) Strictly used for industrial, agricultural, or aquacultural purposes (e.g., cooling ponds, livestock ponds, fish pens, commercial cranberry bogs),
- 3) Lined wholly with concrete or other manufactured, non-vegetative barrier,
- 4) Inundated by water greater than 1 meter in depth that covers most of the area (90% or more) within a 60-m radius of the POINT.

4B. If the wetland type at the POINT is Palustrine Farmed document any evidence that the POINT will be actively managed for crop production during the NWCA field season:

- 1) Presence of row or close grown crops (corn, sugar cane, soybeans, etc),
- 2) Terraced land (or other evidence of rice cultivation),
- 3) Recent evidence that the soil has been mechanically tilled,
- 4) Confirmation from the landowner,
- 5) Any other evidence uncovered during evaluation.

⁵ Palustrine Farmed wetlands that are being intensively managed for crop production will not be sampled in the NWCA. This includes row and close grown crops (corn, sugar cane, soybeans, etc), rice cultivation, and horticultural crops. It does not include hay, pasture, and uncultivated fields (which may be sampled).

If the POINT is under active crop production, use any information obtained through the evaluation of the POINT to estimate the wetland type that would be present if the POINT was not actively cropped.

If evidence of any of the items listed in Step 4A and 4B is confirmed, then the POINT is not in the target wetland population for the NWCA.

Step 5. Verify that an Assessment Area (AA) can be established for the POINT. Chapter 3 of the Field Operations Manual provides full details on the establishment of the AA and should be used as a reference when completing this step.

Select the aerial photo from the site map packet, or another image that best depicts the setting at the POINT, and use this to annotate details on AA establishment. This annotated image will be provided to the Field Crew sampling the site to facilitate their work on the day of sampling.

Using the maps provided as a guide and the information you find at the POINT determine if an AA can be established that meets the following criteria:

- i. AA is between 0.1 and 0.5 hectares in area
- ii. AA is at least 20 meters wide
- iii. AA contains less than 10% unsampleable area (unsampleable area is defined as upland, non-target wetland, standing water greater than 1 m in depth, or soft substrate that is unsafe or impossible to sample)
- iv. AA does not cross a hydrogeomorphic (HGM) boundary (i.e., the AA contains only one HGM type⁶ or is alongside the reach of a river or stream with no entering tributaries)

If an AA can be established, depict on the map the most appropriate layout utilizing the Key to AA Layouts provided in the Field Operations Manual (Reference Card AA-1) and schedule the POINT for sampling.

Step 6. If the information gathered in the previous steps indicates that the POINT cannot be sampled, determine whether it is possible to relocate the POINT to a place within 60 meters of the original POINT by following the procedures outlined in Section 4.2.

Information, data sources, and pictures used in field evaluation should be retained as part of the project record and incorporated into the official site packet for each POINT. If you have questions about whether information is conclusive evidence of a POINT's status, please contact your EPA Regional NWCA Coordinator and/or Gregg Serenbetz.

⁶ Refer to Chapter 3 of the Field Operations Manual for detailed information on HGM types, examples, and a key to assist in classification (Reference Card AA-2: Key to Hydrogeomorphic Classes).

4.2 POINT RELOCATION

If during POINT verification it is determined that the original POINT cannot be sampled because the POINT is inaccessible, falls in a non-target wetland, or an Assessment Area cannot be established, the next task is to determine if the POINT can be moved to a sampleable wetland that lies within 60 meters of the original POINT.⁷ The following steps document the procedures to accomplish this task:

- Step 1.** Navigate to the nearest place that could serve as the CENTER of a valid Assessment Area **AND** is of the same NWCA wetland type as that listed for the original POINT in the spreadsheet distributed to you. Using a range finder, GPS, or measuring tape determine if this is within 60 meters of the original POINT. If it is, take a GPS reading for the new POINT. Document the GPS coordinates on the POINT Verification Form as well as evidence that the new POINT is in a wetland (wetland vegetation, hydrology, or hydric soils).⁸ Take a digital picture to further document the prevailing conditions at the POINT. Digital pictures should be saved electronically and catalogued with NWCA site and date evaluated information to allow for future retrieval. Field evaluation is complete and the POINT should be scheduled for sampling.
- Step 2.** If there is not a wetland of the same NWCA type as that listed for the original POINT within 60 meters, navigate to the nearest place that could serve as the CENTER of a valid Assessment Area **AND** is included in the target population. Using a range finder, GPS, or measuring tape determine if this is within 60 meters of the original POINT. If it is, take a GPS reading for the new POINT. Document the GPS coordinates on the POINT Verification Form as well as evidence that the new POINT is in a wetland (wetland vegetation, hydrology, or hydric soils). Take a digital picture to further document the prevailing conditions at the POINT. Digital pictures should be saved electronically and catalogued with NWCA site and date evaluated information to allow for future retrieval. Field evaluation is complete and the POINT should be scheduled for sampling.
- Step 3.** If there is not a wetland in the target population within 60 meters of the original POINT, document this conclusion on the POINT Verification Form and follow the procedures for selecting an alternate POINT in Section 5.0. Field evaluation is complete.

⁷ 60 meters was chosen to establish a new sample POINT because it is the distance that would encompass a roughly ± 1 second latitude/longitude degree mapping or GPS error.

