

TABLE A4. – Continued.

Scientific Name	Common Name	EV1	PC1	PC2	PC3
<i>Artemisia cana</i>	silver sagebrush	x			
<i>Helianthus annuus</i>	common sunflower	x			
Boraginaceae					
<i>Onosmodium molle</i>	false gromwell			x	
<i>Myosotis laxa</i>	forget-me-not			x	x
<i>Brassica campestris</i>	mustard		x		
<i>Nasturtium officinale</i>	water cress		x	x	
<i>Descurainia pinnata</i>	tansy mustard		x		
<i>Erysimum asperum</i>	western wallflower			x	
<i>Brassica campestris</i>	mustard				x
<i>Descurainia pinnata</i>	tansy mustard				x
<i>Lepidium densiflorum</i>	small pepper-grass				x
Cactaceae					
<i>Opuntia fragilis</i>	brittle pricklypear	x	x		
Cannabaceae					
<i>Humulus lupulus</i>	hop vine		x		
<i>Cannabis sativa</i>	marijuana			x	x
Caprifoliaceae					
<i>Symphoricarpos occidentalis</i>	wolfberry		x		
Caryophyllaceae					
<i>Arenaria lateriflora</i>	sandwort		x		
Caryophyllaceae					
<i>Cerastium brachypodium</i>	chickweed			x	
Chenopodiaceae					
<i>Chenopodium album</i>	lambsquarters	x			
Convolvulaceae					
<i>Convolvulus arvensis</i>	bindweed	x			
Cupressaceae					
<i>Juniperus virginiana</i>	eastern red cedar	x	x	x	x
Cyperaceae					
<i>Carex</i> sp. 1	sedge	x	x	x	x
<i>Carex</i> sp. 2	sedge	x	x	x	x
<i>Carex</i> sp. 3	sedge			x	x
<i>Carex</i> sp. 4	sedge				x
<i>Carex</i> sp. 5	sedge				x

TABLE A4. – Continued.

Scientific Name	Common Name	EV1	PC1	PC2	PC3
<i>Scirpus acutus</i>	hard-stem bulrush		x		
<i>Scirpus validus</i>	soft-stem bulrush		x		
<i>Schoenoplectus americanus</i>	three-square			x	x
<i>Carex vulpinoidea</i>	fox sedge			x	
<i>Eleocharis palustris</i>	spike rush	x	x	x	x
Dryopteridaceae					
<i>Cystopteris fragilis</i>	fragile fern	x			
Equisetaceae					
<i>Equisetum hyemale</i>	joint grass	x	x	x	x
Fabaceae					
<i>Amorpha fruticosa</i>	false indigo		x	x	x
<i>Trifolium repens</i>	white clover			x	
<i>Amphicarpaea bracteata</i>	hog-peanut			x	
<i>Melilotus officinalis</i>	sweetclover				x
<i>Medicago lupulina</i>	black medick				x
<i>Medicago sativa</i>	alfalfa				x
<i>Amorpha fruticosa</i>	false Indigo	x			
<i>Trifolium pratense</i>	red clover		x	x	x
<i>Quercus alba</i>	white oak				x
<i>Quercus macrocarpa</i>	bur oak	x			
Fumariaceae					
<i>Corydalis montana</i>	corydalis		x		
Grossulariaceae					
<i>Ribes uva-crispa</i>	gooseberry			x	
<i>Ribes odoratum</i>	golden currant			x	
Haloragaceae					
<i>Myriophyllum</i> sp.			x		
Hydrocharitaceae					
<i>Elodea canadensis</i>	common waterweed		x		
Hydrophyllaceae					
<i>Ellisia nyctelea</i>	waterpod			x	
Juglandaceae					
<i>Juglans nigra</i>	walnut tree			x	
Juncaceae					
<i>Juncus bufonius</i>	toad rush		x	x	

TABLE A4. – Continued.

Scientific Name	Common Name	EV1	PC1	PC2	PC3
<i>Juncus balticus</i>	Baltic sage				x
<i>Salix interior</i>	sandbar willow	x		x	
Lamiaceae					
<i>Nepeta cataria</i>	catnip			x	
Lamiaceae					
<i>Monarda fistulosa mollis</i>	wild bergamot			x	
Molluginaceae					
<i>Mollugo verticillata</i>	green carpetweed			x	
Moraceae					
<i>Morus alba</i>	white mulberry		x	x	x
Oleaceae					
<i>Fraxinus pennsylvanica</i>	green ash	x	x	x	
Oxalidaceae					
<i>Oxalis stricta</i>	wood sorrel		x	x	
<i>Oxalis dillenii</i>	gray oxalis		x		
Plantaginaceae					
<i>Penstemon grandiflorus</i>	large beardtongue			x	
Poaceae					
<i>Eragrostis</i> sp.	lovegrass		x		
<i>Sporobolus</i> sp.			x		
<i>Grostis stolonifera</i>	creeping bentgrass			x	
<i>Elytrigia elongata</i>	wheat grass				x
<i>Hordeum pusillum</i>	little barley				x
<i>Phleum pratense</i>	timothy	x	x	x	x
<i>Poa pratensis</i>	Kentucky bluegrass	x	x	x	
<i>Bromus tectorum</i>	cheat grass	x	x	x	
<i>Schizachyrium scoparium</i>	little bluestem	x			
<i>Panicum virgatum</i>	switch grass	x	x	x	
<i>Pascopyrum smithii</i>	western wheat	x			x
<i>Elymus canadensis</i>	Canada wildrye	x			
<i>Alopecurus</i>	foxtail	x	x		
<i>Poa compressa</i>	Canada bluegrass	x	x	x	
<i>Stipa spartea</i>	porcupine grass	x			
<i>Spartina</i> sp.	cordgrass	x	x		
<i>Phalaris arundinacea</i>	reed canary grass	x	x	x	

