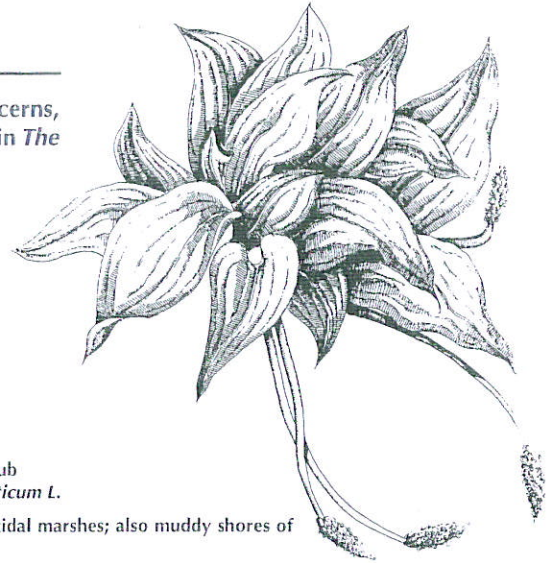


THE AUTHOR RESPONDS

Authors of previously published articles may address any letters to the Editor, concerns, inquiries, or published articles within the *Wetland Journal* regarding their work, in *The Author Responds*.

Response to Ralph Tiner's Comments

--Michael S. Rolband



Golden Club
Orontium aquaticum L.

Shallow waters of ponds, swamps, and nontidal marshes; also muddy shores of fresh tidal marshes.

Massachusetts and central New York south to Florida and west to Louisiana, predominately along coastal plain, and inland to Kentucky and West Virginia.

In general, I concur with Mr. Tiner's comments. However, as a consultant that deals daily with regulators and landowners, I have a different perspective than some of his observations:

1. Despite the disclaimers on the bottom of each map, references to mapping thresholds, etc., the bottom line is that we found almost three (3) times as much wetland area as mapped by NWI (and if we had used the 1989 Manual, the discrepancy would be even greater). This is a very significant difference, particularly to many landowners that own the unmapped wetlands. To the typical person being regulated, unschooled in wetland delineation and remote sensing technologies, "a picture is worth a thousand words", and the picture provided by a NWI map is their perception of reality.

2. The conclusions of this article seem to be supported by data in a progress report, currently in draft, entitled, "**Coordination/Integration of Wetland Data for Status and Trends and Inventory Estimates**", Federal Geographic Data Committee, Wetlands Subcommittee, by Carl Shapiro, U.S. Geological Survey (with assistance of the Wetland Data Coordination Working Group). The following data from Table 2 of this draft document, compares wetland areas mapped by four different systems for Wicomico County, MD.

This data, in conjunction with our field delineation based analysis, **suggests that NWI maps severely underestimate the area of wetlands to a degree so large, that its mapping accuracy should be improved prior to continuing to digitize existing NWI data.**

| Data Source | Wetland Area (acres) | Ratio to NWI | FWS-NWI | = Fish & Wildlife Service-National Wetlands Inventory |
|-------------|----------------------|--------------|------------|---|
| FWS-NWI | 12,985 | 1.0 | MD-WRA | = Maryland Department of Natural Resources-Water Resources Administration |
| MD-WRA | 17,098 | 1.32 | NOAA-C-CAP | = National Oceanographic & Atmospheric Administration |
| NOAA-C-CAP | 30,611 | 2.36 | SCS-WI | = Soil Conservation Service-Wetlands Inventory |
| SCS-WI | 51,435 | 3.96 | | |

Table from "**Coordination/Integration of Wetland Data for Status and Trends and Inventory Estimates**". Carl Shapiro, U.S. Geological Survey.

3. **Is it fair public policy to significantly understate regulated areas**, as suggested by Mr. Tiner's comment #2? I don't think so. Based upon numerous discussions with wetland regulators, it is better policy to err on the side of mapping *more* wetlands, than less (the opposite of NWI's policy), so that when the moneys are spent to delineate the actual boundary, the result is positive or neutral for the landowner.

4. One possible way to get consistent constructive input on NWI map products from the work of private wetland delineators, is to develop a mechanism to collect the data provided to the U.S. Army Corps of Engineers on every delineation submitted for review and incorporate this data into future NWI maps (or their replacement). It's a wealth of information continually being delivered to the Federal Government. Perhaps a mechanism should be developed for the Corps to provide this data to USFWS; or maybe it

would make sense to integrate the regulation and mapping of wetlands into one organization - heresy to some, I'm sure!

Based upon the nature of the calls and comments I have received, it seems that many people have observed the same scenarios documented in this article. Hopefully, its documentation can lead to further discussions in the wetlands community (the goal of which should be to develop a better mapping system with feedback from field use, rather than to defend a particular mapping product), and lead to better mapping products and a better understanding of their limitations.☺