⁸ The NWCA uses the same definition of wetland as the U.S. Fish and Wildlife Service in its Wetlands Status and Trends study. See *Technical Procedures for Conducting Status and Trends of the Nation's Wetlands*, p. 10 (Dahl and Bergeson, 2009).

Information, data sources, and pictures used in field evaluation should be retained as part of the project record and incorporated into the official site packet for each POINT. If you have questions about whether information should be deemed conclusive evidence of a POINT's status, please contact your EPA Regional NWCA Coordinator and/or Gregg Serenbetz.

5.0 SELECTING ALTERNATE POINTS

The list of POINTS randomly generated for the NWCA is organized in a spreadsheet by state for each EPA Region. Each spreadsheet contains a list of “revisit,” “base” and “oversample” POINTS in the state. The POINTS are listed on the spreadsheet in the order in which they were randomly selected. The first two POINTS are designated as revisit sites and each POINT is sampled on 2 separate occasions during the NWCA index period. POINTS designated as base sites are sampled once. All revisit and base POINTS must be evaluated and should be sampled unless they are determined to be non-sampleable for one of the following reasons:

- i. The POINT is inaccessible (due to safety, persistent deep water, or other physical barriers),
- ii. Permission to access the POINT has been denied,
- iii. The POINT is not in a target wetland, nor can it be relocated to a nearby wetland that is,
- iv. An Assessment Area cannot be established for the POINT.

If a revisit POINT is rejected because it is non-sampleable, then it is replaced by the next base POINT within the same state and the first oversample site on the list becomes a base POINT. If a base POINT is rejected because it is non-sampleable, then it is replaced by an oversample POINT within the same state.

When either a revisit or base POINT is rejected, the Evaluation Team must report it to the Designated EPA Contact (this could be the Regional NWCA Coordinator, a State/Tribal designee, or a representative from the contractor managing the Field Crews). The Evaluation Team must inform the Designated EPA Contact which site was rejected, the reason why, and the POINT selected from the oversample list to replace it. The Designated EPA Contact will then:

- i. Confirm that the correct process was used to select the alternate POINT,
- ii. Confirm which Field Crew is responsible for sampling the alternate POINT (if multiple organizations are sampling within state boundaries),
- iii. Report the replacement of revisit and base POINTS with oversample POINTS to appropriate Field Crew(s) and agencies AND to the EPA Project Team.

EPA Project Team:

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Figure 4 is provided to help illustrate the process for replacing POINTS within a state. For example, if NWCA11-1001 is reported as non-sampleable, then:

1. The first base POINT, NWCA11-1003, becomes a revisit POINT; and
2. The first oversample POINT on the list, NWCA11-1022, is added as a replacement base site.

It does not matter that these are different NWCA wetland types. If NWCA11-1022 is also determined to be non-sampleable, then it is replaced by the next oversample POINT, NWCA11-1023. As POINTS are rejected, Evaluation Teams will continue to work with the Designated EPA Contact to replace them with oversample POINTS by selecting the next site on the list, irrespective of NWCA wetland type.

SiteID	Longitude	Latitude	State	Panel	NWCA Wetland Type
NWCA11-1001	-88.268106824848400	30.537665718642400	AL	Revisit	PUBPAB
NWCA11-1002	-87.728912203214800	30.261784749595300	AL	Revisit	E2EM
NWCA11-1003	-88.114136619867600	30.384340175481200	AL	Base	PSS
NWCA11-1004	-88.357687090780200	31.544670184200500	AL	Base	PFO
NWCA11-1005	-87.979944286647600	30.773282394326700	AL	Base	E2SS
NWCA11-1006	-87.744739545635400	30.277746748701500	AL	Base	E2SS
NWCA11-1021	-87.739674733605000	30.270637571547600	AL	Base	E2EM
NWCA11-1022	-85.997599738081100	31.130269459574500	AL	OverSample	Pf
NWCA11-1023	-87.962016076724700	30.797037871918800	AL	OverSample	PFO
NWCA11-1026	-87.815794709207200	32.744723094459900	AL	OverSample	PUBPAB
NWCA11-1027	-87.977035378142400	30.772369828378300	AL	OverSample	E2EM

Figure 4 Example excerpt from EPA state spreadsheet of POINTS

6.0 REPORTING SITE EVALUATION INFORMATION TO EPA

It is critical that Evaluators and Field Crews report information obtained during the site evaluation process to EPA in a timely manner throughout the period of site evaluation in 2010-11 and field sampling in 2011. The following forms must be returned to EPA for all POINTS that are evaluated:

NWCA Site Evaluation Electronic Form: This electronic form must be completely filled out for ALL revisit and base POINTS on the state spreadsheet regardless of whether they are ultimately sampled. It must also be completed for ALL oversample POINTS considered as replacements. Please send completed spreadsheets to your Regional NWCA Coordinator and Gregg Serenbetz in a timely fashion prior to the 2011 field season and every several weeks during the field season. (See Attachment 2 for complete NWCA contact information).

NWCA POINT Verification Form: This form must be completed for ALL revisit, base, and oversample POINTS that are evaluated in the field, regardless of whether they are ultimately sampled. Send completed forms in batches with other field forms for the sites to the Information Management Coordinator, Marlys Cappaert, in the FedEx envelopes provided in the site kits. Forms should be submitted within 2 weeks of sampling.

7.0 LITERATURE CITED

Cowardin, L. M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. FWS/OBS-79/31. U.S. Fish and Wildlife Service, Washington, DC.