TABLE A4. – Continued.

Scientific Name	Common Name	EV1	PC1	PC2	PC3
Polygonaceae					
<i>Rumex crispus</i>	curly dock		x	x	
Potamogetonaceae					
<i>Potamogeton pectinatus</i>	fennel pondweed		x		
<i>Potamogeton pusillus</i>	small pondweed		x		x
<i>Potamogeton nodosus</i>	floating-leaf pondweed				x
Psilotaceae					
<i>Psilotum</i> sp.	whisk fern		x	x	
Ranunculaceae					
<i>Ranunculus flabellaris</i>	yellow water crowfoot		x	x	
<i>Thalictrum dasycarpum</i>	meadow-rue			x	
Rhamnaceae					
<i>Ceanothus cuneatus</i>	buckbrush		x	x	x
<i>Cirsium</i> sp.	thistle				x
Rosaceae					
<i>Rosa woodsii</i>	Woods' rose			x	
<i>Potentilla</i> sp. (immature)	cinquefoil				x
Rubiaceae					
<i>Galium aparine</i>	catchweed bedstraw		x	x	
Salicaceae					
<i>Salix exigua</i>	narrowleaf willow			x	
<i>Populus deltoides</i>	cottonwood	x			
<i>Salix</i> sp.	willow	x			
Scrophulariaceae					
<i>Veronica arvensis</i>	corn speedwell		x		
<i>Veronica anagallis-aquatica</i>	water speedwell		x	x	x
<i>Penstemon grandiflorus</i>	large beardtongue			x	
<i>Veronica arvensis</i>	corn speedwell				x
Selaginellaceae					
<i>Salaginella</i> sp.	club moss		x		
Tetranychidae					
<i>Verbascum thapsus</i>	common mullein		x	x	x
Ulmaceae					
<i>Ulmus pumila</i>	Siberian elm			x	

TABLE A4. – Continued.

Scientific Name	Common Name	EV1	PC1	PC2	PC3
Urticaeae					
<i>Urtica dioica</i>	stinging nettle			x	x
Verbenaceae					
<i>Verbena hastata</i>	blue vervain		x	x	x
Violaceae					
<i>Viola sororia</i>	common blue violet		x		x
Vitaceae					
<i>Vitis riparia</i>	river bank grape		x	x	
<i>Parthenocissus vitacea</i>	woodbine		x		
Total Introduced		5	9	13	9
Total Native		29	47	46	28
Total Number of Species		37	64	65	46

PHOTOGRAPHIC RECORD – EVERGREEN CREEK, SITE EV1



Photo 1 - Close-up view of Evergreen Creek showing LWD within streambed; note emergents.



Photo 2 - Looking toward the bottom of the 100-m study reach. Note vegetated banks in this portion.



Photo 3 - Note erosional areas near the lower portion of the study reach.

