

APPENDIX E FEATURE DEGRADATION STUDY OBSERVATIONS

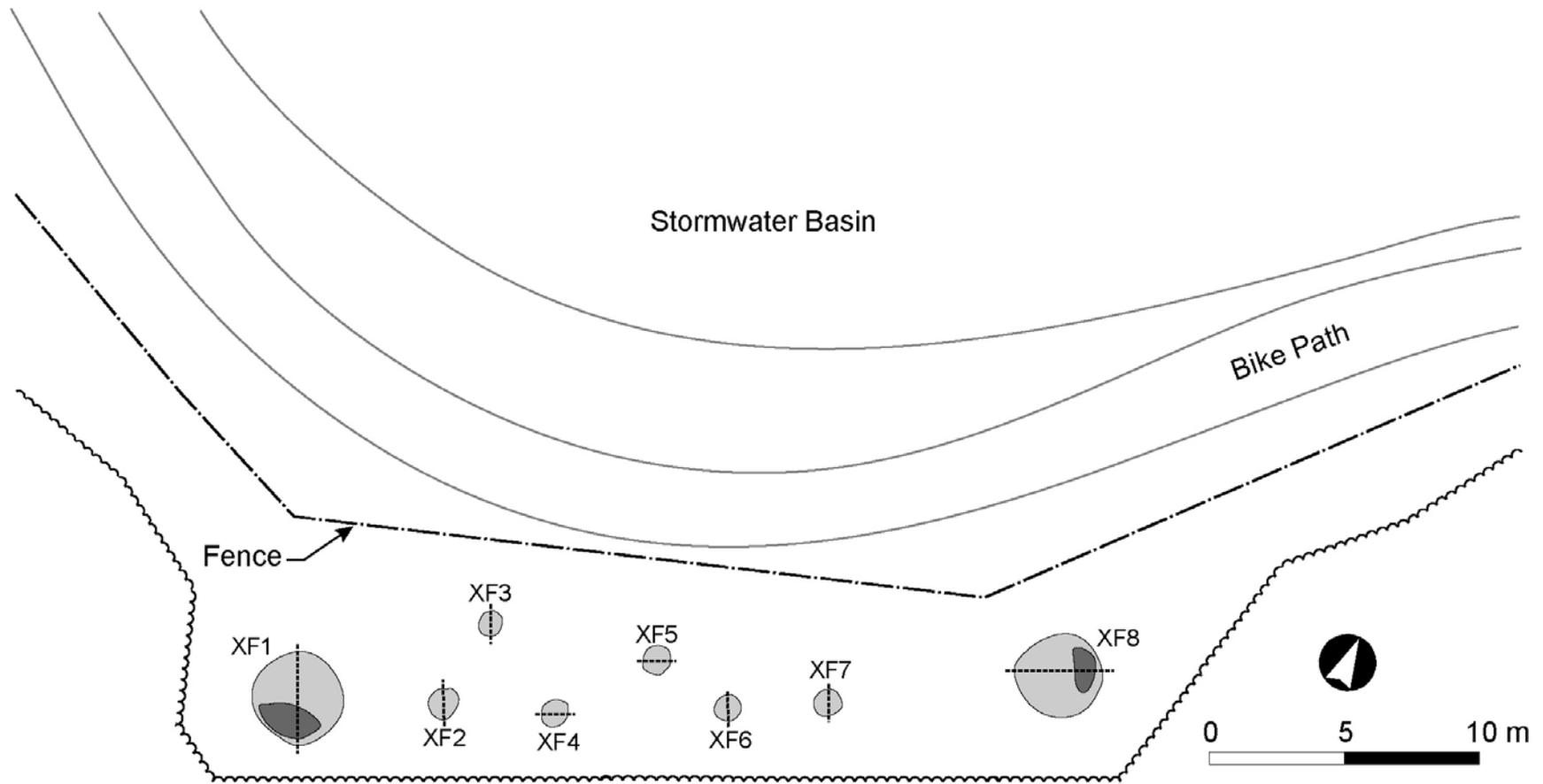


Figure E. 1 Experimental Feature Degradation Study Area Plan

Table E.1 Observations Recorded for XF 1

Observation Date	Geomorphology	Floralturbation	Faunalturbation	Other
CSG 2/27/1998		leaves, small sticks	worms	
3/2/1998	humic soil washed in from pit lip	moderate accumulations of leaves, chaff	numerous worms concentrated in the easternmost 25 cm of the sub-basement area; four slugs	
3/3/1998	hardening in three isolated areas creating a linear mound about 15 cm long, 5 cm wide, and 1.5 cm high curving along the eastern edge	big stick	worm burrowing in the east end where they were concentrated on 3/2/98 forming small soil mounds	
3/4/1998	smoothing of walls and floors creating more "natural" appearance		dense worm cast activity continued and expanded in the east end of the sub-basement; worm casts also appearing in the walls	
3/5/1998			deer hoof prints in "living floor" area	
3/6/1998				tiny ice ridges from frost evident in "living floor" area
3/10/1998	sidewall slumping on both east and west ends of sub-basement		fresh worm activity across "living floor" and in north edge of the sub-basement; drowned worms in sub-basement	evidence of standing water (residual damp patch)
3/11/1998	fine clay film in areas of previously standing water			frozen ground surface
3/12/1998	fine sands depositing around edges			jagged ice formation in sub-basement side walls and floor; frost heaving on floor
3/13/1998				ice formations in bottom of sub-basement

Table E.1 Observations Recorded for XF 1 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
3/16/1998	"Living floor" area drying out; lots of new loose soils deposited along the bottom edges of the sub-basement; sidewalls of the sub-basement are covered with crusty soil for about the upper 40 cm, loose coating of soil below 40 cm; the crusty formation is on the south half of the feature and may be the result of the slow melt of ice in this shaded location	a few new twigs		
3/17/1998				
3/18/1998	rains washed the crust-like accumulations off the side walls and into the bottom of the pit			
3/20/1998	sub-basement edges looked slightly bumpy or eroded, but in an even regular pattern; soils in the bottom have a smooth fine-grained surface appearance (well sorted, no lumps)		worm activity resumed in bottom and to a limited extent, in the "living floor"	
3/23/1998	film over sub-basement left by standing water; soil washing up along all edges, piling up around edge of sub-basement; shallow gullies forming at narrow east and west ends, running from the "living floor" into the sub-basement floor	new leaves and sticks washed in, most have a residue left by the standing water	worm activity continued with new holes and casts; worm tracks in bottom of pit	
3/24/1998				
3/25/1998				
3/26/1998			new worm activity in "living floor"	
3/27/1998				
3/30/1998	"Living floor" drying out; clay film in bottom of sub-basement was cracking and peeling		heavy duty worm buildup at each end of sub-basement and on "living floor"; worm tunnel in north bottom edge of sub-basement	

Table E.1 Observations Recorded for XF 1 (Continued)

Observation Date	Geomorphology	Floralturbation	Faunalturbation	Other
3/31/1998				Drying out
4/1/1998				
4/2/1998				
4/3/1998				
4/6/1998				
4/7/1998	two minor slumps in sub-basement wall; east wall slump is 5 cm wide, 3 cm deep, and 5 cm high; north wall slump is 15 cm long, 2-4 cm high and 2 cm deep; a 15 cm diameter chunk, loosened by worm activity, dried out and fell off the south wall of the sub-basement	few weeds growing along the "living floor" rim, especially on the north side	worm activity at west end of the north wall slump; worms active throughout "living floor"	
4/8/1998	another 15 cm chunk fell off the south sub-basement wall, probably from the same causes as the one on 4/7/98; this area was less than 20 cm away from the previous area			
4/9/1998				
4/13/1998	soil accumulation covers the entire bottom of the sub-basement; still thickest in the east and west ends; another shallow gully beginning to form on top of the south wall	vegetation encroachment around "living floor" edges; debris scattered in a line stretching from east to west in the sub-basement		
4/14/1998	drier			
4/15/1998			toad burrow on the floor of the sub-basement in the north wall	
4/16/1998		tiny weeds encroaching into the "living floor" area around the edges; apple blossom petals observed in feature from adjacent apple trees	toad was present	

Table E.1 Observations Recorded for XF 1 (Continued)

Observation Date	Geomorphology	Floralturbation	Faunalturbation	Other
4/20/1998	small gullies deepened because of rain, particularly the one to the west	small weeds are across the "living floor"	toad and worms present on the high ground at the west end	standing water in sub-basement
4/21/1998				standing water in sub-basement
4/22/1998		vegetation thickening	toad gone	dry
4/23/1998				
4/24/1998			toad returned; lots of loose soil in bottom from worm activities	
4/27/1998		increasing vegetation growth	continued worm activity; toad activity	
4/28/1998				drier
4/29/1998				drier
4/30/1998				drier
5/1/1998				
5/4/1998	lots of loose soil and debris in sub-basement;	increased vegetation; debris snagged into small piles on the "living floor"	dense worm activity across "living floor"	
5/5/1998	fine reddish soil on side walls tracking down to the bottom; soil occurs in the south, north, and east upper edges of the sub-basement		ant nests	
5/6/1998				
5/7/1998	continued soil accumulation in the sub-basement	fresh grassy growth on the "living floor"		
5/11/1998	new soils eroded in, smoothed out by water; erosional patches (gullies on east and west ends; worm activity in sidewalls) deepening	vegetation strongly established across "living floor"; vegetation growth on rim of sub-basement	drowned worms in sub-basement	little standing water
5/13/1998	gullies deeper		worms clustered on high ground in sub-basement	standing water in sub-basement
5/14/1998	small pebbles in sub-basement		bloated dead worms	standing water in sub-basement

Table E.1 Observations Recorded for XF 1 (Continued)

Observation Date	Geomorphology	Floralturbation	Faunalturbation	Other
5/15/1998				
5/18/1998	erosion continues around bottom edges of sub-basement;		ant hills coming out of sub-basement walls creating loose soil falling to bottom	drying out
5/19/1998			ant hills recorded on 5/18/98 were tunnel entrances to bee hives in north wall and southeast corner of the sub-basement	drying out
5/20/1998		two weeds growing in bottom of sub-basement	bullfrog in bottom; flies on a dead worm; cricket	
5/21/1998			bee tunnels have produced small piles of dirt that are accumulating in the sub-basement	
5/22/1998			bullfrog and bee tunneling with dirt piles increasing; new tunnel into the east end of the sub-basement floor	
KBS 5/26/1998		small grasses growing on "living floor";	bee dirt piles at bottom of sub-basement are becoming smoothed out probably from weekend rain	
5/27/1998		four crabapples in sub-basement	new bee tunnel in floor of sub-basement at east end	
5/28/1998			dead bee in sub-basement on east side	
5/29/1998				

Table E.1 Observations Recorded for XF 1 (Continued)