Dahl, T.E. 2006. Status and trends of wetlands in the conterminous United States 1998 to 2004. U.S. Department of the Interior; Fish and Wildlife Service, Washington, D.C.

Dahl, T.E. and M.T. Bergeson. 2009. Technical procedures for conducting status and trends of the Nation's wetlands. U.S. Fish and Wildlife Service, Division of Habitat and Resource Conservation, Washington, D.C.

Dahl, T.E., J. Dick, J. Swords, and B.O. Wilen. 2009. Data Collection Requirements and Procedures for Mapping Wetland, Deepwater and Related Habitats of the United States. U.S. Fish and Wildlife Service, Division of Habitat and Resource Conservation, National Standards and Support Team, Madison, WI.

Peck, D.V., J.M. Lazorchak, and D.J. Klemm (editors). Unpublished draft. Environmental Monitoring and Assessment Program -Surface Waters: Western Pilot Study Field Operations Manual for Wadeable Streams. U.S. Environmental Protection Agency, Washington, D.C.

Stevens, D.L., Jr. and A.R. Olsen. 2004. Spatially-balanced sampling of natural resources. *Journal of American Statistical Association* 99:262-278.

US EPA. 2006. Survey of the Nation's Lakes: Lake Evaluations Guidelines. EPA841-B-06-003. U.S. Environmental Protection Agency, Washington, D.C.

US EPA. 2007. National Rivers and Streams Survey: Site Evaluations Guidelines. EPA841-B-07-008. U.S. Environmental Protection Agency, Washington, D.C.

US EPA. 2011. National Wetland Condition Assessment: Field Operations Manual. EPA-843-10-001. U.S. Environmental Protection Agency, Washington, D.C.

USGS. 2008. Gulf of Mexico Coastal Wetlands Condition Assessment – Pilot Survey; Quality Assurance Project Plan. Gulf Breeze, FL.

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NWCA SITE EVALUATION GUIDELINES: ATTACHMENT 1

Wetland, Deepwater, and Upland Categories Used in FWS Wetland Status and Trends Studies

CATEGORIES INCLUDED IN NWCA				
Code	Subcode	Full Name	Common Description	Technical Description ¹
E2EM		Estuarine Intertidal Emergent	Salt marsh	Emergent wetlands in estuarine systems characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants.
E2SS		Estuarine Intertidal Scrub Shrub / Forested	Mangroves Other estuarine shrubs	Shrub wetlands in estuarine systems that are dominated by woody vegetation less than 20 feet (6 meters) tall. The species include true shrubs, young trees, and trees or shrubs that are small or stunted because of environmental conditions. Forested wetlands are characterized by woody vegetation that is 6 meters tall or taller.
PEM		Palustrine Emergent	Inland marshes Wet meadows	Emergent wetlands in palustrine systems characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants.
PSS		Palustrine Scrub Shrub	Shrub wetlands	Shrub wetlands in palustrine systems that are dominated by woody vegetation less than 20 feet (6 meters) tall. The species include true shrubs, young trees, and trees or shrubs that are small or stunted because of environmental conditions.
PFO		Palustrine Forested	Forested swamps	Forested wetlands in palustrine systems that are characterized by woody vegetation that is 6 meters tall or taller.
Pf		Palustrine Farmed	Farmed wetland	Farmed wetlands are wetlands that meet the Cowardin et al. definition where the soil surface has been mechanically or physically altered for production of crops, but where hydrophytes will become reestablished if farming is discontinued.
PUBPAB		Palustrine Unconsolidated Bottom / Aquatic Bed	Ponds, aquatic beds	Unconsolidated bottom includes all wetlands with at least 25 percent cover of particles smaller than stones, and a vegetative cover less than 30 percent. Examples of unconsolidated substrates are: sand, mud, organic material, cobble gravel.
	PAB	Palustrine Aquatic Bed	Intertidal freshwater seagrass beds Pondweeds	
	PUBf	Pond - Agriculture	Farm ponds Drainage water ponds	
	PUBn	Pond - Natural	Bog lakes Vernal pools Kettles Beaver ponds Alligator holes	
	PUBu	Pond - Urban	Aesthetic ponds Recreation ponds Golf course ponds Residential lakes Water retention ponds	The wetlands must also have the following four characteristics: (1) area less than 20 acres (8 ha); (2) an active wave formed or bedrock shoreline features are lacking; (3) water depth in the deepest part of a basin less than 6.6 feet (2 meters) at low water; and (4) salinity due to ocean derived salts less than 0.5 parts per thousand.