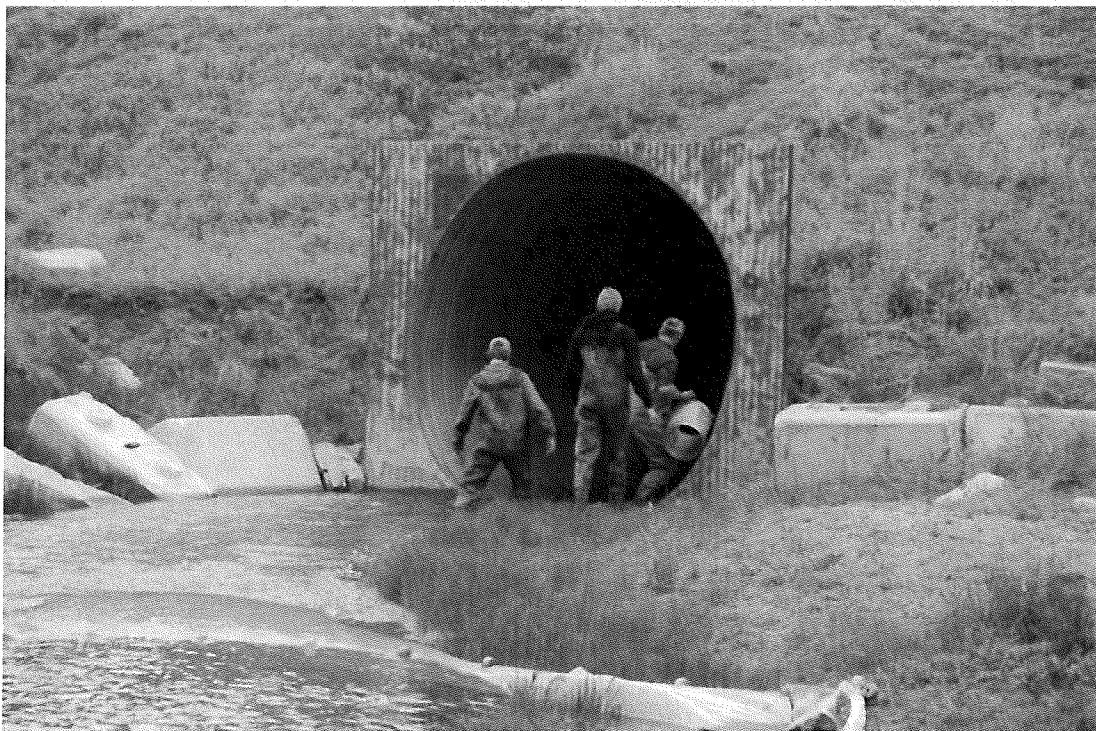


Photo 4 - Large under the road culvert below bottom of the study reach.



Photo 5 - Looking upstream from the bottom of the study reach. Note bank caving on far streambank.



Photo 6 - Looking east toward bottom from the middle of the site. Note overstory canopy.



Photo 7 - Electrofishing streambed; water had low turbidity compared to site PC3.



Photo 8 - Sampling fish with electrofishing.



Photo 9 - Close-up view of the dominant *Carex* sp. streambed and shoreline fringe of Evergreen Creek.



Photo 10 - More sloughing along bank as one proceeds up the study reach.



Photo 11 - Another view of *Carex* sp. expression along shoreline. Cordgrass common as well.



Photo 12 - Characteristic view of grass/sedge dominant component with LWD.



Photo 13 - View of flowering *Carex* sp. near the bottom of Evergreen Creek.



Photo 14 - Large plains leopard frog observed while sampling.



Photo 15 - View of cornfield planted northeast of the sampling site in almost bare sand.



Photo 16 - Note pivot irrigation system with large tank chemigation system.



Photo 17 - Juvenile corn seedlings planted in sand road above site.



Photo 18 - Panoramic view Evergreen Creek study site below sand corn field.



Photo 19 - One of several green ash trees near top of study site.

PHOTOGRAPHIC RECORD – PLUM CREEK, SITE PC1



Photo 1 - Looking downstream at the top of site PC1; note extensive grass cover on west bank.



Photo 2 - Looking upstream at site PC1; illustrating dense grass cover, tree canopy on east bank.



Photo 3 - Looking downstream from the bottom of site PC1; note riffle area, extensive *Carex* sp. community to left.



Photo 4 – Close-up of hydrophytes; cordgrass, duckweeds and shoreline *Veronica* sp.



Photo 5 - Ground view looking upstream at site PC1 showing extensive run habitat area; well vegetated banks.



Photo 6 - Sand bar formation near the top of site PC1 with emergent flora growth becoming established.



Photo 7 - Electrofishing near the bottom of site PC1. Fast current in several locations.

