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Wetland Evaluation North of the Susquehanna Steam Electric Station Intake Structure

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WETLAND EVALUATION NORTH OF THE SUSQUEHANNA STEAM ELECTRIC STATION INTAKE STRUCTURE

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Evaluation for the presence of wetlands was conducted at the Susquehanna Steam Electric Station (Susquehanna SES) site for possible siting for a water treatment facility near the Susquehanna SES Intake Structure. Evaluation was made from the Intake Structure north to the Environmental Laboratory (EL) and from the Susquehanna River to the Canal (Map 1). Field work was conducted from 13-18 November 1991.

Wetlands on the Susquehanna SES site were classified according to Cowardin, et al. (1979). The following types of wetland occur on the site (Montgomery 1990):

(1) Palustrine forested wetlands are nontidal wetlands dominated by woody vegetation that is 6 m (20 ft) tall or taller.

(2) Palustrine scrub-shrub wetlands are nontidal wetlands dominated by woody vegetation less than 6 m tall, including young trees, true shrubs, and trees or shrubs stunted because of environmental conditions.

(3) Emergent palustrine wetlands are nontidal wetlands less than 8 ha (20 acres) in area dominated by erect rooted herbaceous aquatic plants. Emergent wetlands may also occur in the riverine (wetlands contained within a channel created by moving water) or lacustrine (wetlands situation in a natural or dammed depression greater than 8 ha in total area) systems.

Wetlands occur along a small stream that enters the Susquehanna River just north of the Intake Structure and crosses the EL Access Road. These are palustrine forested wetlands, dominated by silver maple, American elm, green ash, spicebush, sensitive fern, ostrich fern, garlic mustard, skunk cabbage, and small-spike false-nettle. Additional species and wetland classification are given in Table 1. Similar forested wetland occurs between agricultural fields and the Canal (Map 1).

Scrub-shrub palustrine wetland occurs south of the Riverlands Canal Road and between the EL Access Road and the Intake Structure (Map 1). Vegetation is dominated by silky dogwood, speckled alder, northern spicebush, black locust saplings, wrinkle-leaf goldenrod, common cattail and reed canary grass (Table 1).

Emergent palustrine wetland (marsh) occurs along the Canal both north and south of the Riverlands Canal Road, northwest and southeast of the junction of the Intake and EL Access Roads, and a small area under the transmission line (Map 1). These wetlands are dominated by various mixtures of common cat-tail, reed canary grass, wool grass, giant goldenrod, teasel, sensitive fern, soft rush, rice cutgrass, purple-leaf willow-herb, and purple loosestrife. Additional species and wetland classification are given in Table 1.

Soils in these wetland areas are mapped as Holly silt loam (U. S. Department of Agriculture 1982), a floodplain soil which is listed as a hydric (wetland) soil by the U. S. Department of Agriculture (1987). Soil tests indicated low chroma soils with mottles and some gleying, especially in marsh areas.

The boundaries of the wetland areas described above and shown on Map 1 are approximate since a formal delineation was not made. Delineation, in accordance with the

Federal Manual for Identifying and Delineating Jurisdictional Wetlands (Federal Interagency Committee for Wetland Delineation 1989), includes surveying and marking the wetland boundaries. This procedure should be carried out before any construction near areas mapped as wetlands.

Areas not designated as wetlands are upland. This includes agricultural fields and lawn between the EL and the wetlands along the Canal. This area has no natural vegetation, but soils indicate upland conditions. Upland field occurs south of the road between the EL Access Road and the Canal (Map 1). Upland field is dominated by Canada and wrinkle-leaf goldenrod, staghorn sumac, Russian olive, awl aster, Allegheny blackberry, and Kentucky bluegrass. Some of this area has been disturbed by spoil dumping.

Floodplain hardwood forest occurs in both north and south sides of the EL Access Road. This forest is dominated by silver maple, northern red oak, butternut hickory, white ash, black cherry, spicebush, common blue violet, wrinkle-leaf goldenrod, white snakeroot, white avens, dame's rocket, may apple, and garlic mustard. This includes an area of upland forest along the river bank north of the Intake Structure dominated by northern red oak, white oak, white pine, and American basswood, with similar understory vegetation.

Soils on the upland areas described above are mapped as Pope soils, a deep, well-drained floodplain soil (U. S. Department of Agriculture 1982), which is not listed as hydric by the U. S. Department of Agriculture (1987).

Permits from the U. S. Army Corps of Engineers and the Pennsylvania Department of Environmental Resources are required to fill, cross, or encroach on wetlands (Section 404 of the Clean Water Act). Such permits may be granted only if no other alternative exists for a

project. Before any project is planned near areas designated as wetlands in this report, a formal wetlands delineation should be made to determine if a permit is required.