Observation Date	Geomorphology	Floralturbation	Faunalturbation	Other
6/1/1998	gully in southeast corner of sub-basement is enlarged; sediments in bottom of sub-basement smoothed out from rain; two pebbles have washed into the central portion of the sub-basement	new larger crabapple near north wall of sub-basement; continued growth of vegetation on "living floor", especially grasses in northwest and extreme eastern portion; vegetation in sub-basement growing larger as well		shovel marks are still evident on the north wall of the sub-basement
6/2/1998			ant nests in center of north wall of sub-basement about 8 cm thick (soil is B horizon); area of disturbance is about 3 cm by 4 cm; nearby bee tunnel in north wall, about 6 cm by 8 cm	
6/3/1998				
6/4/1998				
6/5/1998				
6/8/1998	fresh dirt accumulation on sub-basement floor on the south side and north edge undercut	crabapples beginning to dry out; vegetation does not include any vines (result of the amount of direct sun?)		
6/9/1998		large green leaf in northeast area of sub-basement		
6/10/1998				
6/11/1998	cracks forming vertically in the north wall of the sub-basement	new leaf debris in sub-basement; slower vegetation growth around periphery and on "living floor"		

Table E.1 Observations Recorded for XF 1 (Continued)

Observation Date	Geomorphology	Floralturbation	Faunalturbation	Other
6/15/1998			smoothing of bottom sediments with recent ant activity at north wall of sub-basement; bird droppings on northwest sub-basement wall	
6/16/1998	smoothing of sediments from evening thunderstorms on 6/15/98			
IH 6/17/1998	increased gullies from evening thunderstorms on 6/16/98; fresh loose soil was observed on the east side of the sub-basement with unknown origin		small burrow/tunnel about 5 cm in diameter with displaced soil, located in the northwest corner of the sub-basement	
6/18/1998			dead shrew in middle of the sub-basement	
6/19/1998			scratch marks on the west and north walls of the sub-basement	
6/22/1998	loose dirt at bottom of sub-basement		additional burrowing in the northwest corner of the sub-basement; dead shrew gone	
6/23/1998	more erosion due to evening rain on 6/22/98; fresh loose soil in the corners of the sub-basement			
KBS 6/25/1998	5 cm by 10 cm collapse in the northwest corner of the sub-basement, about 15 cm from the floor; loose dirt from this collapse and additional collapse/burrowing in the floor of the north wall of the sub-basement;	moss and fine ground cover growing in the sub-basement floor where the moisture collects; tall grasses and vegetation on "living floor" have increased in size over last week		
6/26/1998				

Table E.1 Observations Recorded for XF 1 (Continued)

Observation Date	Geomorphology	Floralturbation	Faunalturbation	Other
6/29/1998	heavy erosion from 6/26/98 torrential rain; gullies in south, east and north walls of sub-basement greatly enlarged (by 2-3 cm each); ovoid hole open in northeast corner of sub-basement wall about 12 cm from the top of sub-basement edge with "living floor"			
6/30/1998	floor of sub-basement cracked on east end about 1/4 of the way across the east wall	moss growing on moist walls	new soil in sub-basement floor near the north wall from bee tunnels or ant nests	drying from weekend rain; bottom 1/3 of sub-basement floor is moist
7/1/1998				
7/2/1998		continued vegetation growth	new bee/ant burrowing at the east end of the burrow/erosion in the north sub-basement wall	all sediments dry except the sub-basement floor
7/3/1998				
7/6/1998	sub-basement sediments drying and cracking in east end	vegetation in the bottom of the sub-basement is dust-covered; "living floor" vegetation continues to grow especially the brambles/green briars in the center and east	large daddy long legs spider on east sub-basement wall	
7/7/1998			black rat snake	
7/8/1998			dead black rat snake; two frogs, one toad and a small beetle in sub-basement; one frog entered the burrow on the north side of the sub-basement, the beetle entered a burrow on the eastern side with a small twig	

Table E.1 Observations Recorded for XF 1 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalturbation	Other
7/9/1998	fallen chunks from the north wall of the sub-basement were not smoothed by rain indicating that they had fallen after the rain stopped	twig debris over snake	dead black rat snake with a film of dirt covering a small portion of its tail	
7/10/1998			snake has been moved 10-15 cm towards the north sub-basement wall; flies are beginning to lay eggs on the central underbelly; a small caterpillar was rolling around on the slope of the eastern sub-basement floor	
7/13/1998		leaves collecting in deep erosion pockets on the south and east walls of sub-basement	no visible decay on dead snake beyond general desiccation	drying out
7/14/1998				
7/15/1998				
7/16/1998				
7/17/1998				
7/20/1998		new leaf debris in west half of sub-basement	dead frog in sub-basement (already mummified); snake body is located in a more northwest position with top 1/2 missing (no head or upper body); locust shell in west half of sub-basement	

Table E.1 Observations Recorded for XF 1 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalturbation	Other
7/21/1998	new subsoil dirt patch from erosion on north sub-basement wall to east of large northern burrow; west end of sub-basement now seems higher than east end;	large plant growing in the northeast end being eaten by parasites; vegetation continues to grow; the "living floor" is covered with vertically growing vegetation; the sub-basement is covered with horizontal creeping vines presumably due to the shadiness of the east end		
7/22/1998			snake gone; dead frog rehydrated to black and slimy	wet sediments
7/23/1998		Vertically growing plant species with very few vines; grasses growing in "living floor"	15-20 centipedes in sub-basement; frog drying out again	
7/24/1998				
7/27/1998		east plant in sub-basement has added 1/3 of its mass in the past 2 days	dead frog was moved west partially covered by a plant	bottom of sub-basement still moist from rains
7/28/1998				
7/29/1998			some bee activity	damp sub-basement floor
7/30/1998				rained out
8/3/1998	little more dirt eroded from south sub-basement walls	"Living floor" vegetation becoming more dense; brambles growing quickly; vine in east corner of sub-basemen near rim increasing in size	dead frog gone	
8/4/1998				
8/5/1998				

Table E.1 Observations Recorded for XF 1 (Continued)

Observation Date	Geomorphology	Floralturbation	Faunalturbation	Other
8/6/1998			30-40 millipedes active at bottom and along lower walls of sub-basement	sediments dry
8/10/1998				
8/11/1998	significant infilling of the sub-basement from erosion from the northeast and southeast walls near the top of the sub-basement; northern burrow almost completely covered, only 1 cm opening along the western portion observed; large quantity of new deposits	westernmost large plant coated with mud; a number of twigs and grasses are strewn atop the southern bulk (may be the result of sub-basement flooding or could be new fall); vine entering from southeast rim and growing into largest erosion spot on the north		
8/12/1998		clover growing in the undercut in the northeast corner of the sub-basement; western plant wilting because of mud cover		
8/13/1998		poison ivy vine in east sub-basement partially buried by eastern slump; western plant wilting		sediments in the sub-basement still wet; drying more on the "living floor" and partial northwest wall
8/14/1998				
8/15/1998				
8/17/1998	eastern sediments cracking further	western plant has lost most of dirt from upper two leaves		sub-basement still moist halfway up
8/18/1998	more erosion from east end, southeast wall and western corner of sub-basement	western plant is sub-basement is washed off; clover growing northeast of plant is doing well; new clover patch in the far west, western sub-basement edge and southwest corner rim		

Table E.1 Observations Recorded for XF 1 (Continued)

Observation Date	Geomorphology	Floralturbation	Faunalturbation	Other
8/19/1998	more sandy infilling from the western edge of sub-basement; mud covers 1/3 of sub-basement floor; northeast erosion is quickly deteriorating; southern wall is also eroding, especially the west end; two dry patches of E horizon remain on north sub-basement	stick leaning in corner of sub-basement, buried at the bottom; western plant with increasing mud cover (southernmost bottom leaf is completely buried in mud)		water line evident in sub-basement left by maximum water level
8/20/1998				North wall of sub-basement dry about 1/2 way down; mud in middle of sub-basement still very moist
8/21/1998				
8/24/1998		Pokeweed growing in "living floor" and sub-basement; vine in northeast corner of sub-basement has grown significantly and is growing back out of the void (about 10 cm worth of growth over the weekend); new plant growth in sub-basement southeast of western plant		raindrop spots ? in central mud in bottom of sub-basement
8/25/1998	new soil falling on floor of sub-basement in southeast corner (subsoil)	clover growth including flower stalk; new poison ivy plants growing in west end of sub-basement rim; two new patches of clover, one near west edge of sub-basement rim, one near west edge of "living floor"; vine growing into and out of east corner erosion	millipedes in western corner of sub-basement	sub-basement sediments still wet 1/3 way up the side
8/26/1998				drier; almost all dry except corner bulks
8/27/1998				

Table E.1 Observations Recorded for XF 1 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalturbation	Other
8/28/1998		vine growing in northeast corner has grown about 8 cm towards the bottom of the sub-basement		standing water in sub-basement covering about 1/2 of area of floor in central portion
8/31/1998	fresh subsoil erosion in southeast	pokeweed in east portion of sub-basement has grown a 1/3; new plant growth in the northeast and west; new poison ivy vine growing from east rim about 1/2 way into sub-basement; existing vine in northeast corner has sprouted another vine; main vine in sub-basement has doubled in length		sub-basement sediments still moist 1/2 way up
9/1/1998			worm crawling through sub-basement grasses	
9/2/1998				standing water in sub-basement about 2/3 full; shallow puddle in "living floor" area
9/3/1998	fresh soil on south sub-basement floor from wall fall		locust shell at east end of sub-basement	
9/4/1998	minor erosion for all areas in sub-basement particularly at east end			standing water in sub-basement
9/5/1989				
9/7/1998		vine in northeast corner of sub-basement has grown 5-6 cm and is growing along the floor		
9/8/1998	more erosion from all sub-basement walls especially the northwest corner; a thin layer of silty E horizon coating sub-basement walls	western plant leaves are mud coated; eastern pokeweed bottom two tiers of leaves are mud coated; clover patch in west is submerged		standing water in sub-basement

Table E.1 Observations Recorded for XF 1 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalturbation	Other
9/9/1998		plants slightly wilted in sub-basement; vine in northeast sub-basement corner has grown 3-5 cm towards floor		sub-basement sediments still moist
9/10/1998	moist slick silty layer formed over sub-basement floor and walls	continued plant growth with blooming flowers especially on "living floor"		drier
9/14/1998	northern and northeastern corner erosion undercuts have undergone more loosening up of the sediments and more loss of dirt; western end of south sub-basement wall eroding at a more rapid rate; remainder of south wall continues to erode rather steadily	northernmost branches of pokeweed have reached the top of the sub-basement/living floor" interface in the north; sub-basement foliage remains mud-covered; blooming plants on "living floor"		
9/24/1998	sub-basement seems higher in center;	plants blooming on "living floor"; increased plant growth in of west plant in sub-basement; clover patch north of plants static		sediments damp 1/3 way up from weekly rain
10/1/1998		pokeweed in sub-basement still growing, southern branch now extends almost completely to the south wall of sub-basement; vines in northeast corner of sub-basement increasing downward extensions in the east corner; wild rose on the southern edge encroaching on the sub-basement from the north		

