

RFP – Delaware Statewide Wetlands Mapping
NAT 18 123 – Wetlands
Submitted Questions and Answers
March 7, 2018

*The questions below were submitted per instructions within the RFP due by March 5th at 12pm ET.

Imagery and LiDAR Questions (Provided Data):

Is the 2007 dataset from the following map service available in shapefile or file geodatabase? https://firstmap.gis.delaware.gov/arcgis/rest/services/Hydrology/DE_Wetlands/FeatureServer

The 2007 dataset is available for download as a shapefile. NOTE: This RFP does not seek to simply update/adjust the 2007 data but to provide a new re-interpretation of wetlands statewide using newer techniques and methods, and using the next generation of NWI standards.

Page 6 Section II.C - Will the 2017 leaf-off 4-band aerial imagery be provided by DNREC to the contractor along with the GIS data for the previous 2007 wetland mapping effort?

Yes, the 2007 wetland data and imagery are available here on Delaware FirstMap: <https://firstmap.delaware.gov/data.shtml> The imagery is .25m statewide, with .07m in State Park owned properties.

Can we get few sample aerial images as source data for evaluation purposes which will be used to build polygon geometries to build Wetlands GIS Data layer (or feature class)?

Do we have multiple aerial images or they have been mosaiced together?

We expect that aerial imagery is ortho-rectified and let us know if it is not.

Samples will not be provided. The imagery is mosaiced and ortho-rectified – available here: [FirstMap](#)

Is the 2017 leaf-off 4 band .25 imagery tied to the LiDAR? (Appendix A p.53)

No, the LiDAR was completed in 2014 prior to the imagery.

Page 6 Section II.C – “Wetland maps will be created from 2017 leaf-off 4-band imagery and use existing datasets”. Has LiDAR data for the state been flown and can you confirm the date of the last flown LiDAR if applicable?

Yes, LiDAR for the state was flown in 2014 and is available to the contractor.

Will DNR provide other relevant data besides aerial imagery, such as LiDAR or DEM or any other field/GIS data?

Yes on LiDAR and DEM, and any other data DNREC has readily available to assist in the project.

Item #2 of the Scope of Work discusses DNREC providing additional datasets to the awardee. Can DNREC provide a list of datasets that may be available outside of those found on the State of Delaware’s FirstMap website (<https://firstmap.delaware.gov/>)?

The extent of the data we can provide resides on [FirstMap](#). The only other data which may be supplied would be adjustments to unique wetlands types (special Delaware modifiers).

II. A. Overview, page 6 – What supplementary datasets are available? Specifically are any of the following datasets available: Lidar; contours; soils; hydrology; vegetation type; army corps wetland delineation; geomorphology; Landsat aerial (7-band)?

See above. Soils, hydrology, geomorphology or Landsat aerial would not be provided but is available in national datasets. Army Corps wetlands delineation is not required in this RFP nor is it known if it exists in spatial data format. Vegetation-type data availability is unknown at this time.

Can you please tell us what, LiDAR products are available for the State of Delaware? (acquisition date, resolution?) Specifically:

-is there Hydro Enforced DEM? No, USGS delivered DEM is hydro-flattened

-is there Point Cloud data? What years are available and how can it be delivered? LiDAR flights took place the winter of 2013/2014, leaf off and snow-free. Point data would have to be sent external hard drive (hundreds of GB). Vertical resolution is 10cm in open ground, and less with dense vegetation. The DEM grid is 1-meter resolution for QL2 derived DEM's. See USGS publications for all details.

-do you know if the LiDAR acquisition coincided with specific tidal levels? No it was not. However, NOAA did separate LiDAR flights around the same time that were tide-coordinated (roughly within 2 hours of low-tide, but only in the coastal areas)

Project Specification Questions:

Page 53, Appendix A, Item 3 – Minimum specifications of new wetland feature accuracy is 95% and attribute accuracy is 85%, can you confirm that the 2007 wetland mapping previously conducted was done to these specifications as well? The methods 2007 wetland mapping used the NWI verification tool and the accuracy level established within.

II. B. Background, Page 6 - It appears that the 2007 dataset includes polygons that do not meet the .25 acres minimum, would it be expected to re-deliver these areas? This is the MMU for feature accuracy, and typically wetlands of smaller size are easily identified as polygons, especially for depressions, down to roughly one-tenth acre.

Appendix A, Question 2, Page 53 – Is the same resolution (0.25 acres) required for the add-ons? Yes, for feature accuracy but smaller size is easily attained, though not guaranteed. The exception will be for mapping mature forests which will be 1 acre MMU.

II. B. Background, Page 6 - Are there new classification system types that should be included in the delivered product that are not present in the 2007 dataset? Only if any of the add-ons are decided to be part of the larger dataset which will be using the most recent NWI classification system.

