

**NSDI 2010 CAP GRANTS  
CATEGORY 6  
INTERIM REPORT FROM ASWM**

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**Project Title:** 2010 CAP – Category 6 ASWM Wetland Mapping Standard Implementation Plan Outreach and Training

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FGDC Wetland Subcommittee

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**Executive Summary:**

This purpose of this project is to carry out key recommendations included in the Implementation Plan for the FGDC Wetlands Mapping Standard adopted in July of 2009. The Association of

State Wetland Managers (ASWM) is working with members of the Wetlands Mapping Standard Workgroup and the Federal Geographic Data Committee Wetlands Subcommittee to provide training materials and enhance expert communication and resolution of technical issues described in the Implementation Plan. Over the past six months ASWM has collaborated primarily with FWS to develop online and instructor-led training materials on the proposed standard that will be incorporated into U.S. Fish and Wildlife Service training and available to local, tribal and state government, as well as other individuals and groups. Initial drafts have been completed and are in the process of conversion to HTML format. The beta training materials will be reviewed and revised in the coming months prior to publication. The training materials will enable these parties to adopt the wetlands mapping standard and prepare data for submission to the U.S. Fish and Wildlife Service National Wetlands Inventory program so that it can be added to the Wetlands Layer of the National Spatial Data Infrastructure and *The National Map*. In addition, the Implementation Plan identifies a number of technical and strategic recommendations that need to be addressed over time. ASWM, in partnership with Virginia Tech, the U.S. Fish and Wildlife Service and subject experts, has created a Wetland Mapping Consortium and a forum to broaden discussion and resolution of these topics. Presentations, discussions and new members have been added in the first six months of the project.

**Project Narrative:** The project has two major areas of activity: 1) development of training materials and 2) providing accurate and up-to-date information and innovation and improvements in wetland mapping techniques.

### **Training Material Activities to Date**

Over the past six months the Association of State Wetland Managers has worked closely with National Wetland Inventory staff to develop draft training materials. Currently six wetland mapping training modules have been drafted and are in development:

- The National Wetlands Inventory
- Understanding the Cowardin Classification Standards
- The National Wetlands Mapping Standard
- How to do Wetland Image Interpretation
- How to Start a Wetland Mapping Project

These materials are based in large part on training materials created for intensive classroom training by FWS staff. The current drafts have been reorganized and expanded for online use. The transition to online training requires information to be broken down into smaller logical steps. As part of this, many more images are needed to illustrate each concept, in part to address the absence of a real time instructor who can summarize, describe and answer questions.

Initially FWS and ASWM planned to use training software, but the drafts currently under development are being designed in HTML CSS format to provide greater flexibility to tailor the project to provide a quality learning experience.

## **Information Distribution Activities to Date**

The Wetland Mapping Consortium was established in 2008 to provide an interdisciplinary forum for wetland scientists and managers interested in remote sensing images and products. Virginia Tech University created a “Scholar” website to support discussion and information sharing among consortium members. Interested individuals can find out more about the Wetland Mapping Consortium and request a name and password to participate by visiting <http://clic.cses.vt.edu/WMC/#links>.

While remote sensing imagery and the potential to produce new tools and new applications has grown at an incredible rate in recent years, there has been remarkably little investment in the United States in the public sector in developing and applying these new tools to wetland mapping. The long-term goal of the wetland mapping consortium is to provide a forum for discussion and innovation on this topic.

In the first six months of the project, the Wetland Mapping Consortium (WMC) was expanded to include over 90 new members (growing to over 115 total members). Four new resource directories and over 30 new resources (reference documents) were added to the WMC Scholar website. Three new WMC member “groups” were added to the Scholar site. These groups can use the site for specialized discussion and communication among their own members, utilizing a variety of tools, such as separate email lists, separate resource directories, event calendars, blogs and chatrooms.

A webinar entitled, “Introduction to Wetland Mapping Consortium (WMC) Resources for the FGDC Wetlands Standards Working Groups,” was presented by Jane Awl in May. FGDC’s wetland mapping subcommittee, the Wetlands Classification Standard Maintenance Working Group (WCSMWG) and others were invited to attend. A powerpoint training presentation was developed by Jane Awl, who describes how to navigate and use the WMC Scholar site. Opportunities to participate in the WMC were publicized at the Society of Wetland Scientists annual meeting in Salt Lake City in June.

An outgrowth of the WMC technical discussions has been the development of the Wetlands Classification Image Gallery ([www.wetlandgallery.cnlworld.org](http://www.wetlandgallery.cnlworld.org)). An outreach webinar providing a live demo of the Wetlands Classification Image Gallery was hosted by ASWM, FWS and USGS on June 10, 2010.