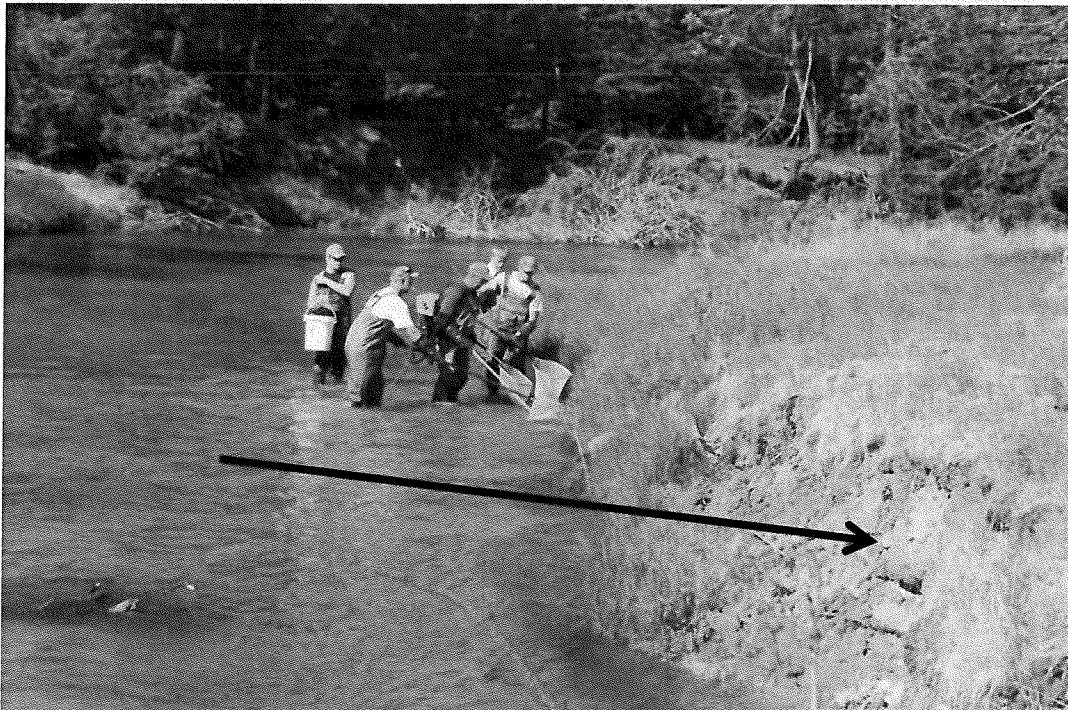


Photo 8 - Fish crew near top of site PC1; note sandy outcrop conduit for erosion.

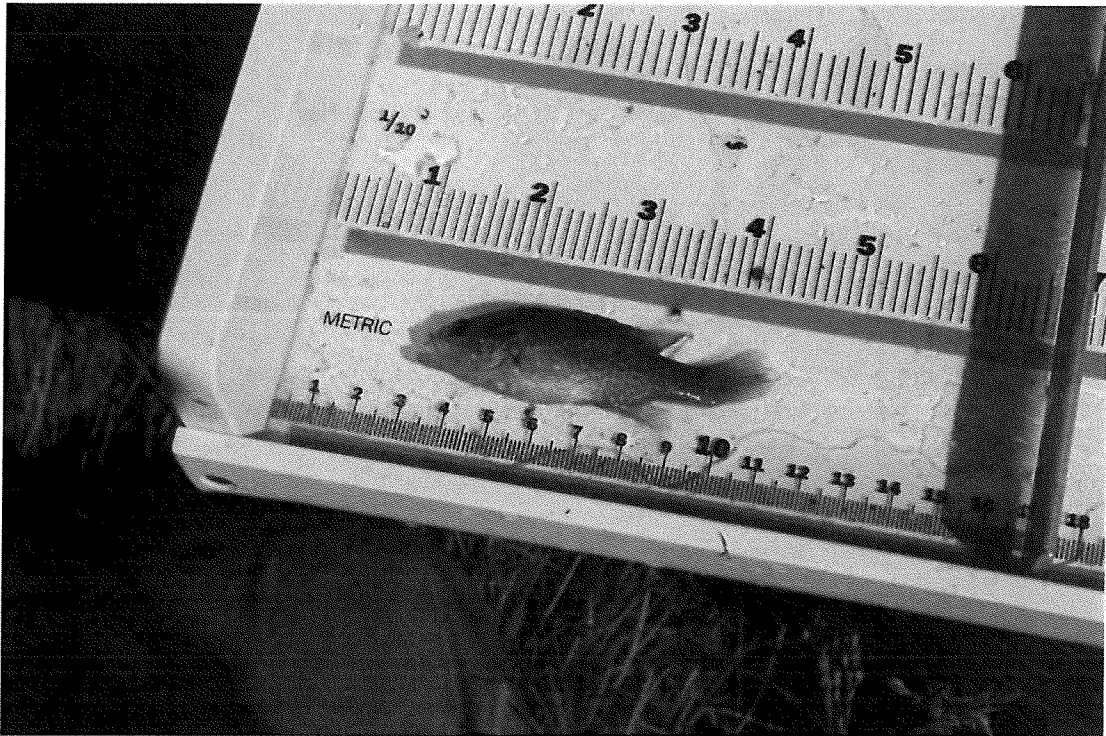


Photo 9 - Close-up of green sunfish sampled at site PC1.



Photo 10 - One of several longnose dace sampled at all four study sites during our investigations.



Photo 11 – Close-up view of a brassy minnow sampled at site PC1.



Photo 12 – Close-up view of a creek chub sampled at site PC1.