II. B. Background, Page 6 - Does the 2007 dataset include the special numeric Delaware modifiers? Yes, and they will be similar for this project.

Does vendor has to perform GIS data transformation, conflation, joining, or association with other geospatial data as part of final deliverable? Not required at this time.

Page 27 Item 32 – RF states the required reporting for MBE/WBE, Please confirm if there are MBE/WBE goals for this contract for DNREC. We cannot set goals per se for MBE/WBE but as required this is a consideration in which we must abide.

Page 53, Attachment A – Scope of Work: Items 3 and 4: To what extent (e.g., is it based on a percentage of area mapped or is it a requirement for one baseline survey for each wetland type, etc.) is physical fieldwork expected, if any, as part of the quality assurance and quality control process for verifying and reviewing wetland maps from GIS spatial data and/or hydrogeomorphic classifiers or wetland function? **DNREC is looking for the contractor to include the extent of field work needed/required based on the process proposed to deliver an accurate product. DNREC did not specify a percentage of field time purposely to allow contractors to determine this based on their ability to deliver an accurate product.**

II. B. Background, Page 6 - How much field work was required for the development of 2007 dataset vs. automation? **Approximately 6-10 days. Field work concentrated on the problem mapping areas relative to hydrology factors in Delaware. DNREC field crews participated in this process in 2007, and plan to assist with this project which could add or reduce field work depending on results.**

II. B. Background, Page 6 - Can you share the classification software used in 2007 (ENVI, Feature Analyst, ESRI, etc)? **For the 2007 project ESRI 9.3 was used, including heads-up photo-interpretive analysis, and in-house quality control for classification. The data was run through the USFWS data verification tool.**

Page 53, Attachment A – Scope of Work: Item 1

- (1) The study which this effort intends to update (*Delaware Wetlands: Status and Changes from 1992 to 2007*) references the following methodology: “Methods Used to Create Datasets for the Delaware State Wetlands Update” (2011) by K. McGuckin, Conservation Management Institute, Virginia Polytechnic Institute and State University, Blacksburg, VA. Is DNREC able to provide a copy of this document, or a link to its location on the web (if available)? **Location of this document is not available on the web at this time. Effort will be made to locate a copy of this document.**
- (2) Does the state of Delaware use the hydrogeomorphic classification (LLWW) exactly as documented by the NWI-Plus, or has the state made specific modifications or added criteria that should be taken into consideration when calculating the level of effort for analysis and techniques required. Is DNREC able to provide a copy of the methodology if it does differ from the NWI-Plus documentation? **It does not differ at this time, but small changes may be suggested by DNREC in working with the contractor during the project.**
- (3) Hydrogeomorphic classification of wetlands is straightforward and the process generally well-known; however, a functional assessment making use of that classification is dependent on local and regional decisions to group and exclude specific codes, as well as set numerical values for bodies of water and other features. Is DNREC able to provide a summary of those decisions and functional categories, if not the detailed documentation for their selection and method of determination? **These regional decisions were made by USFWS Regional Director Ralph Tiner during the 2007 mapping. Efforts will be made to track down documentation of these decisions.**

Can you please clarify whether or not the winning contractor will be required to produce or participate in the Functional Assessment of the newly created wetland data? And will this be a collaborative effort with DNREC? (Appendix A p.53) **It is expected that the contractor will deliver the statewide wetlands data including the LLWW classification which allows for functional assessment. LLWW codes will determine functional capacity of specific wetlands polygons. Yes, DNREC personnel will collaborate in the effort.**

Page 53, Attachment A – Scope of Work: Item 2: Has Delaware developed and/or implemented specific GIS methodology for any of the secondary/add-on items listed in a) through e), or is the task in this case to develop and execute a methodology for some and/or all of the five items listed? If specific methodology exists and expected for some or all of the items listed in a) through e), is DNREC able to provide a description or documentation? **DNREC has not developed any methodology for items a-e. DNREC is looking to a contractor to developing criteria and products for a-e, and DNREC personnel are willing to collaborate to establish these criteria.**

Beyond general corrections and updates, has DNREC identified any specific shortcomings or errors in the 2007 map that will need to be addressed in this effort? Additionally, are any enhancements to the current dataset expected? **No enhancements to the 2007 dataset are expected as this is a new effort that could possibly use newer of different wetlands identification technology/methods, and this is not an update to the 2007 data. No major shortcomings were identified in 2007, only minor issues related to other datasets (used to inform decisions) and to be improved upon.**

For Item #2, part b, in the Scope of work (SAV Mapping), will DNREC be able to provide imagery acquired specifically for SAV mapping? **DNREC will provide the imagery (which is available on [FirstMap](#)). An evaluation of the imagery for SAV detection has not been completed but should be evaluated by potential contractors prior to submitting a proposal.**