Table E.1 Observations Recorded for XF 1 (Continued)

Observation Date	Geomorphology	Floralturbation	Faunalturbation	Other
10/9/1998		plants trampled from tour; pokeweed berries turning dark purple; wild rose leaves turning red; moss growth (5-10 cm high) around bottom edge of sub-basement walls; vine growing in and out of eroded patch has reached south edge of sub-basement floor; poison ivy vine in southeast corner of sub-basement has reached floor		sediments soaked
10/15/1998	chunky block of soil at northeast bulk	general plant growth; some plant mortality on "living floor"		
10/22/1998		moss growing thickly in southwest and northwest		
11/14/1998	general erosion in the east and south;	pokeweed dying and falling north into sub-basement wall; long seed branches in bottom of sub-basement; dead leaves in sub-basement		
11/21/1998	east top of sub-basement wall collapsed from pocket in northeast corner to erosion in southeast wall from top rim about 25 cm down; significant soil accumulation on newly formed "shelf" as only top sediments fell, some collected in the east corner of the			
1/16/1999	sediment in east end of sub-basement has evened out from November slump; cracking due to frost heaving evident in north and south sub-basement walls; erosion gullies forming on north edge of sub-basement on "living floor"		feather in west end of sub-basement	

Table E.1 Observations Recorded for XF 1 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalturbation	Other
2/26/1999	large (10 x 15 cm) collapse for northwest wall of sub-basement, resulting sediments already smoothed by rain (collapse occurred about 5 cm from the A/E horizon boundary and is 3 cm deep); cracks remain in the north wall; south wall cracks have flaked away		dead cricket in west end of sub-basement	
3/27/1999			feather gone from west end	
4/24/1999	major collapse and sediments in the sub-basement floor are evening out as they redistribute from the high east and west ends to the center	"living floor" covered with fine grasses and moss in the east half; some mossy growth developed on the east wall of sub-basement, wrapping around the south wall for 15 cm; vegetative cover seem to be somewhat slow		
5/22/1999				standing water about 2 cm in sub-basement
6/26/1999	small collapse in west end of sub-basement beneath the A/E juncture	plants wilting in heat; continued plant growth but leaves are yellowing and drooping except for the poison ivy		
7/24/1999	sediments in sub-basement and "living floor" are dry and cracked with fine hair-like cracks	plants are dying except poison ivy		
8/28/1999				
9/18/1999				standing water in sub-basement
RPM 11/10/1999	collapse of walls in many places; sub-basement filling with leaf drop	vegetation is dying back (ragweed along sub-basement rim, vine on north rim, honeysuckle on sub-basement walls, grass tufts and moss)	deer hoofprints in backfill pile; squirrel scratchings	

Table E.1 Observations Recorded for XF 1 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalturbation	Other
12/3/1999	soil collapse on north wall of sub-basement (frost heaving?) covering leaf matter; slight soil sloughing on south wall		vertebrate digging in backdirt pile	
1/4/2000				
2/11/2000	soil sloughing apparent to the north			covered in snow
2/17/2000	lots of soil slough; soil slumping is extensive			snow still present
4/19/2000	south rim of sub-basement is undercut due to soil slump there; soil slumping is noticeable in the north;	vegetation growth including oak, wild carrot, dandelion, honeysuckle, poison ivy, dogbane, grass and moss; apple tree blossoms; rose bushes, moss and honeysuckle on the backdirt pile	worm activity	
CLB 12/13/2000	slumping in NW corner	brush/briars ~1m tall, moss on living floor, north sub-base wall, and back dirt pile	possible rodent/fox intrusion, vegetation bent down into sub base	minimal impact by fence construction
1/11/2001	area shaded, snow remains within pit			
2/27/2001		sapling within sub-base is 1.9m tall with several leaders, 3cm in diameter		

Table E.2 Observations Recorded for XF 2

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
CSG 2/27/1998	small amount of top soil blown in	Leaves, small sticks		walls still appear damp
3/2/1998	humic soil washed in from lip	moderate accumulations of leaves, chaff		
3/3/1998	soil washing in off side walls	sticks accumulating	slugs accumulating in bottom; worms burrowing into side walls of A and E horizons.	
3/4/1998	smoothing of side walls; noticeable accumulation of soil at bottom		continuing worm activity n side-walls	
3/5/1998				a little drier
3/6/1998				
3/10/1998	continued erosion from sidewalls into bottom; worm casts eroded	sticks in bottom seem aligned east-west	fresh worm activity in the bottom at south wall	
3/11/1998				frozen ground surface
3/12/1998				upper-half of sidewalls frozen without ice formations
3/13/1998				more ice than yesterday (note: recorded earlier in morning)
3/16/1998	new soils washed into the bottom; "crust" formation along upper 1/3 of south wall	sticks and twigs no longer in alignment		
3/17/1998				
3/18/1998	rains washed away the "crust" like accumulations along the sidewalls and deposited them in the bottom of the pit			
3/20/1998	sides have a regularized bumpy appearance. Surface of soils in bottom are smooth and regular		worm activity in strats above the subsoil	

Table E.2 Observations Recorded for XF 2 (Continued)

Observation Date	Geomorphology	Floral turbaration	Faunal turbaration	Other
3/23/1998	new soils washed in. clay film over part of the bottom surface. Soils deposited somewhat higher along sidewalls & lower middle.		new worm activity at bottom	
3/24/1998				
3/25/1998				drying out
3/26/1998				
3/27/1998				
3/30/1998	loose "chunky" soils in bottom (from worms)		worm activity in south edge at bottom	
3/31/1998				continued to dry out
4/1/1998				
4/2/1998				
4/3/1998				
4/6/1998				
4/7/1998	small slump (10x5x3 cm) at the base of the south wall; loose crumbly soils lying in bottom	vegetation intruding all around the rim; small sticks pushed into the center.	worm activity higher up in profile.	
4/8/1998				
4/9/1998				
4/13/1998	loose soil in bottom of pit; washed in from worm activity higher in profile	vegetation growing around rim	worm activity loosens dirt which adheres to sidewalls until rain washes it into the base of the pit.	debris seems lined up roughly east-west
4/14/1998				considerably drier
4/15/1998				
4/16/1998		apple blossom petals from nearby trees observed in pits		

Table E.2 Observations Recorded for XF 2 (Continued)

Observation Date	Geomorphology	Floralturbation	Faunalturbation	Other
4/20/1998	additional soil washed in	weed along rim increasing in size		
4/21/1998				
4/22/1998				
4/23/1998				
4/24/1998				
4/27/1998	filling noticeably with "crumbly" worm cast soil	vegetation growth continues	new worm gouge 5cm diameter and 4cm deep along bottom of west wall	
4/28/1998				drying out
4/29/1998				drying out
4/30/1998			toad in pit now	continuing to dry out
5/1/1998				
5/4/1998	lots of loose soil and debris	sticks etc	toad still there; new complex of worm casts in the west wall: 1 at the base, approx 5cm in all dimensions; 2 10 cm higher in profile, and slightly smaller	alignment of debris still appears E-W
5/5/1998				
5/6/1998				
5/7/1998			ant nest at in North wall at top of plow zone	
5/11/1998	fresh soil in bottom		toad still there and healthy; worm gouge at bottom of west wall is larger	
5/13/1998	larger rock (4x6cm) fell from undercut worm hole at base of west wall; clumps of A-horizon washed down sides of pit		toad still present	
5/14/1998				

Table E.2 Observations Recorded for XF 2 (Continued)

Observation Date	Geomorphology	Floralturbation	Faunalturbation	Other
5/15/1998				
5/18/1998	new loose soil in bottom	weeds shading the walls	toad is joined by a beetle; worms still loosening the soil	drying out a little
5/19/1998				continues to dry
5/20/1998			scarcity of worms in pit (toad induced?)	
5/21/1998				drying out
5/22/1998				
KBS 5/26/1998		increased vegetation growth around the edges	small frog has joined toad at the bottom of pit	
5/27/1998			toad and frog still there; frog occupying the eroded spot in the west wall behind the rock	
5/28/1998				
5/29/1998		vegetation growth continues		
6/1/1998	medium pebble at north edge has washed to the floor	substantial growth of vine on south edge extending over to the east portion; vine at northeast corner is 3/4 of the way to the floor	toad and frog are active; frog hiding in 6-7cm undercut at the south wall and floor junction.	sediments are soaked
6/2/1998	regularly shaped rounded depression in NE wall just above floor level. Has become more smooth and circular in outline and increased in size		frog is absent; perhaps burrowed deeper into sidewall	
6/3/1998		poison ivy vine now 2/3 of way to bottom of pit from NE rim	frog still absent; toad has moved into the undercut section previously occupied in bottom of south wall	

Table E.2 Observations Recorded for XF 2 (Continued)

Observation Date	Geomorphology	Floralturbation	Faunalturbation	Other
6/4/1998	south wall undercut covered 1/2 by fresh soil (west side); eroded area is growing vertically resembling "L-shape" 8x8cm at least 5 cm visible		toad is also absent now; burrowed into south wall perhaps = fresh dirt	
6/5/1998		twigs on bottom bury toad	frog spotted in burrow at bottom of SW wall; burrow likely deeper then suspected perhaps 9-10cm now.	
6/8/1998	hole in NE wall is enlarged		frog and toad hiding	soils are moist
6/9/1998	new dirt in SW corner	poison ivy vine is now 3/4 to bottom along NE wall	frog and toad hiding	
6/10/1998			toad visible; frog in undercut in SW wall	
6/11/1998		Poison ivy on east almost to bottom of pit	toad outside SW wall burrow; snail on north wall traveling east and towards the bottom	
6/15/1998	rock is completely covered by fresh dirt		toad and/or frog continue to burrow in SW wall.	
6/16/1998	smoothing of burrow dirt along bottom			
IH 6/17/1998		Poison ivy vine reached the bottom of the pit	frog and toad still present	
6/18/1998	more dirt		burrowing is moving more dirt	
6/19/1998	loose dirt near burrow			
6/22/1998		continued vegetation growth		
6/23/1998				
KBS 6/25/1998			more burrowing by toad	

Table E.2 Observations Recorded for XF 2 (Continued)

Observation Date	Geomorphology	Floral turbaration	Faunal turbaration	Other
6/26/1998				
6/29/1998	burrow dirt is now smoothed out on bottom	second vine has reached the bottom of pit. increased vegetation growth in SE corner	frog is hopping around in small circles on bottom	sediments are moist, but no standing water
6/30/1998		moss growing 2/3 of the way up on the walls	frog and toad both active	
7/1/1998		brambles growing into pit from west rim	toad is occupying the burrow in SW wall	
7/2/1998				
7/3/1998			no sign of toad or frog	
7/6/1998	western 1/3 of floor is covered over with dirt from burrows - but it is smoothed out already		speculation that frog and toad have left via the vines growing into the pit - or just dug in deeper to keep cool	
7/7/1998			toad reappears. No frog	
7/8/1998				
7/9/1998	fresh dirt in bottom after rain yesterday	new poison ivy vines growing into pit from north rim	frog and toad both out near south wall. Burrow in NE corner has been enlarged	
7/10/1998			frog out no sign of toad	
7/13/1998		more vegetation growth	no sign of either frog/toad	
7/14/1998				
7/15/1998				
7/16/1998				
7/17/1998				
7/20/1998		plants along rim showing leaf discoloration (from lack of rain?)	no sign of frog or toad	bottom of pit extremely dry

