Supplemental Map Information (User Report)
Outline

Project ID: RO5Y04P05

Project Title or Area: UPPER TENNESSE RIVER BASIN UPDATE

Source Imagery (type, scale and date): 1990 era 1:40K CIR/B&W for enhancement of missing wetlands

Collateral Data (include any digital data used as collateral):

Data Sets	Number of Quads
1:24K USGS DLG	89 of 89
1:24K USGS DRG	89 of 89
1:24K "Old" NWI	89 of 89
Digital SSURGO Soil Data	55 of 89
US Census Tiger Roads	89 of 89

Inventory Method (original mapping, map update, techniques used):

The project mapping area was divided into four areas which began with area 1 and worked westward. Area 1 was mainly photo interpreted using DOQQs in mono at the PI level. Areas 2, 3, and 4 were done at the PI level using DOQQs in addition to the use of the DTS and stereopairs. PI/QC utilized DOQQ's and stereo DTS throughout the project.

Per request of the Region 5 Assistant Coordinator, the black and white 2000/2001 photography was used for updating those areas within the project in which the available CIR photography was 1995 or earlier. Otherwise, the CIR and the B&W were close in time frame. Due to budget constraints, NRAG completed B&W 2000 updating for Area 3 only.

Per request of the Region 5 Assistant Coordinator, alignment of linears and polygons was to the DRG, wherever possible. USGS DLG polygon delineations were often used in place of existing NWI polygons to update NWI layers. USGS linear delineations were used in place of existing NWI linears due to a better alignment.

Classification (Cowardin wetlands, riparian, uplands, hydrogeomorphic, etc.): Cowardin classification system

Data Limitations: Digital soil surveys were not available for all of the quads and no hardcopies of soil surveys were available upon request.

General description of the Project Area: Overall, vegetated wetland development in the project area was low. Relatively greater wetland development was found in larger floodplains in central and south portions of the project area. Emergent wetlands were added along streams and in drainageways and swales in agricultural lands. An effort was made to capture PEM areas in agricultural areas, as field work revealed many wetlands are re-vegetating after being in

agricultural use. Many of these were classified as PEM1A or PEM1Ad, or sometimes "C" water regime, and were photointerpretable on the CIR.

Additional vegetated wetlands were found on terraces (often these were wooded) or within beaver-modified drains in north portions of the project area. Some wooded swamps were found in drains and floodplains in the north-central portion of the project area.

- Vegetation, soils, land use:

Where digital soils are available, many hydric soil units correlate to areas which appear converted to agricultural use, and application of the Pf or Pfd was not extensive; or, the hydric soil survey was found to include upland side slopes of drains, where only linear streams were found.

- Natural history or important cultural features:

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Description of wetland habitats:

Organize by Cowardin classification type:

- Wetland classification codes and corresponding community type(s):

<u>Palustrine System</u>

PEM1/SS1A Temporarily flooded persistent emergent and broad-leaved deciduous scrub shrub wetland. These wetlands often occur along streams and on the floodplains of rivers where standing water is present for brief periods of time during the growing season. Dominant plant communities associated with this wetland include *Solidago* spp. with common species being *Eupatorium* spp., *Rubus allegheniensis*, and *Eupatoriadelphus fistulosus*.

PEM1B Saturated persistent emergent wetland. These wetlands often occur on level, expansive landforms where the soils are seasonally saturated to the surface and surface water is rarely present. The dominant plant species are *Solidago* spp., *Aster* spp., *Phalaris arundinacea*, and other grasses.

PEM1C Seasonally flooded persistent emergent wetland. These wetlands often occur along streams and on the floodplains of rivers where standing water is present during the growing season. Towards the end of the growing season the surface water is usually not present, yet the water table is near the surface of the land. The dominant plant species is *Typha latifolia*. Common plant species associated with this wetland type are *Verbena hastata* and *Juncus effusus*.

PSS1/EM1C Seasonally flooded broad-leaved deciduous and persistent emergent wetland. These wetlands often occur along streams and on the floodplains of streams where standing water is present during the growing season. Towards the end of the growing season the surface water is usually not present, yet the water table is near the surface of land. *Salix spp*. are the dominant plants. Common plant species also occurring in these wetlands are *Phalaris arundinacea*, *Cornus* spp., *Aster* spp., and *Solidago* spp.

PFO1B Saturated broad-leaved deciduous forest wetland. These wetlands are flatwoods and often occur in level, expansive landforms. The soils are seasonally saturated to the surface and surface water is rarely present. The dominant plant species is *Acer rubrum* and common plants also occurring in this area include: *Asimina triloba*, *Fraxinus pennsylvanica*, and *Carpinus caroliniana*.

List of wetland plant species with indicator status:

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Plant Species	**Northeast Indicator Status**
Acer rubrum	FAC
Asimina triloba	FACU+
Aster spp.	
Calopogon pulchellus	FACW+
Carpinus caroliniana	FAC
Cornus spp.	
Cyperus strigosus	FACW
Eupatoriadelphus fistulosus	FACW
Fraxinus pennsylvanica	FACW
unknown grass spp.	
Juncus canadensis	OBL
Juncus effusus	FACW+
Lonicera japonica	FAC-
Ludwigia alterniflora	FACW+
Lythrum salicaria	FACW+

Phalaris arundinacea	FACW+
Polygonum spp.	
Rubus allegheniensis	FACU-
Rudbeckia hirta	FACU-
Salix spp.	
Scirpus validus	OBL
Solidago spp.	
Typha angustifolia	OBL
Typha latifolia	OBL
Verbena hastata	FACW+

Regional specialized conventions:

The R4x convention was used for ditches affecting wetlands per Regional convention. These ditches are not stream courses in and of themselves; they are created for drainage. Numerous R4SBAs were also added to this area.

Other discussion of mapping issues (image quality, water conditions, etc.):

A majority of the existing ponds from the data being updated needed rectification for they did not align with either the DOQQ or the DRG. Therefore, the ponds were aligned to the DRG if a USGS pond symbol was currently present. Many new ponds, which were mainly found in the agricultural landscape, as well as in mining areas, needed to be added and were aligned to the DOQQ, as there was no means to reference location to the DRG.

Pond modifiers were added to excavated and impounded ponds which were mainly agriculture and mining uses. Trend data was also documented using the Anderson code system and significant findings were the loss of farm ponds.

Polygonal rivers and impoundments on the USGS maps needed to be delineated, for they either did not exist on the NWI map or were a linear feature. On a few of the quads the existing linear data was slightly skewed and did not align to either the DRG or the DOQQs. Readjustment was needed and was aligned to the DRG. However, if the linear was excavated then it was aligned to the DOQQ.

Where stream courses were photointerpreted to have changed and/or where vegetated wetland needed to be added relative to stream position, the linears were re-positioned to work with conditions seen on both the aerial photo and the DOQQ.

On the original NWI data, polygons were often found with an intersecting linear broken at the beginning and end of the polygon; the linears were connected through the polygons unless the polygon was permanently or semi-permanently flooded.

Where stream courses were photointerpreted to have changed and/or where vegetated wetland needed to be added relative to stream position, the linears were re-positioned to work with conditions seen on both the aerial photo and the DOQQ.

References:

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. Office of Biological Services, Fish and Wildlife Service, US Dept. of the Interior, Washington D.C.