Outreach has also included collaboration with the Southeast Wetlands Working Group (SEWWG). SEWWG has joined the WMC Scholar site as a member group. On July 23, 2010, EPA Region 4 and SEWWG hosted a national webinar presented by ASWM and USGS, which focused on technological innovation utilizing the WMC Scholar site and the WCIG.

Additionally, the WMC developed two articles on current wetlands mapping technology issues which were published in the September/October 2010 edition of the National Wetland Newsletter:

Lang, Megan, Greg McCarty Bill Wilen, and Jane Awl. 2010. Light Detection and Ranging: New Information for Improved Wetland Mapping and Monitoring. National Wetlands Newsletter, 32:5, pgs 10-13, 36-37.

Awl, Jane, Bill Wilen, Rebecca Allee, Larry Handley, Margarete Heber, Pamela Blasdell, John Galbraith, and Megan Lang. 2010. National Standards for the Mapping and Classification of Wetlands: Implementation and Maintenance. National Wetlands Newsletter, 32:5, pgs 14-17.

## Next Steps

Wetland Training — Currently the wetland training modules are in the process of being reviewed by ASWM and FWS staff and converted into HTML format. When this process is complete, the draft online training materials will be distributed first to FWS National Wetland Inventory staff and then more broadly for review and comment. At the same time additional imagery will be gathered to add to the training materials.

Information Distribution —In addition planning is underway for national organizational meetings of the WMC in 2011 in conjunction with national or regional meetings of the Society of Wetland Scientists and the Association of State Wetland Managers.

Overall the project is proceeding well. The development of the training materials has required more revisions and a more iterative process than first anticipated. The project is a little behind schedule, a month at most, largely because it took two months more than expected for the first round of powerpoint training materials to be completed.

Below is a status report on the completion of project milestones.

## Milestones

- 1) ASWM will develop and review objectives as needed for each wetland standard training module section. It will facilitate review and incorporate recommended changes for an online mapping training course. It will complete review by the end of **Month 2. Completed.**
- 2) ASWM will invite wetland mapping professionals from around the country to participate in the Wetland Mapping Consortium, provide content (new applications, developing mapping applications, grant opportunities etc.) by the end of **Month 4. Completed. Additional invitations will occur over time.**
- 3) ASWM will develop wetland mapping standard training materials ready for pilot testing by the end of **Month 6** including the following subtasks:
  - a. Draft training modules **Completed.**
  - b. Organize the mapping standard draft training modules into smaller, cohesive sub-modules. **Completed.**

- c. Develop an index for the course and indexes for each separate module and sub-module and incorporate into PPT. **Under development as part of online phase of training materials.**
  - d. Develop and incorporate learning objectives into the beginning of each module and sub-module. **Drafted.**
  - e. Develop the tests for the end of each module and sub-module. **Drafted.**
  - f. Identify gaps in the technical instruction provided that need to be developed by ASWM or by FWS; develop needed additional instruction within the technical capability of ASWM; coordinate and incorporate additional input by FWS. **Partially completed. This is an iterative process that will continue through review and beta testing.**
  - g. Identify screen-captures, images, or interactive clips that ASWM can provide or that need to be provided by FWS to demonstrate a concept. **Partially completed.**
  - h. Edit the draft text for spelling, grammar, continuity, clarity, redundancy and appropriate knowledge level; add additional explanation as needed; delete extraneous information; and identify any cross-links needed among the modules (for example, where a concept is explained on another slide or another module). **Partially completed.**
  - i. Develop list of definitions for technical terms and list of abbreviations that will serve as pop-ups. **Partially completed.**
  - j. Provide the revised modules, indices and lists for review; and incorporate changes. **Partially completed.**
- 4) ASWM will support completion of Wetlands Mapping Standard Modules and review of other training materials by the end of **Month 8** including the following subtasks:
- a. Review modules once completed by FWS (which includes creating the design, incorporating the text, and making the links for a final draft product). **Initiated.**
  - b. Coordinate review of the training course by 3-6 outside representative users. **Identifying beta testers.**
  - c. Incorporate identified changes needed. **Ongoing.**
  - d. Coordinate beta testing of the training course as it is being reviewed by willing participants in the Wetlands Subcommittee, ASWM, and Wetland Mapping Consortium.
  - e. Incorporate identified changes needed. **Ongoing.**
- 5) ASWM will continue providing content (new applications, developing mapping applications, grant opportunities etc.) to the Wetland Mapping Consortium through **Month 10. Ongoing.**
- 6) ASWM will distribute information about the new standard by identifying information needs and developing new webpages linked to its existing wetland mapping webpage on the mapping standard, <http://www.aswm.org/swp/mapping/index.htm>, and update and maintain those webpages through **Month 11.**
- 7) Wetland Mapping Consortium will be self-sustaining with members providing new content (new applications, developing mapping applications, grant opportunities etc.) by the end of **Month 12.**
- 8) ASWM will deliver a final report on all activities under this grant, within 90 days of completion of the project. **Month 15.**