Table E.2 Observations Recorded for XF 2 (Continued)

Observation Date	Geomorphology	Floralturbation	Faunalturbation	Other
7/21/1998		vegetation is growing from east rim/north rim is beginning to obscure some of the NE bottom view	still no sign	
7/22/1998			still no sign	
7/23/1998			25-30 centipedes climbing the walls and floor. No sign of frog or toad	
7/24/1998				
7/27/1998		vine from east trailing 1/2 way down center of pit	no sign	rock in front of west burrow almost completely buried by sediment
7/28/1998				
7/29/1998				
7/30/1998				
8/3/1998		poison ivy vines wrapping around walls toward the top (upper 1/3)		
8/4/1998				
8/5/1998				
8/6/1998				
8/10/1998				
8/11/1998	further erosion of SE and west walls. Smoothing of all sediments. Rock at mouth of west burrow almost covered. Northeast burrow is infilled.	twigs are concentrated on the east side of the pit bottom.	no sign of frog or toad - (or corpses)	
8/12/1998		poison ivy vine entering from north rim is covered in mud		
8/13/1998				sediments are drying

Table E.2 Observations Recorded for XF 2 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
8/14/1998				
8/15/1998				
8/17/1998		moss on south wall is flourishing with damp conditions		
8/18/1998	more dirt has fallen from the eroded area in NW wall. Western burrow is becoming well-smoothed around the edges	mushroom cluster of 5 (1-2cm diameter) growing into the NW wall, 15cm below surface in eroded area. Moss growing into lip of burrow on west side. Clover is growing into pit from west rim.		
8/19/1998	more erosion from all walls adding to general bulk of dirt smoothed on the bottom of pit			rock in west wall not fully covered
8/20/1998				
8/21/1998				
8/24/1998	noticeable gullying on north wall. Erosion continuing on west wall	moss growing well on south wall. Vegetation growing over east 1/2 of pit mouth and shades this wall for most of the day. Green briar is growing over eroded area in west.	pigeon feather is stuck to the south wall 1/3 of the way down.	
8/25/1998	north wall has less structural integrity, greater percentage of eroded surface area.	moss on south wall is post-erosion, as it has grown into the erosion scars, with no new ones present. Seems to keep walls from eroding further.		
8/26/1998				
8/27/1998				
8/28/1998				moist sediments

Table E.2 Observations Recorded for XF 2 (Continued)

Observation Date	Geomorphology	Floralturbation	Faunalturbation	Other
8/31/1998		viney growth on bottom from vine at north and east rim. Mushrooms growing 2/3 of the way up from the floor; small and round in clusters of: 3 (1 cluster); 2 (2 clusters) and 2 singles on south wall. Moss on south wall also thickened in SW quad top 1/2 of		sediments moist from plow zone down.
9/1/1998		poison ivy growing into erosion patch on north wall		
9/2/1998				
9/3/1998				
9/4/1998				
9/5/1989				
9/7/1998				
9/8/1998		new vine growth from east rim into pit towards the west. Bottom leaves and twigs covered by mud		
9/9/1998		wild rose along eastern rim has grown 1/3 of the way across the mouth of the pit towards the west.		
9/10/1998		regenerated growth of moss on south wall. Wild rose on east rim halfway across pit mouth to the west.		

Table E.2 Observations Recorded for XF 2 (Continued)

Observation Date	Geomorphology	Floral turbaration	Faunal turbaration	Other
9/14/1998		moss on south wall thriving all the way up to the rim. On north wall, moss only extends halfway up. Clover from western clover bunch, has bloomed with the flower falling into the pit. new poison ivy entering pit from west.		
9/24/1998		goldenrod on periphery is all in bloom.		
10/1/1998	sediments are moist about 2/3 of the way up the sides.	goldenrod on rim is dying. Trumpet vine from east edges extends 2/3 across and down into the bottom of the pit.	cricket in bottom of pit	
10/9/1998	saturated sediments throughout	vegetation on east and south sides well trampled (accidentally). Goldenrod was drooping anyway. Wild rose and poison ivy turning red; leaves of trumpet vine inside pit turning deep green. Moss is less dense on south wall than previously.		
10/15/1998		moss at south and north bottom walls. Trumpet vine from east, almost touching the west wall. Poison ivy reached bottom on east wall and moving south.		
10/22/1998	sediments are dried out	moss less vivid green		the pit exposed to direct sunlight
11/14/1998	little noticeable side erosion	moss all the way down south wall; some also SSE. Some live poison ivy in SW but is yellowing. Thick mat of dried leaves in bottom (almost resembles a nest)		

Table E.2 Observations Recorded for XF 2 (Continued)

Observation Date	Geomorphology	Floralturbation	Faunalturbation	Other
11/21/1998				
1/16/1999	small collapse on west wall dumping sediment into bottom on west side approx. 50cm from pit rim. Some cracking of sediments on all walls due to freezing.			
2/26/1999		moss on all walls is gone for the winter.		
3/27/1999	sediment building slowly atop leaf litter		live cricket in bottom of pit	
4/24/1999		vines (mostly trumpet) blanket the walls almost all the way around, growing down from all rims. Taller plants also present, but not in the quantities found last year.		
5/22/1999		further vegetation growth		
6/26/1999	no new erosion visible	vegetation is drooping, especially ragweed. Poison ivy vine growing rapidly down into pit, wrapped around adjacent trumpet vine.		
7/24/1999	sediments are dry and cracking. Small amount of new sediment in bottom. Fresh erosion (due to viney growth) New sediment is against south wall on floor	vines are wilting except for poison ivy. (viney growth causing erosion in pit)		
8/28/1999	small amount of fresh dirt in east side at bottom			
9/18/1999		vegetation battered a bit		

Table E.2 Observations Recorded for XF 2 (Continued)

Observation Date	Geomorphology	Floral turbaration	Faunal turbaration	Other
RPM 11/10/1999		heavy vegetation: poison ivy, wild rose, raspberry - high concentrations of moss and ragweed.		
12/3/1999	soil sloughing due to frost heave.	leaf debris completely covers the bottom. Surrounding plants nearly leaf free.		
1/4/2000				
2/11/2000	soil sloughing on north wall		tracks around sloughed soil	snow in pit (?)
2/17/2000	soil sloughing			snow present
4/19/2000	pit is "lipping" due to soil slump, especially to the south.	entire rim is covered by vegetation: moss, raspberry, honeysuckle, poison ivy, dogbane, and others	worm activity apparent	accumulating debris somewhat covered by soil.
CLB 12/13/2000	snow at bottom of pit, minor slumping on south wall			
1/11/2001				
2/27/2001	top 2/3 of south wall below moss lip/rim is slumping/undercutting, loose dirt atop leaf litter at base	south half of pit edge (northern exposure) is moss covered		south wall slumping is forming a "stepped" profile. North-South Profile Drawn.

Table E.3 Observations Recorded for XF 3

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
CSG 2/27/1998		leaves and chaff blown in	couple of worms	walls still damp
3/2/1998	a little humic soil washed in from lip	moderate accumulations of leaves and chaff		
3/3/1998	soil washing in	medium sticks present	worm casts scattered throughout	edges rounding off
3/4/1998	smoothing of walls and floors creating more "natural" appearance. The accumulated soils in the bottom are comprised of both dark "O" horizon and lighter soils from below. Rain has started to break down the lumps smoothing it all down into the floor, resulting in a very mottled looking flat surface		continuing worm cast constructions.	
3/5/1998				a bit drier
3/6/1998				
3/10/1998	muddy residue left in the bottom from standing water		fresh worm activity along the southern edges near the bottom of the pit.	
3/11/1998				frozen ground surface
3/12/1998	new fine-grained soils added to the bottom (probably washed in from sidewalls due to rain)			walls frozen; few ice formations
3/13/1998				more ice than yesterday
3/16/1998	more dirt washed into bottom; "crust" formation all the way around the pit walls.	more debris washed in		
3/17/1998		vegetation growth continues		

Table E.3 Observations Recorded for XF 3 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
3/18/1998	rains washed the "crust" accumulations off the sidewalls into the bottom of the pit			
3/20/1998	soils at bottom not as homogenous as other pits, have not mixed thoroughly (because of larger bottom surface area)		worm activity begins again	
3/23/1998	new soil and debris washed/blown in - small clay-film area in very center of pit (12cm diameter). Most of new debris is without clay film	new weeds coming right up to edge of pit, especially along northern half		
3/24/1998				
3/25/1998				drying out very slightly
3/26/1998				
3/27/1998				
3/30/1998	soils mostly smooth, homogenous, somewhat dried	tiny weeds and mosses sprouting down in the bottom. Additional debris blown in.	worm activity continues	
3/31/1998				continuing to dry out
4/1/1998				
4/2/1998				
4/3/1998				
4/6/1998				
4/7/1998	some loose crumbly soils from worm activity in bottom.	vegetation taking hold along the rim. A few tiny weeds and moss patches taking hold in the bottom		lots of debris blown in
4/8/1998				
4/9/1998				

Table E.3 Observations Recorded for XF 3 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
4/13/1998		moss and small weeds growing in bottom becoming a bit more prominent, as were those starting in on the side walls		
4/14/1998				considerably drier than yesterday
4/15/1998				
4/16/1998		lots of flower petals from nearby blooming apple trees		
4/20/1998	additional soil and debris is washed in	weeds well established across bottom and rim.		
4/21/1998				
4/22/1998				
4/23/1998				
4/24/1998				
4/27/1998	filling with crumbly worm cast soils - raising level	vegetation growth continues	worm activity increasing	
4/28/1998				soils drying out a little
4/29/1998				
4/30/1998				drying out quite a bit
5/1/1998				
5/4/1998	soils to north are smoothed out. Soils in south are loose.	well established weeds in bottom	new/ongoing worm activity in south - loosening soil	
5/5/1998				
5/6/1998				
5/7/1998		show increased vegetative growth		
5/11/1998		weeds sprouting all along side walls; getting big in bottom	worms active all over pit	
5/13/1998				
5/14/1998				