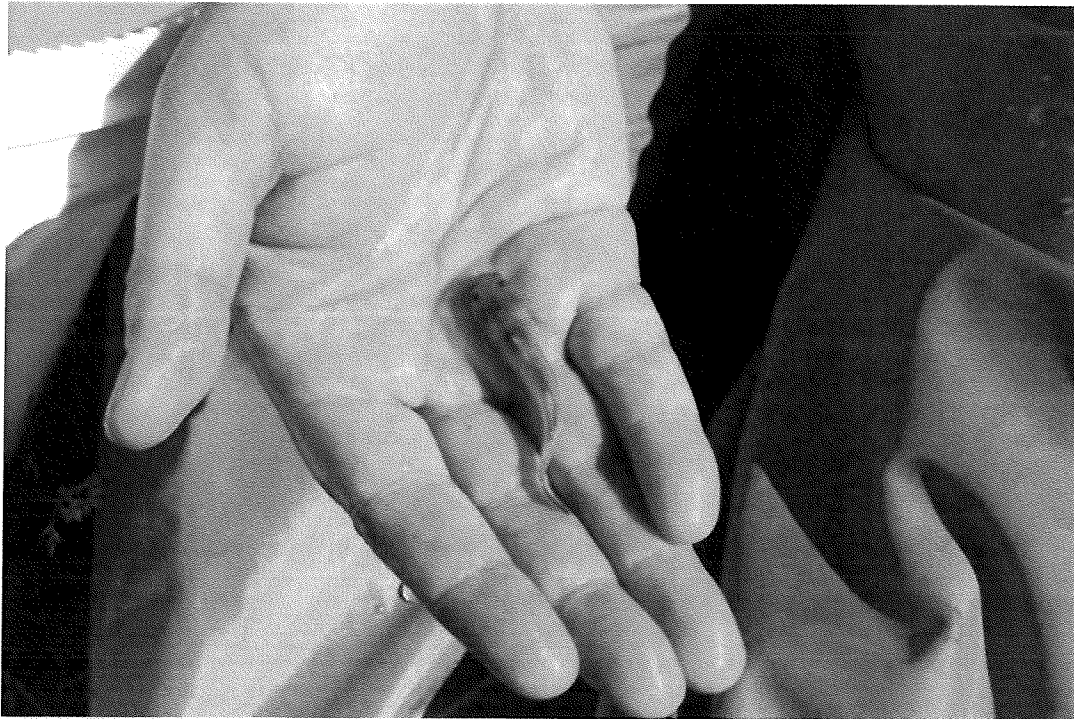


Photo 13 - Close-up view of a stonecat documented at all study sites of Plum Creek.



Photo 14 - Representative gastropods; *Physa* sp. documented within the study reach.



Photo 15 - Fish sampling by using a 30-ft bag seine to augment electrofishing.



Photo 16 - Herbaceous outcrops such as *Soloman* seal on east bank of site PC1.

PHOTOGRAPHIC RECORD – PLUM CREEK, SITE PC2

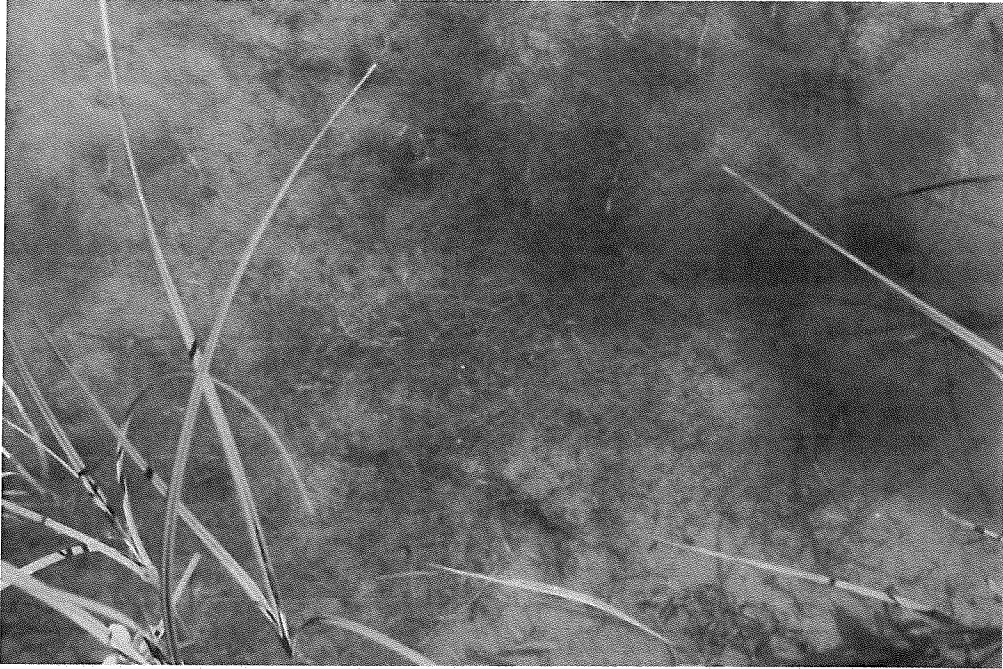


Photo 1 - Establishment of submergent macrophyte growth; *Potamogeton pectinatus* near quiet shoreline.