¹ Descriptions are taken from Status and Trends of Wetlands in the Conterminous United States 1998 to 2004. U.S. Department of the Interior; Fish and Wildlife Service, Washington, D.C (Dahl 2006)

NWCA SITE EVALUATION GUIDELINES: ATTACHMENT 1

Wetland, Deepwater, and Upland Categories Used in FWS Wetland Status and Trends Studies

CATEGORIES EXCLUDED FROM NWCA				
Code	Subcode	Full Name	Common Description	Technical Description ²
PUBPAB		Palustrine Unconsolidated Bottom / Aquatic Bed	Ponds, aquatic beds	
	PUBa	Pond – Aquaculture	Cranberry production Fish rearing pens	
	PUBf	Pond – Agriculture	Dug outs for livestock Waste ponds	
	PUBi	Pond – Industrial	Mine pits Highway burrow ponds Sewage lagoons Holding ponds	
LAC		Lacustrine	Lakes and reservoirs	The lacustrine system includes deepwater habitats with all of the following characteristics: (1) situated in a topographic depression or a dammed river channel; (2) lacking trees, shrubs, persistent emergents, emergent mosses or lichens with greater than 30 percent coverage; (3) total area exceeds 20 acres (8 ha).
RIV		Riverine	River systems	The riverine system includes deepwater habitats contained within a channel, with the exception of habitats with water containing ocean derived salts in excess of 0.5 parts per thousand. A channel is "an open conduit either naturally or artificially created which periodically or continuously contains moving water, or which forms a connecting link between two bodies of standing water"
E1UB		Estuarine Subtidal	Open water , bay bottoms	The substrate is continuously submerged by estuarine waters.
E2AB		Estuarine Intertidal Aquatic Bed	SAV	The substrate is exposed and flooded by tides. Intertidal includes the splash zone of coastal waters.
E2US		Estuarine Intertidal Unconsolidated Shore	Beaches, bars	The substrate is exposed and flooded by tides. Intertidal includes the splash zone of coastal waters.
M1		Marine Subtidal	Open ocean	The substrate is continuously submerged by marine waters.
M2		Marine Intertidal	Near shore	The substrate is exposed and flooded by tides.
PUS		Palustrine Unconsolidated Shore		Unconsolidated shore includes all wetland habitats having two characteristics: (1) unconsolidated substrates with less than 75 percent areal cover of stones, boulders or bedrock and; (2) less than 30 percent areal cover of vegetation other than pioneering plants.
UA		Upland – Agriculture	Cropland, pasture, managed range lands	Agricultural land may be defined broadly as land used primarily for production of food and fiber. Agricultural activity is evidenced by distinctive geometric field and road patterns on the landscape and the traces produced by livestock or mechanized equipment. Examples of agricultural land use include cropland and pasture; orchards, groves, vineyards, nurseries, cultivated lands, and ornamental horticultural areas including sod farms; confined feeding operations; and other agricultural land including livestock feed lots, farmsteads including houses, support structures (silos) and adjacent yards, barns, poultry sheds, etc.
UB		Upland – Urban	Cities and incorporated developments	Urban land is comprised of areas of intensive use in which much of the land is covered by structures (high building density). Urbanized areas are cities and towns that provide the goods and services needed to survive by modern day standards through a central business district. Services such as banking, medical and legal office buildings, supermarkets, and department stores make up the business center of a city. Commercial strip developments along main transportation routes, shopping centers, contiguous dense residential areas, industrial and commercial complexes, transportation, power and communication facilities, city parks, ball fields and golf courses can also be included in the urban category.

² Descriptions are taken from Status and Trends of Wetlands in the Conterminous United States 1998 to 2004. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C (Dahl 2006)

Wetland, Deepwater, and Upland Categories Used in FWS Wetland Status and Trends Studies

CATEGORIES EXCLUDED FROM NWCA				
Code	Subcode	Full Name	Common Description	Technical Description ²
UFP		Upland – Forested Plantations	Planted or intensively managed forests	Forested plantations include areas of planted and managed forest stands. Planted pines, Christmas tree farms, clear cuts, and other managed forest stands, such as hardwood forestry are included in this category. Forested plantations can be identified by observing the following remote sensing indicators: 1) trees planted in rows or blocks; 2) forested blocks growing with uniform crown heights; and 3) logging activity and use patterns.
UO		Upland – Other	Rural uplands not in any category, barren lands	Other Land Use is composed of uplands not characterized by the previous categories. Typically these lands would include native prairie; unmanaged or non-patterned upland forests and scrub lands; and barren land. Lands in transition may also fit into this category. Transitional lands are lands in transition from one land use to another. They generally occur in large acreage blocks of 40 acres (16 ha) or more and are characterized by the lack of any remote sensor information that would enable the interpreter to reliably predict future use. The transitional phase occurs when wetlands are drained, ditched, filled, leveled, or the vegetation has been removed and the area is temporarily bare.
URD		Upland – Rural Development	Non urban developed areas and infrastructure	Rural developments occur in sparse rural and suburban settings outside distinct urban cities and towns. They are characterized by non-intensive land use and sparse building density. Typically, a rural development is a cross-roads community that has a corner gas station and a convenience store which are surrounded by sparse residential housing and agriculture. Scattered suburban communities located outside of a major urban center can also be included in this category as well as some industrial and commercial complexes, isolated transportation, power, and communication facilities, strip mines, quarries, and recreational areas such as golf courses, etc. Major highways through rural development areas are included in the rural development category.

Marine, Estuarine, and Palustrine System Definitions³

Marine System: The marine system consists of the open ocean overlying the continental shelf and its associated high energy coastline. Marine habitats are exposed to the waves and currents of the open ocean. Salinity exceeds 30 parts per thousand, with little or no dilution except outside the mouths of estuaries. Shallow coastal indentations or bays without appreciable freshwater inflow and coasts with exposed rocky islands that provide the mainland with little or no shelter from wind and waves, are also considered part of the Marine System because they generally support a typical marine biota.