Table E.3 Observations Recorded for XF 3 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
5/15/1998				
5/18/1998	little new soil		ants at work in north and south walls. Worms slow down	drying out somewhat
5/19/1998				
5/20/1998				
5/21/1998			possible bee tunnels top and bottom of SW wall	
5/22/1998				
KBS 5/26/1998		vegetation at bottom continues to grow		
5/27/1998				
5/28/1998				
5/29/1998				
6/1/1998	erosion in south wall increased with resultant soil smoothed out by the rain	vegetation at west side extending over toward the middle 12cm and growing horizontally. Continued growth of bottom vegetation		
6/2/1998				drying of sediments
6/3/1998				
6/4/1998		medium sized branch from vine has fallen into the bottom along NW quad		
6/5/1998				
6/8/1998				
6/9/1998	fresh dirt in East wall erosion, also in SW corner under a plant			
6/10/1998				
6/11/1998		growth at bottom has stagnated, and along sides has slowed		

Table E.3 Observations Recorded for XF 3 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
6/15/1998		new "very fine" vegetation in center of pit		
6/16/1998				
IH 6/17/1998				
6/18/1998			"cicada-like" bug in the pit	
6/19/1998			still there today	
6/22/1998				
6/23/1998				
KBS 6/25/1998		further vegetation growth		
6/26/1998				
6/29/1998		vegetation in bottom shows significant (2-3cm) growth over the weekend; vine from north has reached the bottom		
6/30/1998		mossy patch in shade on wall in NE and along bottom of West/South half		
7/1/1998		continued vegetation growth in bottom - plants now more medium sized and growing steadily; brambles are beginning to grow across mouth of pit from east and south rim, and one from north rim as well		
7/2/1998		vine in from NW rim now growing eastward across bottom of pit. brambles now encroaching from rim in south and east as well		
7/3/1998				

Table E.3 Observations Recorded for XF 3 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
7/6/1998		vine growing in from north across floor to east has almost reached the bottom of east wall. Large bramble from the north reaching 3/4 of the way across the pit (approx 70cm above rim)		
7/7/1998		continued vegetation growth		
7/8/1998				
7/9/1998				
7/10/1998				
7/13/1998		further vegetation growth		
7/14/1998				
7/15/1998				
7/16/1998				
7/17/1998				
7/20/1998				
7/21/1998		vine growing from NW rim across the bottom has begun to creep up the other side (east) and is halfway up.		
7/22/1998				
7/23/1998			dried out except for very bottom sediments	
7/24/1998				
7/27/1998		plants in bottom had growth spurt over weekend, now cover 85% of bottom surface. Vine from north rim growing back up east wall is 80% to top of east rim. Thorns from north growing south over top.		
7/28/1998				

Table E.3 Observations Recorded for XF 3 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
7/29/1998				
7/30/1998				
8/3/1998		bottom obscured by plants growing from bottom. More encroachment from rim brambles to north, NE, and south.		
8/4/1998				
8/5/1998				
8/6/1998		vertical plant in the SE almost to rim height	10 millipedes climbing on lower walls	
8/10/1998		vine has grown out of pit again at east rim, having originated at NW rim.		
8/11/1998	A little erosion from west and east walls but no significant deposition in bottom.	bramble growing into pit from NE rim.		
8/12/1998		thistle-type plant at E rim is dead.		
8/13/1998				
8/14/1998				
8/15/1998				
8/17/1998				
8/18/1998	A little more erosion present in north and west walls.	fine moss in NE seems to be holding sediments in place.		
8/19/1998	more general erosion, but no noticeable build-up of sediment at the bottom			
8/20/1998				
8/21/1998				
8/24/1998	fresh sediment observed in bottom in NW quad			
8/25/1998				

Table E.3 Observations Recorded for XF 3 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
8/26/1998				all dry except for around E-horizon around walls
8/27/1998				
8/28/1998				
8/31/1998		continuing encroachment of wild rose from all sides		sediments still moist
9/1/1998	fresh sediment from NW wall erosion, scattered on bottom in NW	moss on southern wall flourishing		
9/2/1998				
9/3/1998				
9/4/1998				
9/5/1989				
9/7/1998				
9/8/1998		upright plant in east has been flattened out (rain) to the north. Wild rose from north rim arched over all way to the south rim now - approx 70cm from mouth of pit		
9/9/1998				moist sediments
9/10/1998		skinny upright plant in SE rim corner has produced small white buds at top of stems. Tall northern, bean seed plant, covered with orange bugs, 2 black dots on seed pods, and some on leaves all directly over east portion of pit.		
9/14/1998			all but one orange bug are gone.	

Table E.3 Observations Recorded for XF 3 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
9/24/1998		moss on north wall and west corner very well developed thick and dark green, as opposed to thin in SW corner. Poison ivy taking hold in NW and SE.		
10/1/1998		moss on southern wall is thick and vibrant green		
10/9/1998		moss a deeper green than last week especially that in erosion divots on north wall. Wild rose taking hold 5cm down wall on SW side and a tall plant (pokeweed-like) growing halfway up NE wall. Wild rose continues to grow down into center of pit from north		
10/15/1998		moss thickening especially on southern and eastern walls of pit. vegetation on bottom is still green, while the wild rose vine on bottom is dead.		
10/22/1998	E-horizon is dried, upper soils are moist	moss thickened on east and SW rim.		
11/14/1998		plants in bottom remain living despite general plant die-off around the pit.		
11/21/1998		1/3 of vegetation in bottom is dying.		
1/16/1999	small pocket collapse on south wall approx 3x5cm and 10cm from surface	all vegetation is dead - leaf litter is obscuring the bottom		
2/26/1999	general erosion of E-horizon, all around the rim. Smoothing of edges of collapsed areas has progressed rapidly, and a small chunk of A-horizon has collapsed dribbling down the NW wall	moss has died as well		

Table E.3 Observations Recorded for XF 3 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
3/27/1999				
4/24/1999		bottom covered by leafy growth again poking through last Fall's leaves and sediment collapse.		
5/22/1999		more plant growth in bottom; viney growth in from rim particularly the north		
6/26/1999	soils at sides of pit are severely dried out but no new erosion is visible	plants at bottom doing well		
7/24/1999	sides are cracking and dry	vegetation only slightly wilted		
8/28/1999				
9/18/1999				
RPM 11/10/1999		ragweed, honeysuckle and moss; wild rose bush growing to the east; berry vines also along the rim		"mass wasting" observed
12/3/1999	some soil sloughing	more leaf debris		
1/4/2000				
2/11/2000	soil fall on north side			covered in snow
2/17/2000	soil slough	leaf mound, heavy moss still present		
4/19/2000	soil slumping apparent; moderate cupping	pit is nearly covered by vegetation: rose, poison ivy, wheatgrass, honeysuckle, moss, dogbane, and other unidentifiable plants.		debris accumulating in bottom center
CLB 12/13/2000		leaves caught in vegetation within pit, moss growing on entire rim, has incorporated some caution tape (moss growing over tape that must have blown in		not disturbed by fence construction
1/11/2001	snow in base			

Table E.3 Observations Recorded for XF 3 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
2/27/2001	no slumping evident, seems to be stabilizing with increased vegetation	moss is thickest on south half of rim, moss is growing on south wall, moderate density of brush and briars ~2 m tall growing on edge and within,		

Table E.4 Observations Recorded for XF 4

Observation Date	Geomorphology	Floralturbation	Faunalturbation	Other
CSG 2/27/1998				
3/2/1998				
3/3/1998				
3/4/1998				
3/5/1998				
3/6/1998	soil is noticeably subsiding - should be compacting in the bottom of the pit			
3/10/1998				
3/11/1998				
3/12/1998				area is frozen
3/13/1998				
3/16/1998			no signs of burrowing or change	
3/17/1998				
3/18/1998				
3/20/1998				
3/23/1998				
3/24/1998				
3/25/1998				
3/26/1998				
3/27/1998				
3/30/1998	continue subsiding	vegetation encroaching	still no other animal intrusion	
3/31/1998				
4/1/1998				
4/2/1998				

Table E.4 Observations Recorded for XF 4 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
4/3/1998				
4/6/1998				
4/7/1998				
4/8/1998				
4/9/1998				
4/13/1998	still subsiding			
4/14/1998				
4/15/1998				
4/16/1998				
4/20/1998				
4/21/1998				
4/22/1998				
4/23/1998				
4/24/1998				
4/27/1998				
4/28/1998				
4/29/1998				
4/30/1998				
5/1/1998				
5/4/1998	continue to subside		no obvious animal impacts	
5/5/1998				
5/6/1998				
5/7/1998		weeds well established in fill soils		
5/11/1998				
5/13/1998				
5/14/1998				

Table E.4 Observations Recorded for XF 4 (Continued)

Observation Date	Geomorphology	Floralturbation	Faunalturbation	Other
5/15/1998				
5/18/1998	keep on subsiding			
5/19/1998				
5/20/1998				
5/21/1998		vegetation well established in back-filled dirt		
5/22/1998				
KBS 5/26/1998		vines growing across top		
5/27/1998		continued vegetation growth		
5/28/1998				
5/29/1998				
6/1/1998	continue to slump slowly	continued growth of vegetation around and on top of back-fill		
6/2/1998				
6/3/1998				
6/4/1998				
6/5/1998				
6/8/1998		continued vegetation growth		
6/9/1998		more growth		
6/10/1998				
6/11/1998				
6/15/1998				
6/16/1998				
IH 6/17/1998		continued growth		
6/18/1998				

Table E.4 Observations Recorded for XF 4 (Continued)

Observation Date	Geomorphology	Floralturbation	Faunalturbation	Other
6/19/1998				
6/22/1998				
6/23/1998				
KBS 6/25/1998		significant vegetation growth both on top and around infilled pit		
6/26/1998				
6/29/1998		plants in west half are "waist high"; others continue steady growth		
6/30/1998				
7/1/1998		continued vegetation growth		
7/2/1998				
7/3/1998				
7/6/1998		beginning to be grown over on surface with viney ground running plants.	"rabbit-sized" animal ran over pit - no visible impact	
7/7/1998		continued vegetation growth		
7/8/1998				
7/9/1998				
7/10/1998				
7/13/1998		further vegetation growth		
7/14/1998				
7/15/1998				
7/16/1998				
7/17/1998				
7/20/1998				
7/21/1998		further vegetation growth		
7/22/1998				

Table E.4 Observations Recorded for XF 4 (Continued)

Observation Date	Geomorphology	Floralturbation	Faunalturbation	Other
7/23/1998				
7/24/1998				
7/27/1998		continued vegetative growth		
7/28/1998				
7/29/1998				
7/30/1998				
8/3/1998		further vegetation growth		
8/4/1998				
8/5/1998				
8/6/1998	presumably still sinking			
8/10/1998		further vegetation growth		
8/11/1998	surface seems less undulating with fewer lumps on top - smoothed from rain perhaps.			
8/12/1998				
8/13/1998				
8/14/1998				
8/15/1998		pokeberries turning dark purple		
8/17/1998				
8/18/1998				
8/19/1998				
8/20/1998				
8/21/1998				
8/24/1998		pokeberries turning dark purple		
8/25/1998				
8/26/1998				
8/27/1998				