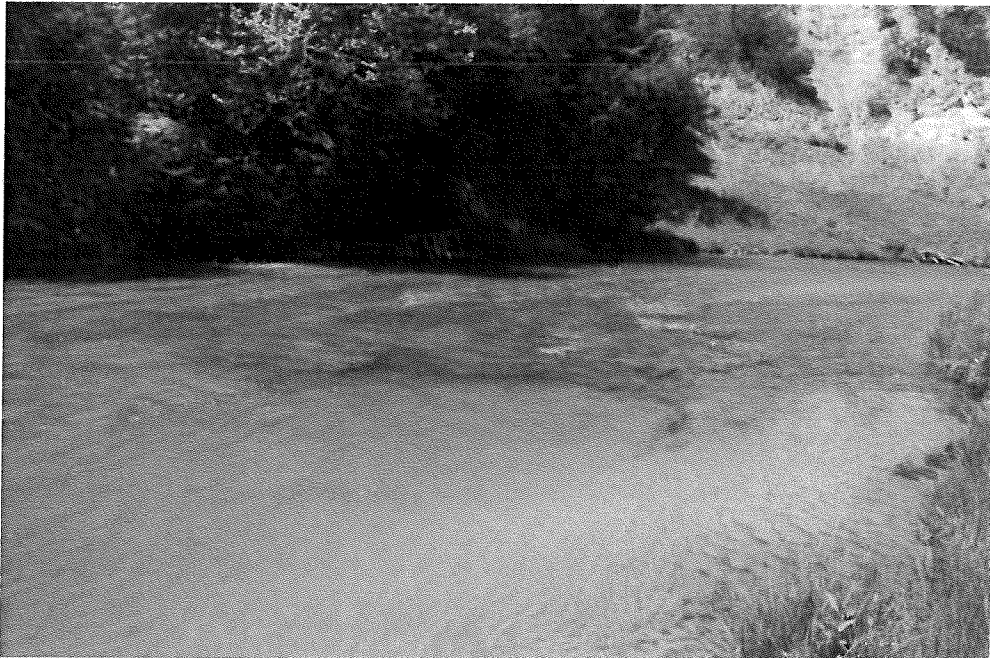


Photo 2 - Top (upstream) of site PC2 study reach on Wilke property. Note exposed bedrock in stream below McGowan Dam.



Photo 3 - Benthic macroinvertebrate sampling at site PC2; note woody debris, cobble and boulder habitats.

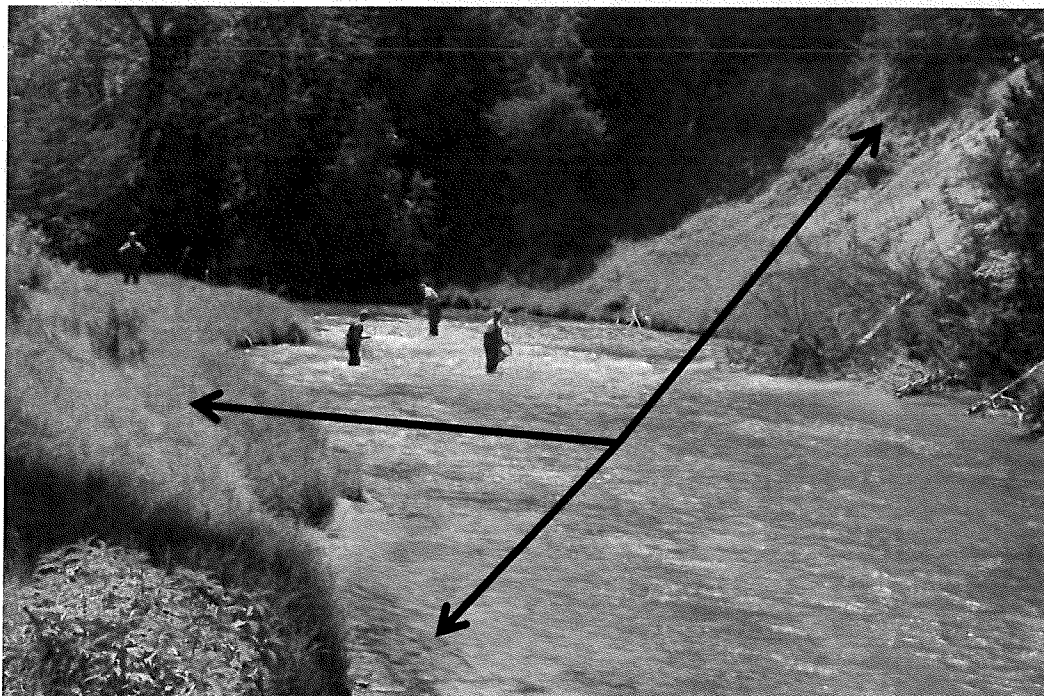


Photo 4 – Surveying at site PC2. Note submergent growth, grassy bank, and exposed bank.



Photo 5 - Looking downstream near the bottom of site PC2. Note large debris jam bottom of run.