References

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Table 1

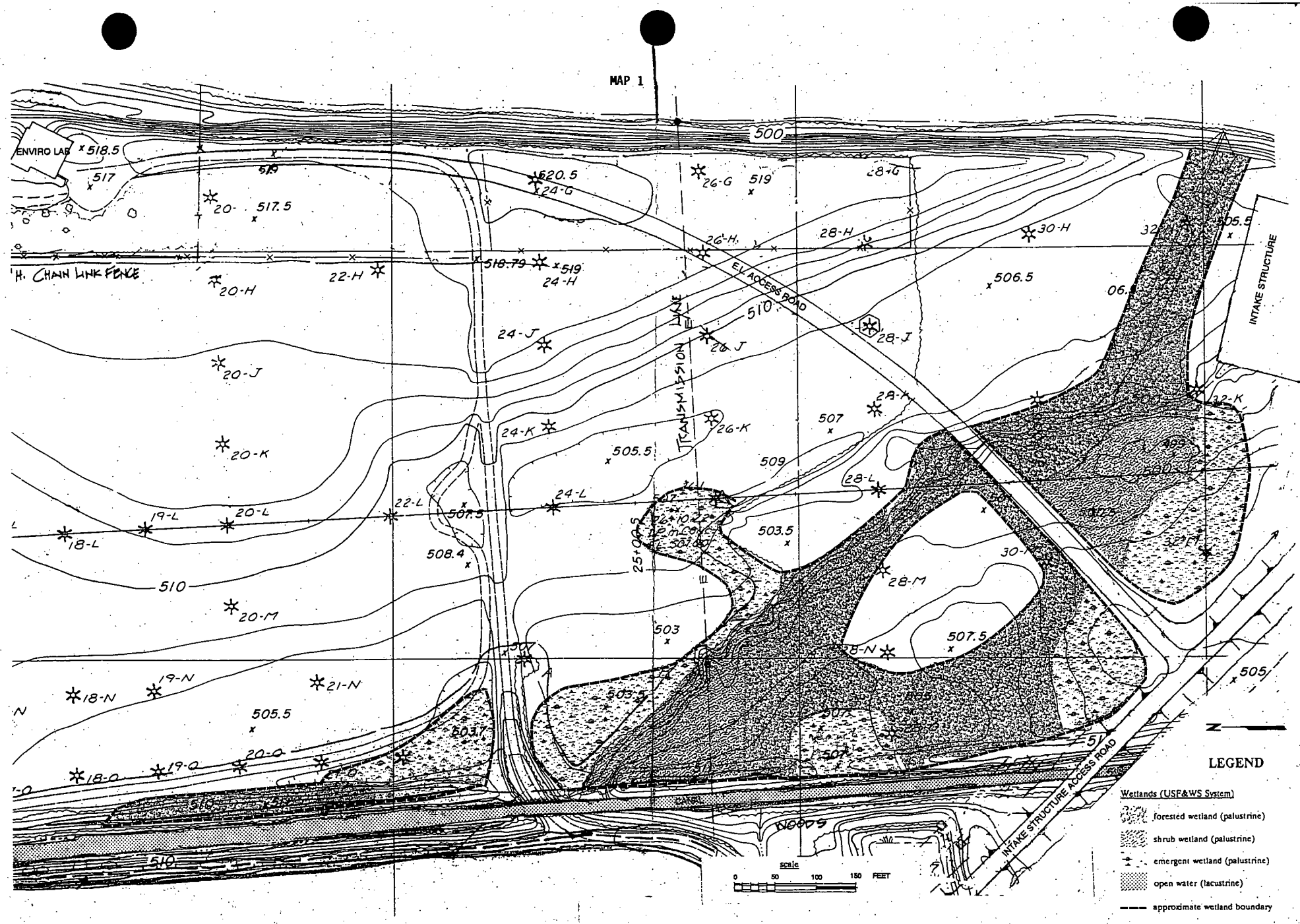
Plant species (common and scientific names) used in the wetland evaluation north of the Susquehanna SES Intake Structure.

Common Name	Scientific Name	Wetland Status*
Red maple	*Acer rubrum*	Fac
Garlic mustard	*Alliaria petiolata*	Facu
Speckled alder	*Alnus rugosa*	Facw
Small-spike false-nettle	*Boehmeria cylindrica*	Facw
Shallow sedge	*Carex lurida*	Obl
Silky dogwood	*Cornus amomum*	Facw
Teasel	*Dipsacus sylvestris*	Fac
Purple-leaf willow-herb	*Epilobium coloratum*	Obl
Green ash	*Fraxinus pennsylvanica*	Facw
Soft rush	*Juncus effusus*	Facw
Rice cutgrass	*Leersia oryzoides*	Obl
Northern spicebush	*Lindera benzoin*	Facw
Great blue lobelia	*Lobelia spicata*	Facw
Purple loosestrife	*Lythrum salicaria*	Facw
Ostrich fern	*Matteuccia struthiopteris*	Facw
Sensitive fern	*Onoclea sensibilis*	Facw
Cinnamon fern	*Osmunda cinnamomea*	Facw
Reed canary grass	*Phalaris arundinacea*	Facw
Halberd-leaved tearthumb	*Polygonum arifolium*	Obl
Cut-leaf coneflower	*Rudbeckia laciniata*	Facw
Wool grass	*Scirpus cyperinus*	Facw
Canada goldenrod	*Solidago canadensis*	Facu
Giant goldenrod	*Solidago gigantea*	Facw
Wrinkle-leaf goldenrod	*Solidago rugosa*	Fac

Table 1 (continued)

Common Name	Scientific Name	Wetland Status*
Skunk cabbage	*Symplocarpus foetidus*	Obl
Common cattail	*Typha latifolia*	Obl
American Elm	*Ulmus americana*	Facw
Stinging nettle	*Urtica dioica*	Facu
Blue vervain	*Verbena hastata*	Facw

* Classification according to U. S. Fish and Wildlife Service (Reed 1988).
Obl = Obligate wetland species (almost always occur in wetlands)
Facw = Facultative wetland species (usually occur in wetlands)
Fac = Facultative species (equally likely to occur in wetlands or nonwetlands)
Facu = Facultative upland species (usually occur in uplands)
Upl = Upland species (not listed in wetland inventory)


MAP 1
ENVIRO LAB
H. CHAIN LINK FENCE
E.L. ACCESS ROAD
TRANSMISSION LINE
INTAKE STRUCTURE
INTAKE STRUCTURE ACCESS ROAD
CANAL
WOODS
scale
0 50 100 150 FEET
LEGEND
Wetlands (USF&WS System)
forested wetland (palustrine)
shrub wetland (palustrine)
emergent wetland (palustrine)
open water (lacustrine)
approximate wetland boundary