Table E.4 Observations Recorded for XF 4 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalturbation	Other
8/28/1998				
8/31/1998	still sinking			
9/1/1998				
9/2/1998				
9/3/1998				
9/4/1998				
9/5/1989				
9/7/1998				
9/8/1998		most of ripe berries have fallen off		
9/9/1998		goldenrod continues to bloom		
9/10/1998				
9/14/1998		surface almost completely covered by vines; pokeweed is beginning to die		
9/24/1998				
10/1/1998		goldenrod is beginning to die		
10/9/1998		pokeweed at SW edge of depression pushed to ground. Clover at NW corner is dying. vegetation interfering with datum measurements		
10/15/1998		pokeweed dying quickly		
10/22/1998		remaining standing pokeweed is almost dead		
11/14/1998				
11/21/1998				
1/16/1999	still sinking			east to west crack across surface from freezing
2/26/1999	still sinking - becoming less lumpy over time as sediments smooth due to rain			

Table E.4 Observations Recorded for XF 4 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalturbation	Other
3/27/1999			deer print in west edge of depression	
4/24/1999		typical vegetation growth		
5/22/1999		more vegetation growth		
6/26/1999		vegetation responding to the extreme heat - more droopy		
7/24/1999	long north-south crack along north 1/2 of mound	vegetation is drooping		
8/28/1999				
9/18/1999				
RPM 11/10/1999		lots of honeysuckle, ragweed, some pokeberry		
12/3/1999		foliage dieback		
1/4/2000				
2/11/2000				obscured from view
2/17/2000	subsided about 5cm			
4/19/2000		poison ivy growth		
CLB 12/13/2000	depression evident	brush and briars up to 1-2m tall, honeysuckle and leaves cover ground pit surface		undisturbed by fence construction
1/11/2001				
2/27/2001				no change since 12/13/01

Table E.5 Observations Recorded for XF 5

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
CSG 2/27/1998				
3/2/1998				
3/3/1998				
3/4/1998				
3/5/1998				
3/6/1998	soil is noticeably subsiding - should be compacting in the bottom of the pit			
3/10/1998				
3/11/1998				
3/12/1998				
3/13/1998				
3/16/1998	No change		no signs of burrowing	
3/17/1998				
3/18/1998				
3/20/1998				
3/23/1998				
3/24/1998				
3/25/1998				
3/26/1998				
3/27/1998				
3/30/1998	continue subsiding	vegetation encroaching	still no other animal intrusion	
3/31/1998				
4/1/1998				
4/2/1998				

Table E.5 Observations Recorded for XF 5 (Continued)

Observation Date	Geomorphology	Floralturbation	Faunalturbation	Other
4/3/1998				
4/6/1998				
4/7/1998				
4/8/1998				
4/9/1998				
4/13/1998	still subsiding			
4/14/1998				
4/15/1998				
4/16/1998				
4/20/1998				
4/21/1998				
4/22/1998				
4/23/1998				
4/24/1998				
4/27/1998				
4/28/1998				
4/29/1998				
4/30/1998				
5/1/1998				
5/4/1998	continue to subside		no obvious animal impacts	
5/5/1998				
5/6/1998				
5/7/1998		weeds well established in fill soils		
5/11/1998				
5/13/1998				
5/14/1998				

Table E.5 Observations Recorded for XF 5 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalturbation	Other
5/15/1998				
5/18/1998	keep on subsiding			
5/19/1998				
5/20/1998				
5/21/1998		vegetation well established in back-filled dirt		
5/22/1998				
KBS 5/26/1998		vines growing across top		
5/27/1998		continued vegetation growth		
5/28/1998				
5/29/1998				
6/1/1998	continue to slump slowly	continued growth of vegetation around and on top of back-fill		
6/2/1998				
6/3/1998				
6/4/1998				
6/5/1998				
6/8/1998		continued vegetation growth		
6/9/1998		more growth		
6/10/1998				
6/11/1998				
6/15/1998				
6/16/1998				
IH 6/17/1998		continued growth		
6/18/1998				

Table E.5 Observations Recorded for XF 5 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalturbation	Other
6/19/1998				
6/22/1998				
6/23/1998				
KSB 6/25/1998		significant vegetation growth both on top and around infilled pit		
6/26/1998				
6/29/1998		continued vegetative growth		
6/30/1998				
7/1/1998		continued vegetation growth		
7/2/1998				
7/3/1998				
7/6/1998		large plants from east rim continue to droop westward over pit from rim - one leans halfway across - one leans all the way across to west rim		
7/7/1998		continued vegetation growth		
7/8/1998				
7/9/1998				
7/10/1998				
7/13/1998		further vegetation growth		
7/14/1998				
7/15/1998				
7/16/1998				
7/17/1998				
7/20/1998				
7/21/1998		almost obscured by vegetation		
7/22/1998				

Table E.5 Observations Recorded for XF 5 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
7/23/1998				
7/24/1998				
7/27/1998		continued vegetative growth		
7/28/1998				
7/29/1998				
7/30/1998				
8/3/1998		further vegetation growth		
8/4/1998				
8/5/1998				
8/6/1998	presumably still sinking			
8/10/1998		further vegetation growth		
8/11/1998	some smoothing of surface bulk			
8/12/1998				
8/13/1998				
8/14/1998				
8/15/1998				
8/17/1998				
8/18/1998		morning glory growing up western. Pokeweed bloomed		
8/19/1998		morning glory is gone		
8/20/1998		upright standing plant is flowering yellow		
8/21/1998				
8/24/1998		pokeweed berries beginning to turn dark purple		
8/25/1998				
8/26/1998				

Table E.5 Observations Recorded for XF 5 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalturbation	Other
8/27/1998				
8/28/1998		morning glory growing up; pokeweed bloomed		
8/31/1998	still sinking			
9/1/1998		tall plant in NW bloomed yesterday (with pale lavender flowers on tri-furcated tip; yellow flowers on NE plant are fading		
9/2/1998				
9/3/1998				
9/4/1998				
9/5/1989				
9/7/1998				
9/8/1998		most of ripe berries have fallen off		
9/9/1998		goldenrod continues to bloom		
9/10/1998		plant (same as pit#3) in west edge, buds are now lavender		
9/14/1998		almost complete absence of viney growth on surface - instead, it is covered by upright plants - pokeweed is beginning to die		
9/24/1998				
10/1/1998		goldenrod is beginning to die		
10/9/1998	mound of dirt at center still remains	pokeweed all dead here		
10/15/1998		pokeweed dying quickly		
10/22/1998		all pokeweed dead		
11/14/1998				
11/21/1998				

Table E.5 Observations Recorded for XF 5 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalturbation	Other
1/16/1999	still sinking			small cracking due to freezing
2/26/1999	still sinking			
3/27/1999	still sinking			
4/24/1999		typical vegetation growth		
5/22/1999		more vegetation growth		
6/26/1999		vegetation looking more droopy in response to excessive heat		
7/24/1999	some cracking	slight wilting		
8/28/1999				
9/18/1999				
RPM 11/10/1999		unknown leafless tree growing from east rim of pit		
12/3/1999				
1/4/2000				
2/11/2000				obscured by snow
2/17/2000	some subsiding around the edges - soil is still humped up in the middle			
4/19/2000		increased poison ivy growth		
CLB 12/13/2000	some subsiding around the edges - soil is still humped up in the middle	deciduous sapling, 3cm diameter, 2m tall, within slumped ring on east edge		undisturbed by fence construction
1/11/2001				
2/27/2001				no change since 12/13/00

Table E.6 Observations Recorded for XF 6

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
CSG 2/27/1998				
3/2/1998				
3/3/1998	dug into Columbia Formation; loose sand from around gravels is washing into the bottom		slugs active in bottom; only a couple of worm casts at top of subsoil strat	
3/4/1998	accumulated soil in bottom is also gaining a smoother surface appearance; backdirt piles smoothing out			
3/5/1998				
3/6/1998				
3/10/1998	erosion from sidewalls is continuing - small wall collapse in the south wall near bottom - approx 10cm long and 5cm high, 2cm deep located at the base of the pit.		fresh worm activity in the south wall near the bottom.	
3/11/1998				ground surface is frozen
3/12/1998				walls frozen to about halfway down - some ice formations at bottom edge
3/13/1998				more ice than yesterday
3/16/1998	new debris (leaves) at bottom makes hard to observe if new soils are deposited - "crust" formation most marked on south wall, although visible all around			
3/17/1998				

Table E.6 Observations Recorded for XF 6 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
3/18/1998	rains washed away "crust" depositing it in the bottom - increased deposition			
3/20/1998	gravels have not washed into bottom - soils there have smooth, relatively level surface; sides have bumpy appearance		worms and slugs at work	
3/23/1998	increased deposition from weekend rains - some small erosion showing in the bottom 20cm/gullies trying to form in southern edge at the top			
3/24/1998				
3/25/1998				
3/26/1998				
3/27/1998				
3/30/1998	small (10x5cm) wall collapse in bottom of NW wall. Soils in the bottom loose and chunky (from worm activity?)		worm activity depositing soils (?)	
3/31/1998				
4/1/1998				
4/2/1998				
4/3/1998				
4/6/1998	walls are fairly smooth, but uneven due to erosion around protruding roots and gravel - slump area (10x5x2cm) at the base of the NW wall area	vegetation coming in all along the rim.		
4/7/1998				
4/8/1998				

Table E.6 Observations Recorded for XF 6 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
4/9/1998				
4/13/1998	lots of erosion below the gravel bearing soils - its still shallow (3-4cm accumulation) looks like it may have come from water running through areas of worm tunnels	tiny weeds taking hold around the rims and in the A-horizon.		
4/14/1998				
4/15/1998				
4/16/1998		flower petals from nearby blooming apple tree		
4/20/1998	additional soils and debris washed in	vines encroaching across top		
4/21/1998				
4/22/1998				
4/23/1998			toad in bottom of pit	
4/24/1998	lots of loose soil in bottom		worm action is increasing soil deposition - toad still there	
4/27/1998	raised levels a good amount; filling with crumbly worm cast soils, and loose debris	vegetation growth increasing	toad in bottom of pit remains; worm activity increasing	
4/28/1998				
4/29/1998				
4/30/1998				remains moist (in shade)
5/1/1998				
5/4/1998	one small pebble has fallen in - much loose soil and debris		toad is unseen (burrowing?) worms continue to undercut bottom edges all around	
5/5/1998			possible ant nest in the west wall at the top - fine reddish soil on sidewalls tracking to the bottom	