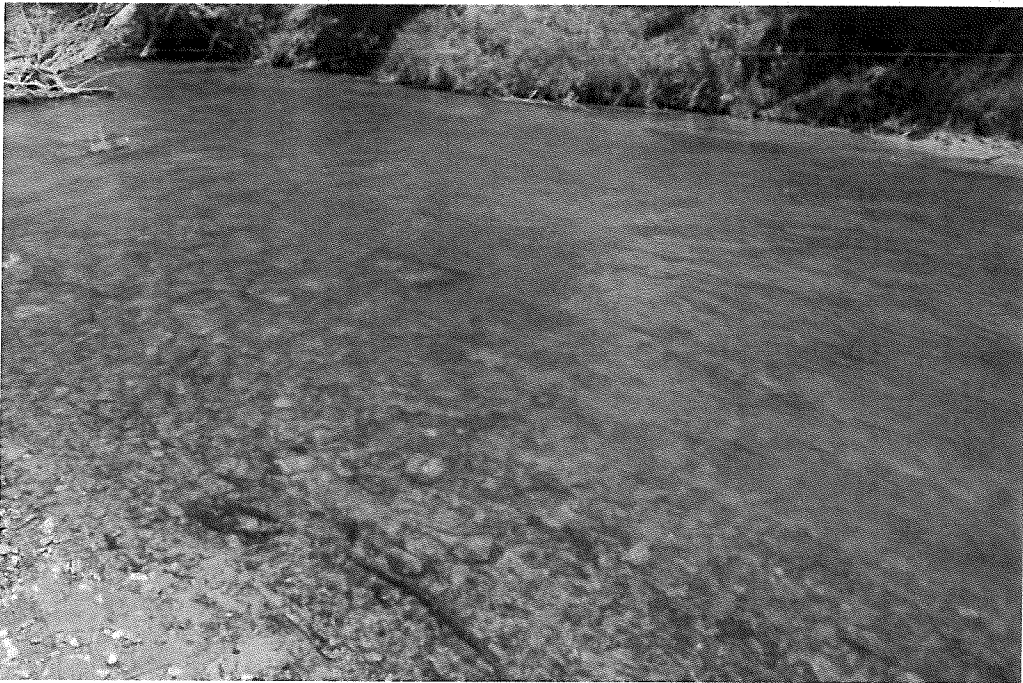


Photo 6 - Note exposed cobble and gravel habitat exposure; re-colonization of filamentous green algae; sand inter-mixed.



Photo 7 - Streambank and riparian flora at site PC2. Dominant grass/forb component below high water mark.



Photo 8 - Electrofishing near heavy vegetated shorelines at the top of site PC2. Note bedrock and cobble in background.



Photo 9 - Note algae/periphyton attached on boulder/cobble substrates; re-colonizing flora near sand bar.



Photo 10 - Near the top of site PC2; again note boulder/cobble substrates, woody debris on opposite bank.

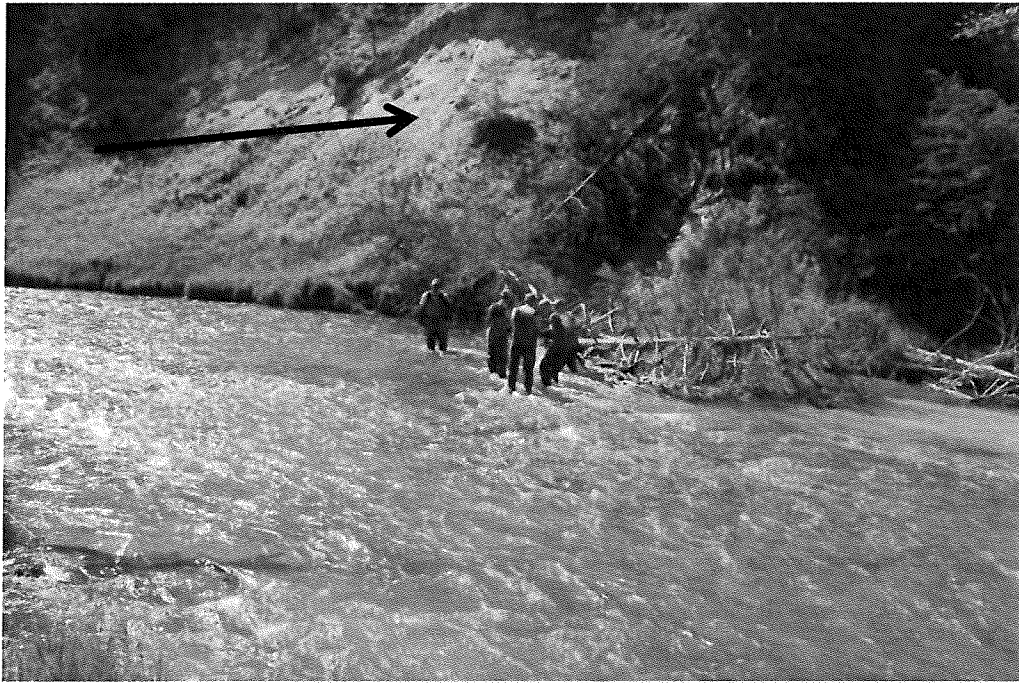


Photo 11 - Above the middle of site PC2; electrofishing below thalweg near steep sand bank; note exposed sand.