For Item #2, part c, in the Scope of work, can DNREC address the definition of ordinary high water mark as required for this task? Is it anticipated that this dataset would need to meet the regulatory definition of OHWM? **The need by DNREC for this dataset is regulatory and relates to the Delaware Tidal Wetlands Law. The definition states that tidal wetlands regulated by Delaware fall between the OHWM and 2 feet of elevation. Establishing an OHWM will allow updates and improvement to the Delaware State Tidal Wetland maps used for permitting. DNREC personnel would collaborate with the contractor to assist in creating this data.**

With reference to Appendix A Item 2.d., what are the specific criteria to be used to define “Mature growth forests”? Is there a minimum forest stand size that we should use? **The MMU will be 1 acre for mature forests where the project would be looking specifically at forest age which may be easily attained by looking at historical imagery. DNREC personnel will collaborate and determine if adjustment will be needed during identification.**

Other RFP Questions:

Page 16 Section III.E, Page 43, and Page 51 – Please confirm that DNREC is not requesting any information about personnel qualifications such as a team organizational chart or resumes as these are not requested in on Page 16 Section III.E, Page 43, or Page 51. If DNREC does wish to see a team organizational chart, resumes, and/or personnel qualifications, in which section of our proposal outlined on page 51 should these items be placed? **DNREC does not need organizational charts, but proposals may include personnel qualifications and experience in support of examples of similar past wetland mapping work.**

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Page 51 Item 2 and Page 43 Items 1-3 – These two sections of the proposal requirements appear request the same information (abilities, capabilities, scope of work/evaluation criteria). Can we include the information once in our response to Item 2 on page 51 and then reference the appropriate sections on Attachment 4? Attachment 4 does not provide adequate space or a conducive layout to share our capabilities, response to the evaluation criteria, and example projects. **You may create a similar form to Attachment 4 as needed for more room, or reference attachments of your own. Yes, information may be placed in Item 2 on page 51 and properly referenced.**

Page 43 Attachment 4 – Can DNREC provide this form as an editable document and/or can we recreate it to provide more space for our response? **You may create a similar form that is properly labeled.**

With reference to Attachment 4 Company Profile & Capabilities Form, since the form boxes are very small, may we supplement the form using an outline similar in format? **You may create a similar form that is properly labeled.**

Page 43 Item 4 and Page 55 – Should our pricing structure be submitted twice – both in response to Item 4 on Attachment 4 and on the Appendix B? If Appendix B is to be submitted, in which section of our proposal outlined on page 51 should that form be placed? Is different information required on each form?? **The same pricing structure should be in Attachment 4 and Appendix B.**

What are the terms of payments? (i.e. lump sum-percent complete, time and materials, etc.) DNREC is looking to the potential contractor to suggest a pricing structure based on the step-wise process proposed to deliver an accurate final product(s). **Generally, a lump-sum percent complete format is used (e.g. 25% project initiation, 50% delivery of all products for QAQC, 25% final delivery). Payment terms will be determined as part of contract agreement.**

Page 52 Item 2 – The last sentence of Item 2 is unclear; please indicate which pricing files are to be submitted as a separate file and if they should also be included in the full electronic copy. Attachment 4 has pricing – is that to be included as a separate file on the USB and also as part of the entire document? Is Appendix B to be included as a separate file on the USB and also as part of the entire document? **Everything for the proposal should be submitted as one document on USB. Pricing can be listed in Attachment 4 and Appendix B.**

Page 16 Section III.D and Page 51 – In which section of our proposal outlined on page 51 should the business license and certificate of insurance requested on page 16 be included? **Items should be included in the Section they are asked – in this instance Section II.D.**

Page 10 Item X – is a W-9 required to be submitted in the proposal? If so, in which section of our submittal outlined on page 51 should it be included? **The W-9 is not required as part of this proposal, but if a taxpayer ID and name do not match, the contractor cannot be approved.**

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Will DNREC allow work to be subcontracted outside of the US? **No.**

Are business license and certificate of insurance required to be included in our submission? **Yes, in Section II.D.**

Are bids and qualifications to be submitted under separate covers and/or in separate sealed envelopes? **No, all together.**

Your department has the contractual ability to separate the photogrammetry/mapping portion of the work from the wetland ground truthing/wetland type signature confirmation. Have you used this separation in previous revision contracts? If so, how do you feel about it in hindsight?

DNREC has not used this in previous contracts and considers it more efficient and cost effective to do the mapping and ground-truthing/field verification with one contractor. Any future effort to improve upon landscape-scale wetland mapping using more intense field verification is always a possibility and will be considered.