Table E.6 Observations Recorded for XF 6 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
5/6/1998				
5/7/1998		weeds sprouting about 1/3 of way down from surface	ant nest now in east wall (as well as west)	
5/11/1998		vines headed down into pit; fresh leafy debris	no sing of toad	
5/13/1998	organic A-horizon soils washed/dripping down sides	lots of new leaves in bottom	no toad	
5/14/1998				
5/15/1998				
5/18/1998		vines almost reach to bottom - lots of fresh leaves - weeds throughout the A-horizon		still moist
5/19/1998				
5/20/1998				
5/21/1998			small spider in bottom	
5/22/1998		vines have crossed the bottom		
KBS 5/26/1998		vegetation around edges continues to overcome the pit		
5/27/1998		vines over side have almost reached the bottom		
5/28/1998				
5/29/1998		continued vegetation growth		
6/1/1998	a single pebble has fallen from the NW wall into bottom	vine from south edge has grown across bottom and is now growing up the north wall; large vegetation on the north side now leaning over the top towards the SSW and completely reaches the south side; vines from the south extending across SE quad horizontal		

Table E.6 Observations Recorded for XF 6 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
6/2/1998		vine growing up north side wall (from south) almost halfway up		
6/3/1998		vine now 2/3 of way to top		
6/4/1998		vines growing horizontally across the top of pit obscuring 1/3 of the top view; new vine growth both east-west and west-east		
6/5/1998				
6/8/1998		vine from south has grown 4/5 of the way up the north wall; vegetation from north is leaning over towards the south	snail on NNW wall	
6/9/1998		still 80% to top		
6/10/1998				
6/11/1998		vegetation on north rim in bloom		
6/15/1998				
6/16/1998		extreme vegetation overgrowth; unobservable changes due to growth		
IH 6/17/1998	big rock in wall - not fallen	vegetation collapsing over pit		
6/18/1998				
6/19/1998				
6/22/1998				
6/23/1998				
KBS 6/25/1998				
6/26/1998				
6/29/1998		continued vegetation growth		
6/30/1998				

Table E.6 Observations Recorded for XF 6 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
7/1/1998	large clump of soil eroded away from north wall ~25cm below rim	vines settling into depression (left from wall erosion)		
7/2/1998		mostly obscured by vegetation		
7/3/1998				
7/6/1998				
7/7/1998		vegetation visible at bottom beginning to yellow and die (lack of sunlight perhaps)		
7/8/1998				
7/9/1998				
7/10/1998				
7/13/1998		further vegetation growth		
7/14/1998				
7/15/1998				
7/16/1998				
7/17/1998				
7/20/1998				
7/21/1998		large plant from north rim growing steadily - leaned all the way over to the south rim		
7/22/1998				
7/23/1998				
7/24/1998				
7/27/1998	big rock still in north wall	vegetation cut in south has died leaving a noticeable gap in rim vegetation to south		
7/28/1998				
7/29/1998				

Table E.6 Observations Recorded for XF 6 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
7/30/1998				
8/3/1998		more vegetation growth especially those plants leaning from west and north rims over mouth of pit		
8/4/1998				
8/5/1998				
8/6/1998			15-20 millipedes on walls of visible upper 1/3 of pit	
8/10/1998		further vegetation growth		
8/11/1998	erosion from NW/NE and South walls adding to bulk at bottom - big rock still in N wall	thistle-like plants on west/SW rim dying. Root in the NE wall about 1/2 way to bottom is now exposed protruding to the center approx 4cm exposed		
8/12/1998				
8/13/1998				
8/14/1998				
8/15/1998				
8/17/1998	large slump from N wall - sediments removed ~20cm wide; 15cm tall; 5cm deep - fell to bottom on north side			
8/18/1998	more erosion form upper northern wall - rock still there	plants at western rim dying from ground up (seasonal??)		
8/19/1998	erosion from north wall visible; bulk of sediments building in north bottom			
8/20/1998				
8/21/1998				

Table E.6 Observations Recorded for XF 6 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
8/24/1998	north erosion continues slowly; a little fresh dirt on bottom	new trumpet vine entering from west rim growing to north	silkworms(tent caterpillars) beginning to spin on a plant leaning over pit mouth from NE rim; webs are on extreme south end of plant, just above SW rim of pit	
8/25/1998				
8/26/1998				
8/27/1998				
8/28/1998				wet sediments
8/31/1998	big rock still in north wall	goldenrod is blooming more fully in west than east		moist sediments
9/1/1998				
9/2/1998				
9/3/1998				
9/4/1998				
9/5/1989				
9/7/1998				
9/8/1998			can hear but not see (due to vegetation) a cricket inside pit	
9/9/1998			saw the cricket today, trying to escape	moist sediments
9/10/1998				
9/14/1998	rock still in place	most of the thistle-like plants to west are dead now; goldenrod leaning south over pit from north is in full bloom; bottom still obscured by viney growth		
9/24/1998		goldenrod around rim is dying; trumpet vine covering south 1/2 now growing from rim		

Table E.6 Observations Recorded for XF 6 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
10/1/1998		goldenrod and poison ivy beginning to die off		
10/9/1998		goldenrod at north edge dying from the ground up; pokeweed from the NE edge also dead and leaning over pit to SW; goldenrod around north and east edges also leaning directly over the pit; all "daisy-like" burr plants in SW are dead; single small round fruit (berry, tomato) at end of leafless vine hanging into feature from north rim		moist sediments
10/15/1998		south 1/2 obscured by vegetation; goldenrod to north is dying		
10/22/1998	sediments dried and cracked along north wall	Goldenrod gone to seed to north and east		
11/14/1998		leaf deposit at bottom; single dead goldenrod stalk lying over from N rim directly South on west side; leaves collecting especially around vines that have died trailing to bottom		
11/21/1998				
1/16/1999	erosion of east wall progressing more rapidly than others; 2 small pockets of sediment collapse from E-horizon on East wall just below A-E interface are newly formed			no significant cracking due to frost; perhaps due to presence of more vegetation

Table E.6 Observations Recorded for XF 6 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
2/26/1999	all sediments from last collapse of east wall are smoothed and distributed across the bottom from east wall to center; A-horizon sediments above the collapse are beginning to bleed down the walls below			
3/27/1999	A-horizon sediments collapsed in an area about 10x12x2.5cm on west wall adding considerable amount of sediment to bottom; darker A-horizon soils are smudged all down the west wall from contact with residue from collapse.			
4/24/1999		almost totally obscured by vegetation - north and 1/2 of east still visible		
5/22/1999	little new sediment	obscured by growth		
6/26/1999		no visible change due to viney growth		vegetation in this shady part of the pit farm doing better and less affected by heat wave;
7/24/1999				still obscured
8/28/1999				still obscured by wilted vegetation
9/18/1999				
RPM 11/10/1999				nearly obscured by vegetation
12/3/1999	minor soil sloughing	good leaf accumulation		
1/4/2000				
2/11/2000	soil slough on all exposed surfaces			
2/17/2000	soil slough on all exposed surfaces			
4/19/2000	slumping is apparent	obscured by growth of vinca, honeysuckle, poison ivy, trumpet vine,		

Table E.6 Observations Recorded for XF 6 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
CLB 12/13/2000	minor slumping on top half of walls, loose dirt on leaf litter at base of pit	No moss on rim, interior or nearby on surface, moderate density of honeysuckle, tall weeds, no briars in immediate vicinity		undisturbed by fence construction
1/11/2001				
2/27/2001				no change since 12/13/00

Table E.7 Observations Recorded for XF 7

Observation Date	Geomorphology	Floralturbation	Faunalturbation	Other
CSG 2/27/1998	scattered backdirt in vicinity of the pit			
3/2/1998	a little humic soil washed in from lip of pit	moderate accumulations of leaves, chaff		
3/3/1998	soil eroding in - especially top soil; walls becoming smoother less sharp edges		fresh worm casts - 13+	
3/4/1998	accumulated soils are still lumpy, but starting the "degradation process"; soils are starting to wash away from gravels, leaving them embedded in the side walls; smoothing continues; backdirt starting to spread		worm activity continuing	
3/5/1998				
3/6/1998				
3/10/1998	standing water has helped to "smooth out" and homogenize soils in the bottom		fresh worm casts in west wall; previous worm casts eroded by the rain	
3/11/1998				frozen ground surface
3/12/1998	finer soils in the bottom washed in from the weekend are drying out			walls are frozen
3/13/1998				more ice than yesterday
3/16/1998	new dirt/debris on bottom; "crust" formation mainly on south half near top of the sidewall			
3/17/1998				
3/18/1998	rains washing "crust" off the walls			

Table E.7 Observations Recorded for XF 7 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalturbation	Other
3/20/1998	soils in the bottom still retain lumps; not much soil washing in - rain blocked by tree above it	accumulation of sticks, leaves, and other debris	at least 13 separate worm activity areas - substantial	
3/23/1998	soil lumps finally broken down (except for most recent worm related deposits) into smoother homogenous deposit in bottom; soils washing from around some sidewall gravels but gravel not falling in.	new debris washed blown in includes ~30 small round seeds clustered in the center, but also spread along the entire bottom; greenery starting to near the pit edges	worm activity loosening soil which is deposited in bottom	
3/24/1998				
3/25/1998				
3/26/1998				
3/27/1998				
3/30/1998	loose chunky soils distributed around edges - from ongoing worm activity		worm activity depositing soils	historic tile fragment washed into the pit
3/31/1998				continue to dry out
4/1/1998				
4/2/1998				
4/3/1998				
4/6/1998				
4/7/1998		vegetation coming in along the rim - fair amount of debris in the bottom	crumbly soils from worm activity all over the sides	
4/8/1998				
4/9/1998				

Table E.7 Observations Recorded for XF 7 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
4/13/1998		debris continues to accumulate and vines starting to encroach; a few tiny weeds have taken hold on the upper side walls	worms still very active	
4/14/1998				
4/15/1998				
4/16/1998		flower petals from nearby blooming apple tree		
4/20/1998		tiny weeds sprouted across bottom of pit; vines starting to cross the top; mushroom at the A/PZ interface in the west wall	worms still quite busy	
4/21/1998				
4/22/1998				
4/23/1998				
4/24/1998	loose soils building up			
4/27/1998		vegetation growing	worm cast soils deposited in bottom - filling pit	
4/28/1998				
4/29/1998				
4/30/1998				more moist soils - remains in shade
5/1/1998				
5/4/1998	lots of loose soil/debris deposited	vegetation starting to bridge across the top; weeds growing well in the bottom	worms all over the side walls	
5/5/1998				
5/6/1998	a couple of pebbles have fallen into the bottom from the side walls	vines growing across the bottom now		
5/7/1998		increased vegetative growth		

Table E.7 Observations Recorded for XF 7 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
5/11/1998	little recently deposited soil is smoothed out by rain	weeds runners crossing the pit; plenty of fresh leafy debris; debris accumulating	fresh worm activity	
5/13/1998	several (4+) small pebbles have washed into the bottom having eroded from the west wall.			
5/14/1998				
5/15/1998				
5/18/1998		vines and fresh leaves all across the bottom	worm activity increased	
5/19/1998				
5/20/1998				
5/21/1998				
5/22/1998				
KBS 5/26/1998		vegetation covers 50% of visibility - more growth noticeable		
5/27/1998				
5/28/1998				
5/29/1998		continued vegetation growth		
6/1/1998		~85% obscured by vegetation growing around all sides		all but bottom obscured, makes observing changes difficult
6/2/1998				
6/3/1998		almost 90% obscured from view by vegetation		
6/4/1998		continues to be obscured by rampant rim growth		
6/5/1998				
6/8/1998				
6/9/1998		continued vegetation growth		almost unobservable at this point