Photo 12 - Panoramic stream view of the top of site PC2; note shady canopy cover to the right, open grass/forb to the left.



Photo 13 – Stonecat specimen sampled at site PC2.



Photo 14 - One of the decapods, *Orconectes* sp. observed during the survey. Note duckweed and algae.



Photo 15 - Submergent macrophyte growth near streambank near the top of site PC2.



Photo 16 - Large red shiners in pre-spawn condition sampled by seining near the top of site PC2.



Photo 17- *Myosotis laxa*, forget-me-not, which is common in eastern states, but NOT Nebraska, found on Plum Creek in dominant composition.



Photo 18 - Close-up of several of the unique *Carex* species found at site PC2. Several others vouchered.

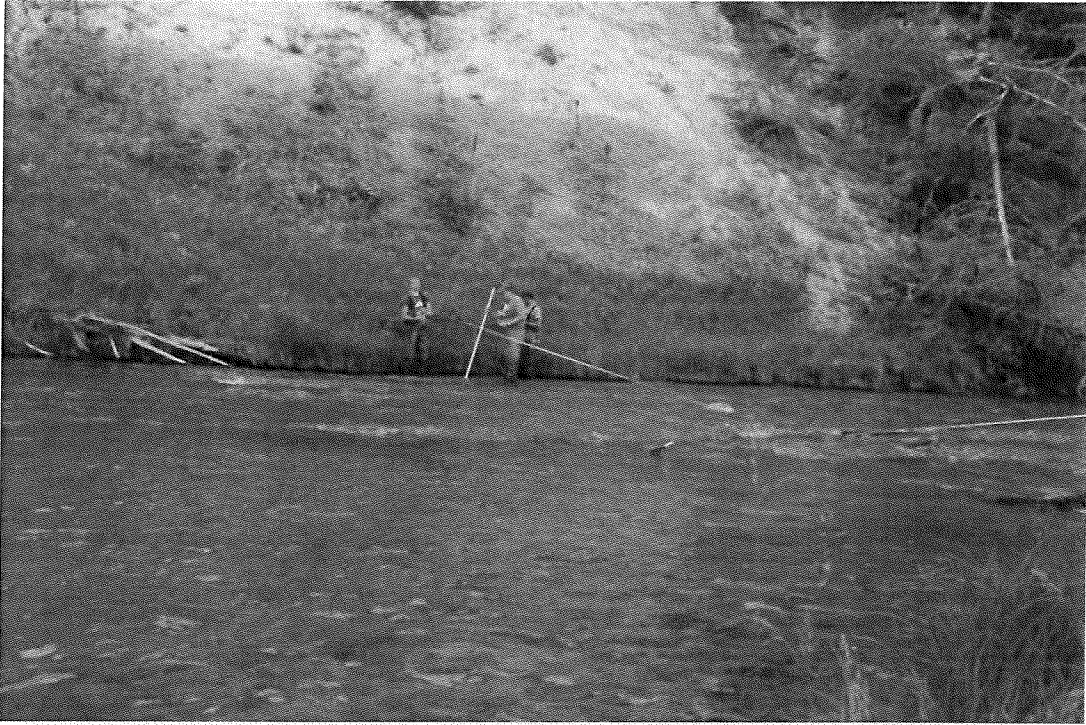


Photo 19 - Conducting habitat and flow measurements at site PC2. Note large exposed sand escarpment.



Photo 20 – Close-up of herbaceous understory at site PC2.

PHOTOGRAPHIC RECORD – PLUM CREEK, SITE PC3



Photo 1 - Looking downstream at site PC3 at the bottom of the 100-m transect. Note cut cedar trees in background.



Photo 2 - Looking toward the middle of site PC3; large density of grasses and forbs. Heavy precipitation recent.



Photo 3 - Looking toward the top of site PC3. Note high flows and bend in Plum Creek.



Photo 4 - Note *Carex* spp. Community prevalent along shoreline of creek. Two weeks from forming fruits.



Photo 5 - Numerous chorus frogs observed at this location (site PC3).



Photo 6 - Looking downstream from near the top; note current; cedar, oak and elm riparian overstory.



Photo 7 - Opposite bank with heavy grass growth. Note cut cedars.



Photo 8 - *Veronica angallis-aquatica* growing profusely along the shoreline.



Photo 9 - Electrofishing snags and shoreline along bank of site PC3; note open soil exposure along bank.



Photo 10 - Panoramic view of the top (upstream) portion of site PC3. Clearly representative except for cedars.



Photo 11 - Representative white sucker in the study reach at site PC3.



Photo 12 - Example of runoff through a ravine next to site showing how much precipitation from earlier.



Photo 13 - Another *Carex* species growing along the shoreline at site PC3.



Photo 14 - *Carex* species lining shorelines; however, fruit formation was 2-3 weeks away for species confirmation.