Estuarine System: The estuarine system consists of deepwater tidal habitats and adjacent tidal wetlands that are usually semi enclosed by land but have open, partly obstructed, or sporadic access to the open ocean, and in which ocean water is at least occasionally diluted by freshwater runoff from the land. The salinity may be periodically increased above that of the open ocean by evaporation. Along some low energy coastlines there is appreciable dilution of sea water. Offshore areas with typical estuarine plants and animals, such as red mangroves (*Rhizophora mangle*) and eastern oysters (*Crassostrea virginica*), are also included in the Estuarine System.

Palustrine System: The palustrine (freshwater) system includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, farmed wetlands, and all such wetlands that occur in tidal areas where salinity due to ocean derived salts is below 0.5 parts per thousand. It also includes wetlands lacking such vegetation, but with all of the following four characteristics: (1) area less than 20 acres (8 ha); (2) an active wave formed or bedrock shoreline features are lacking; (3) water depth in the deepest part of a basin less than 6.6 feet (2 meters) at low water; and (4) salinity due to ocean derived salts less than 0.5 parts per thousand.

³ Descriptions are taken from Status and Trends of Wetlands in the Conterminous United States 1998 to 2004. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C (Dahl 2006)

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NWCA SITE EVALUATION GUIDELINES: ATTACHMENT 3

Instructions for Completing the NWCA Site Evaluation Electronic Form (spreadsheet)

EPA will provide each state or other organization conducting sampling as part of the NWCA with a site evaluation spreadsheet that includes all of the applicable sampling sites organized by state and site id. The list of sites includes revisit sites (visited twice), base sites (visited once) and oversample sites (visited only if a revisit or base site is dropped from sampling).

A. Complete site evaluation information for all sites highlighted in pink (revisit) and yellow (base). Several columns use pick lists for ease in data entry and to ensure consistent information.

1. Columns A-G. These columns will be completed for you in the spreadsheet.
2. Column H. Add the 2010 era FWS Status and Trends classification code for the POINT. This information is included in the NWCA site maps for your state distributed by EPA. If the site maps have not yet been completed for your state, leave blank.
3. Column I. Indicate whether the POINT is in, or within 60 meters, of a wetland in the target population for the NWCA based on the target definition provided in Section 1.0 of the Site Evaluation Guidelines. If you have questions about what is target/non-target please contact your EPA Regional NWCA Coordinator or Gregg Serenbetz.
4. Columns J-L. Either during desktop evaluation or a field visit, determine whether the site is sampleable using the sampleable/non-sampleable categories guide below. If it is sampleable, select the predominant wetland type of the site in Column K. If it is not sampleable, select the appropriate category in Column L. If the site is not currently sampleable, but will be later in the index period, be sure to note when you plan to return in the comments field. The information in the spreadsheet should be updated when the site is determined to be sampleable.
5. Columns M-N. Input the actual GPS coordinates in decimal degrees (set to NAD83) for the latitude and longitude recorded at the POINT if a site visit was conducted. If the POINT can not be accessed, provide the coordinates where the evaluation took place. If the POINT is relocated, provide the coordinates for the NEW POINT. Leave columns blank if no site visit was made.
6. Column O. If a site is dropped, please provide any information that could be useful for NWCA field and data analysis teams. **If it is dropped because it is in active crop production, provide an estimate of the predominant wetland type that would be present if not farmed.**
7. Column P. Please indicate the highest level of review that was conducted. If only a desktop evaluation was conducted, indicate this. If both a desktop evaluation and site visit were done, indicate site visit.
8. Columns Q-S. Provide contact information for the person(s) conducting the site evaluation.
9. Column T. Provide any additional comments about the site that further explain the results of the evaluation and/or would be useful to a field crew sampling the site. In particular, note any relevant site access issues or special requirements for the site (difficult terrain, locked gates, permits).

B. If you drop a site, select the NEXT available replacement site from the oversample list. Oversample sites are listed after revisit (highlighted in pink) and base (highlighted in yellow) sites and are in italics.

1. Be sure to let your EPA regional coordinator and Gregg Serenbetz know which sites have been dropped and which sites are selected as replacements. This is especially important when more than one organization is conducting sampling within a state.
2. If a revisit site is dropped, the next base site on the list becomes a revisit site, and the next oversample site on the list is used as a replacement base site.

C. **Site evaluation information must be completed for all oversample sites used as replacements for revisit or base sites that are dropped.**

NWCA SITE EVALUATION GUIDELINES: ATTACHMENT 3

D. Submit site evaluation information in the spreadsheet to your EPA Regional NWCA Coordinator and Gregg Serenbetz prior to the start of the 2011 field season and periodically throughout the field season as changes are made.

Sampleable/Non-Sampleable Categories

Use these categories as a guide to help determine the sampling status of the POINT.

Sampleable Categories

- *E2EM - Estuarine Intertidal Emergent*
- *E2SS - Estuarine Scrub Shrub / Forest*
- *PEM - Palustrine Emergent*
- *PSS - Palustrine Scrub Shrub*
- *PFO - Palustrine Forested*
- *PUBPAB - Palustrine Unconsolidated Bottom / Aquatic Bed.* Ponds that are not used solely for waste treatment or for other strictly industrial, aquacultural, or agricultural purposes.
- *Pf - Palustrine Farmed.* Farmed wetlands that are not currently being intensively managed for crop (row and close grown crops, rice, horticulture) production.

Non-Sampleable - Temporary Categories (site may be sampleable during index period)

- *Temporarily non-sampleable* – The site could not be sampled on the day of sampling but could be at a later date during the index period. Examples include a recent precipitation event or temporary flooding that has caused unrepresentative conditions. The site should be rescheduled for a later date.

Non-Sampleable - No Access to Site Categories

- *Access permission denied* – Access to site denied by landowner(s).
- *Permanently inaccessible* – Site is unlikely to be sampled by anyone due to physical barriers that prevent access to site (e.g., dangerous conditions)
- *Temporarily inaccessible* – Site cannot be reached at the present time due to barriers that may not exist at a future date (e.g., major flooding, fire) but are expected to persist throughout the index period.

Non-Sampleable – Non-Target Categories

- *Map error* – There is no evidence that a target wetland type is present.
- *Non target wetland type* – The wetland type present is not in the target population for the NWCA (i.e., palustrine or estuarine unconsolidated shore, estuarine and marine intertidal aquatic bed).
- *Active crop production during index period* – There is conclusive evidence that the site will be intensively managed for crop (row, rice, horticulture) production during the index period.
- *Strictly used for an industrial/agricultural/aquacultural purpose* – There is conclusive evidence that the site is used solely to treat waste or for another strictly industrial, agricultural, or aquacultural purpose.
- *Inundated by water > 1 m in depth (over 90% of 60 m around pt)* – Water over 1 meter in depth covers 90% or more of the area in a 60 meter radius around the POINT.
- *Other* - explain in additional comments.

Non-Sampleable – Assessment Area Cannot Be Established Categories

- *Sampleable area too small* – Sampleable area is less than 0.1 hectare or less than 20 meters in width.
- *Unsampleable area greater than 10%* – More than 10 % of the AA is non-target or unsafe to sample
- *Sampleable area crosses a hydrogeomorphic (HGM) boundary* – AA contains more than one HGM type or includes a tributary to the reach of the river or stream associated with the POINT

SITE ID: _____

NWCA Landowner Permission Form

The Field Crew from [fill in state agency, Cooperator, or contractor name] has requested permission to access the wetland site located on my property as part of the EPA's National Wetland Condition Assessment. Please check one of the choices below:

_____ I grant permission

_____ I grant permission, but with the following restrictions: _____

_____ I do not grant permission

Landowner Name (please print): _____

Landowner Signature: _____

Date: _____

Phone Number: _____

Address: _____

Additional Access Information (please describe any specific details about your property that the Field Crew should be aware of, such as gates, cattle or livestock on property, planned prescribed burns, planned harvests, etc.):

If the occupant is different than the landowner, please list the name and phone number of the occupant below so that we may contact them before the site visit:

NWCA SITE EVALUATION GUIDELINES: ATTACHMENT 5



United States Department of the Interior
U.S. Geological Survey
Biological Resources Division / National Wetlands Research Center
Gulf Breeze Project Office
1 Sabine Island Drive
Gulf Breeze, Florida 32561



May 1, 2007

Dear Landowner:

The U.S. Geological Survey in cooperation with other federal and state agencies is conducting an ecological assessment of coastal wetlands across the Gulf of Mexico region. A computer was used to randomly select sampling locations throughout the five Gulf of Mexico states. A total of 100 coastal wetlands sampling sites were selected for sampling in 2007/2008. We will be conducting a one-time site survey that will last 3-5 hours and will require no permanent structures. Our sample area will be small, consisting of a sample point location (latitude/longitude) and a 25-meter radius circle around the point. The primary focus of the on-site field survey is to record observations such as plant species diversity, topographic complexity, hydrology source and distance to uplands. A minimal amount of water, sediment and vegetation will be collected from the sample point, not to exceed the following amounts: a) water chemistry (less than 1 quart), b) sediment samples (less than 1 gallon) and c) vegetative clippings (3 plots of 3 square feet from herbaceous marsh sites or 15 live tree leaves from forested sites). This is part of a research study to evaluate methods that may be used in a national ecological assessment of coastal wetlands slated for 2011.

One or more of the 100 randomly selected sampling sites is located on your property. We are contacting you prior to the site visit to obtain permission (form enclosed) to access the sampling site. We have enclosed a copy of a topographic map(s) with the site(s) identified by an "X" at the specific point in the wetlands to be sampled. We realize that working on your property is a privilege and we will respect your landowner rights at all times and no visits will be made without prior contact to establish a specific field date and logistics. The data collected is to be used for scientific purposes and USGS agrees to provide the landowner a copy of final reports if requested. For legal clarification, USGS follows The Federal Tort Claims Act, 28 USC 2671, which holds the U.S. Government liable for personal injuries and property damage caused by the negligent or wrongful act or omission of its employees while they are performing their official duties.

Please return the completed Landowner Access Permission Form in the enclosed envelope. If you have any questions concerning this request, please contact me (850-934-9373). We are looking forward to your reply.

Sincerely,

Tom Heitmuller
Field Monitoring Coordinator



Survey of the Nation's Wetlands: A Fact Sheet for Communities



Introduction

The U.S. Environmental Protection Agency (EPA), states, and tribes are conducting the first-ever nationwide survey of the condition of the nation's wetlands. This survey, the *National Wetlands Condition Assessment*, is one in a series of studies that will help us measure the health of our waters, take action to prevent pollution, and evaluate the effectiveness of protection and restoration efforts.

Designed to estimate the percentage of wetlands that are in good, fair, or poor condition, this survey will serve as a scientific report card on America's wetlands. It will examine ecological, biological and water quality indicators and assess the extent of key stressors across the country.

This survey is a collaborative effort that involves dozens of state environmental and natural resource agencies, federal agencies, tribes, universities and other organizations. In most states, state water quality staff will conduct the ecological sampling and habitat assessments.

How were wetlands selected?

A total of 900 wetland sites are included in this survey, representing seven wetland

types and distributed across the lower 48 states. EPA selected the wetland sites from the network of plots in the U.S. Fish Wildlife Service's wetland status and trends report, which characterizes wetland acreage by type in the lower 48 states. Sampling sites were selected randomly using a statistical survey design to represent the population of wetlands in their ecological region - the geographic area in which climate, ecological features, and plant and animal communities are similar.



Distribution of wetlands in the survey

What about my wetland?

If your wetland is being sampled for this survey, it was selected randomly from the total population of wetlands in your part of the country. Your wetland was not selected because it exhibits any

particular problem or water quality condition, or because it was recommended for sampling by an agency or organization. Data from your wetland will contribute to the regional and national picture of wetland condition.

If your wetland is not being sampled for this survey, it was not omitted for any particular reason, but rather because it was not randomly selected or did not fit into the target population of wetlands (e.g., wetlands that have rooted vegetation and water not greater than one meter in depth).

The *National Wetlands Condition Assessment* (NWCA) is designed to complement the U.S. Fish and Wildlife Service's status and trends report. When paired together, the two efforts will provide comparable and scientifically-defensible national information on wetland quantity and quality. The NWCA will also provide a regional - and in some cases, statewide - assessment of wetland condition and allow for comparison of a particular wetland to the range of wetlands in a region or state.

What will researchers measure?

Field crews will be taking many measurements at each selected wetland site. They will be using consistent procedures at all sites so that results can be compared across the country. They will be measuring such things as:

- The presence and abundance of grassy plants, trees, and shrubs
- Algae collected from sediments and the surface of plant stems and leaves
- Soil properties and chemistry
- Water chemistry (such as dissolved oxygen, nutrients, chlorophyll-a)
- Condition of the habitat in the area surrounding the wetland.

What happens next?

Field crews will sample during the summer of 2011. EPA intends to issue a report on the findings in 2013. Between the sampling period and publication of the national report, samples will be analyzed in the lab, the data will be entered into a database and analyzed, and a draft report will be written and reviewed. The public will have the opportunity to review and comment on the draft report.

For more information, visit:

<http://water.epa.gov/type/wetlands/assessment/survey/index.cfm>

or email us with questions at

Scozzafava.Michaele@epa.gov

Serenbetz.Gregg@epa.gov

Faulkner.Chris@epa.gov

U.S. Environmental Protection Agency
1200 Pennsylvania Ave. NW (4502T)
Washington, DC 20460
October 2010

NWCA SITE EVALUATION GUIDELINES: ATTACHMENT 7

FORM PV-1: NWCA POINT VERIFICATION FORM (Front)				Reviewed by (Initial): _____
SITE ID: NWCA11-		VISIT: <input type="radio"/> RECON <input type="radio"/> 1 <input type="radio"/> 2		DATE: ____ / ____ / 2011
EVALUATOR: _____		AFFILIATION: _____		
POINT LOCATION AND ACCESSIBILITY				
Directions to POINT:				
Provide GPS coordinates at the location evaluation took place (use NAD83); identify where below.		Latitude		Longitude
<input type="radio"/> POINT <input type="radio"/> Nearest practicable		Decimal Degrees		
POINT verified by (fill in all that apply): <input type="radio"/> Aerial Photo <input type="radio"/> Topo Map <input type="radio"/> Other (describe): _____				
Is the POINT accessible? <input type="radio"/> YES <input type="radio"/> NO If it is not accessible, note the reason, whether this is permanent or temporary, and provide any relevant comments below. <input type="radio"/> Permission to access site denied <input type="radio"/> Physically inaccessible (crew safety, barriers, high water) <input type="radio"/> Temporary <input type="radio"/> Permanent		Note any difficulties accessing site <input type="radio"/> Dense Vegetation <input type="radio"/> Steep/Unstable terrain <input type="radio"/> Deep Water <input type="radio"/> Livestock <input type="radio"/> Other (describe): _____ Special Access Requirements <input type="radio"/> Locked Gates <input type="radio"/> Special Permits		
Additional Access Comments:				
PREDOMINANT WETLAND TYPE AT THE POINT (MARK ONE)				
Status & Trend Categories INCLUDED in target population <input type="radio"/> E2EM - Estuarine Intertidal Emergent <input type="radio"/> E2SS - Estuarine Shrub/Forested <input type="radio"/> PEM - Palustrine Emergent <input type="radio"/> PSS - Palustrine Scrub/Shrub <input type="radio"/> PFO - Palustrine Forested <input type="radio"/> PUBPAB - Palustrine Unconsolidated Bottom/Aquatic Bed (see conditions) <input type="radio"/> Pf - Palustrine Farmed (see conditions)		Status & Trend Categories EXCLUDED from target population <input type="radio"/> Estuarine/Marine Intertidal Aquatic Bed (SAV) <input type="radio"/> Estuarine Intertidal Unconsolidated Shore (mudflats) <input type="radio"/> Estuarine/Marine Subtidal (deep water) <input type="radio"/> Palustrine Unconsolidated Shore (non-tidal mudflats) <input type="radio"/> Lacustrine/Riverine (deep water) <input type="radio"/> Other (upland, developed, etc) _____		
SPECIAL CONDITIONS				
If either PUBPAB or Pf are marked above then indicate the presence of any feature(s) that exclude the POINT from sampling in the appropriate section below.				
Palustrine Farmed (Mark all that apply) <input type="radio"/> Presence of row or close grown crops (list type in comments) <input type="radio"/> Terraced Land <input type="radio"/> Recent evidence land has been mechanically tilled <input type="radio"/> Confirmation from land owner <input type="radio"/> Other evidence (describe) _____ Predominant wetland type if it were not in crop production (Mark One) <input type="radio"/> E2EM <input type="radio"/> E2SS <input type="radio"/> PEM <input type="radio"/> PSS <input type="radio"/> PFO <input type="radio"/> PUBPAB		Palustrine Unconsolidated Bottom (Mark all that apply) <input type="radio"/> Strictly used to treat waste <input type="radio"/> Strictly used for industrial, agricultural, or aquacultural purposes <input type="radio"/> Lined wholly with concrete or other manufactured non-vegetative barrier <input type="radio"/> Inundated by water greater than 1m depth covering most of the area within a 60m radius of POINT Provide any additional information in the comments section on the back of this form		
11/30/2010 NWCA Point Verification Form				2733231641

NWCA SITE EVALUATION GUIDELINES: ATTACHMENT 7

FORM PV-1: NWCA POINT VERIFICATION FORM (Back)		Reviewed by (initial):				
Site ID: NWCA11-		DATE: / / 2 0 1 1				
IS POINT SAMPLEABLE						
<input type="radio"/> YES <input type="radio"/> original POINT is sampleable (fill in category below) <input type="radio"/> POINT can be relocated (fill in category below AND enter documentation for relocated point) SAMPLEABLE CATEGORIES <input type="radio"/> E2EM - Estuarine Intertidal Emergent <input type="radio"/> E2SS - Estuarine Scrub Shrub/Forest <input type="radio"/> PEM - Palustrine Emergent <input type="radio"/> PSS - Palustrine Scrub Shrub <input type="radio"/> PFO - Palustrine Forested <input type="radio"/> PUBPAB - Palustrine Unconsolidated Bottom/Aquatic Bed, Ponds that are not used solely for waste treatment or for other strictly industrial, aquacultural, or agricultural purposes. <input type="radio"/> Pf - Palustrine Farmed. Farmed wetlands that are not currently being intensively managed for crop (row and close ground crops, rice, horticulture) production.	<input type="radio"/> NO (fill in category below) NON-SAMPLEABLE - TEMPORARY CATEGORIES <input type="radio"/> Temporarily Non-Sampleable NON-SAMPLEABLE - NO ACCESS CATEGORIES <input type="radio"/> Access permission denied <input type="radio"/> Permanently inaccessible <input type="radio"/> Temporarily inaccessible NON-SAMPLEABLE - NON TARGET CATEGORIES <input type="radio"/> Map Error <input type="radio"/> Non target wetland type <input type="radio"/> Active crop production during index period <input type="radio"/> Strictly used for an industrial/agricultural/aquacultural purpose <input type="radio"/> Inundated by water > 1m in depth (over 90% of 60m around pt) <input type="radio"/> Other (describe) _____ NON-SAMPLEABLE - AA CAN'T BE ESTABLISHED <input type="radio"/> Sampleable area too small <input type="radio"/> Unsampleable area greater than 10% <input type="radio"/> Sampleable area crosses hydrogeomorphic (HGM) boundary					
DOCUMENTATION FOR RELOCATED POINT						
Provide GPS coordinates for the relocated point (use NAD83)	Decimal Degrees	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Latitude</th> <th style="width: 50%;">Longitude</th> </tr> <tr> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> </table>	Latitude	Longitude	_____	_____
Latitude	Longitude					
_____	_____					
Basis for Wetland Determination (fill in all that apply): <input type="radio"/> Hydrophytic vegetation predominant <input type="radio"/> Hydric soil predominant <input type="radio"/> Wetland hydrology is present If at least one of the above is filled in the POINT is a wetland for the purposes of this survey.	Hydrophytic Vegetation Indicators (describe): _____ Hydric Soil Indicators: <input type="radio"/> High organic content <input type="radio"/> Histic epipedon <input type="radio"/> Reducing conditions <input type="radio"/> Sulfidic odor <input type="radio"/> Gleyed <input type="radio"/> Organic streaking <input type="radio"/> Aquic moisture regime Soil Map Unit: _____ Listed as hydric? <input type="radio"/> Yes <input type="radio"/> No Wetland Hydrology Indicators: <input type="radio"/> Standing water <input type="radio"/> Water marks <input type="radio"/> Buttressed trunks <input type="radio"/> Water stained leaves <input type="radio"/> Water carried debris <input type="radio"/> Bare areas <input type="radio"/> Saturated Soils <input type="radio"/> Oxidized rhizospheres <input type="radio"/> Shallow roots <input type="radio"/> Floating Mat <input type="radio"/> Other _____					
COMMENTS						
11/30/2010 NWCA Point Verification Form		7893231643				