Table E.7 Observations Recorded for XF 7 (Continued)

Observation Date	Geomorphology	Floral turbaration	Faunal turbaration	Other
6/10/1998				
6/11/1998				
6/15/1998				
6/16/1998				
IH 6/17/1998		vegetation still making pit unobservable		
6/18/1998				
6/19/1998				
6/22/1998				
6/23/1998				
KBS 6/25/1998				
6/26/1998		continued rapid vegetation growth		
6/29/1998		continued rapid vegetation growth		
6/30/1998				
7/1/1998		observation impossible due to vegetation		
7/2/1998				
7/3/1998				
7/6/1998				no observable changes – 100% obscured
7/7/1998				
7/8/1998				
7/9/1998				
7/10/1998				
7/13/1998		vines across the top are flowering now		

Table E.7 Observations Recorded for XF 7 (Continued)

Observation Date	Geomorphology	Floral turbaration	Faunal turbaration	Other
7/14/1998				
7/15/1998				
7/16/1998				
7/17/1998				
7/20/1998				
7/21/1998				
7/22/1998				
7/23/1998				
7/24/1998				
7/27/1998				
7/28/1998				
7/29/1998				
7/30/1998				
8/3/1998				
8/4/1998				
8/5/1998				
8/6/1998				
8/10/1998		further growth		
8/11/1998				
8/12/1998				
8/13/1998				
8/14/1998				
8/15/1998				
8/17/1998				
8/18/1998				
8/19/1998				
8/20/1998				

Table E.7 Observations Recorded for XF 7 (Continued)

Observation Date	Geomorphology	Floral turbaration	Faunal turbaration	Other
8/21/1998				
8/24/1998				
8/25/1998				
8/26/1998				
8/27/1998				
8/28/1998				
8/31/1998		still overgrown		
9/1/1998				
9/2/1998				
9/3/1998				
9/4/1998				
9/5/1989				
9/7/1998				
9/8/1998				
9/9/1998				
9/10/1998				
9/14/1998				
9/24/1998		Poison ivy starting to die		
10/1/1998	little erosion present on visible walls	poison ivy is dying; trumpet vine sinking into bottom of pit		
10/9/1998	little erosion is visible around walls (north and south mostly visible)	much of viney growth is dead; leaves and twigs in bottom seem to be decomposing at a quicker rate than other pits		
10/15/1998		vegetation still dying		
10/22/1998	sediments dried and cracked	trumpet vines yellowed		

Table E.7 Observations Recorded for XF 7 (Continued)

Observation Date	Geomorphology	Floral turbation	Faunal turbation	Other
11/14/1998	some sidewall erosion visible in E-horizon, mostly as circular holes; evenly spaced ~5-10cm tall/wide and ~3cm deep	thick leaf deposit on bottom		
11/21/1998				
1/16/1999	E-horizon eroding out from beneath A-horizon almost all around walls	dead vines and vegetative litter obscure the bottom		
2/26/1999	A-horizon beginning to collapse in NW corner leaving sediments down the wall below and a little deposited on top of litter at the bottom of the pit; general smoothing of eroded areas has occurred within the past month			
3/27/1999	normal slow erosion			groundhog burrow observed across from this pit but not impacting it
4/24/1999		almost totally obscured by trumpet vine and "VA creeper"		
5/22/1999				no sign of groundhog
6/26/1999		completely obscured by viney growth		
7/24/1999				
8/28/1999				
9/18/1999				
RPM 11/10/1999		filling with leaf drop		
12/3/1999		good buildup of leaf litter in bottom; edges still obscured by vinca		
1/4/2000				

Table E.7 Observations Recorded for XF 7 (Continued)

Observation Date	Geomorphology	Floral turbaration	Faunal turbaration	Other
2/11/2000	some sloughing apparent	leaf litter		snow in bottom
2/17/2000		very viney; leaf mould in bottom; some fungi		
4/19/2000		honeysuckle obscuring the pit fungus and grass present also		
CLB 12/13/2000		honey suckle and vines growing into pit, no tall brush in vicinity, just ground cover		minimally disturbed by fence construction, north rebar bent, cantaloupe size dirt clod deposited in SW quad of pit from fence post hole (removed),
1/11/2001	no slumping evident			
2/27/2001		twigs from overhanging cherry tree have fallen into pit and around edge, leaf litter covers base to 2/3 up wall.		

Table E.8 Observations Recorded for XF 8

Observation Date	Geomorphology	Floralurbation	Faunalturbation	Other
CSG 2/27/1998				
3/2/1998	a little humic soil washed in from the lip	moderate accumulation of leaf litter and chaff	sub-basement has collected some worms	
3/3/1998	walls becoming smoother losing sharp edges		dense worms all along the bottom of the Sub-basement - fresh worm casts to north and south of water, and along tiny shelf ringing the east side; drowned worms in standing water	standing water in the bottom
3/4/1998	sub-basement walls and living floor smoothed out considerably; soils washing away from gravels in sub-basement leaving gravel embedded;	some scattered chaff on living floor area	intensive worm activity along bottom of sub-basement and halfway up the eastern wall where there is a small ledge	standing water in the bottom is gone
3/5/1998			deer hoof-prints in the living floor area	
3/6/1998				frost has caused tiny ice ridges on living floor
3/10/1998	sides of sub-basement have eroded		fresh worm activity all over living floor area with most in east half	considerable standing water remnants in sub-basement
3/11/1998				ground surface frozen; still standing water
3/12/1998		many new leaves blown in	50-100 dead frozen worms in water	living floor partly frozen; ice formation on sub-basement sidewalls ; still some standing water/ice
3/13/1998			dead frozen worms at bottom	standing water is gone; more ice formation than yesterday

Table E.8 Observations Recorded for XF 8 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
3/16/1998	"crust" formation all along the rim of the sub-basement and along the southern edge of the living floor and within the south half of the sub-basement; new soil deposited in bottom	new leaves in bottom	no new worm activity	
3/17/1998				
3/18/1998				
3/20/1998	walls have eroded bumpy surface		fresh worm activity in the living floor and sub-basement sidewalls	standing water in sub-basement; small gully at northern end of sub-basement has become distinct
3/23/1998			heavy worm activity beginning in south end of sub-basement above water	standing water in sub-basement; gully on north end is deepening; shallow gullies forming on living floor and along west wall of sub-basement
3/24/1998				
3/25/1998			new worm activity following the edges of the receding water line	still have standing water; "high tide" water mark about halfway up the sub-basement slope where the water peaked and deposited a line of "micro-debris"
3/26/1998	clay film formed		dead rotting worms - from water recession	standing water is gone
3/27/1998				
3/30/1998	loose soil and debris in bottom; little bits of "frost heave caused crust" remain along upper edges of sub-basement, except to the north		worm activity throughout sub-basement and along eastern rim	starting to dry out
3/31/1998				

Table E.8 Observations Recorded for XF 8 (Continued)

Observation Date	Geomorphology	Floral turbation	Faunal turbation	Other
4/1/1998				
4/2/1998				
4/3/1998				
4/6/1998				
4/7/1998	lots of loose crumbly soils spread along the sub-basement floor	few weeds taking hold along the north rim of the living floor (more shade here, plants growing slower than other areas)	worm activity along east wall is loosening soils; worm activity also evident scattered along the living floor, and around the eastern edge/rim behind the sub-basement	
4/8/1998				
4/9/1998				
4/13/1998		weeds growing all around the living floor rim	worms becoming active along the lower sub-basement edges; flies in there laying eggs/after dead worms; fresh deer tracks in the back-dirt	
4/14/1998				considerably drier than yesterday
4/15/1998				
4/16/1998		tiny weeds growing across living floor		
4/20/1998		tiny weeds established all across living floor		standing water in sub-basement; gullies deepened in north and west of sub-basement; a network of them forming on the sloping portion of the living floor west of the sub-basement
4/21/1998				standing water is still present

Table E.8 Observations Recorded for XF 8 (Continued)

Observation Date	Geomorphology	Floral turbation	Faunal turbation	Other
4/22/1998				
4/23/1998				
4/24/1998			worms extremely active at south end of sub-basement; flies are all over the morass of dead worms in the bottom	
4/27/1998	filling with crumbly loose soils (from worm casts) and loose debris	vegetation growth is increasing		
4/28/1998				soils are drying out
4/29/1998				
4/30/1998				remains more moist due to location in the shade
5/1/1998				
5/4/1998	lots of loose soil and debris in bottom	vegetation continues to grow everywhere	lots of worm activity	many narrow/shallow gullies
5/5/1998				
5/6/1998				
5/7/1998	getting "greasy stuff" on living floor; additional soils washing into the sub-basement			
5/11/1998	lots of fresh soil washed in at north end; larger erosional surface at south end	weeds getting big in living floor starting to sprout on edges of sub-basement		a little standing water
5/13/1998		more sticks piled at south end of sub-basement; debris is clumping on living floor behind weeds and worm piles		lots of standing water
5/14/1998			bloated dead worms in water in bottom of pit	standing water in bottom of pit
5/15/1998				

Table E.8 Observations Recorded for XF 8 (Continued)

Observation Date	Geomorphology	Floral turbation	Faunal turbation	Other
5/18/1998	soil deposition is obscuring the view of the debris in the bottom; sub-basement ends keep eroding; west wall is craggy and eroded		worm activity is enhancing the erosion	
5/19/1998				
5/20/1998		more real large vegetation coming in on living floor; also maple seed pods		
5/21/1998		briars and weeds are getting 2-foot tall around the rim (except on NE where observers walk)		
5/22/1998				
KBS 5/26/1998		significant growth of taller vegetation on living floor and NE wall of sub-basement; new growth in northernmost corner of sub-basement and living floor surface		
5/27/1998		new growth in erosion gully on north end of sub-basement and joint with floor		
5/28/1998				
5/29/1998		continued vegetation growth		

Table E.8 Observations Recorded for XF 8 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalturbation	Other
6/1/1998	eroded portion of north corner of sub-basement is widening at the base; so are the 2 at the south end (to lesser extent); west wall is eroding more rapidly than east; new dirt at bottom has been smoothed by rain	honeysuckle flowers (8-10) on living floor; vegetation on living floor grows rapidly, especially on northernmost portion; vine growing horizontally across sub-basement on slope to floor; vegetation on bottom of sub-basement making significant growth; vines on east and west walls of sub-basement growing rapidly		
6/2/1998				
6/3/1998		vine growing horizontally across the sub-basement from east rim is now 90% across towards the west rim; significant vegetation growth at SE rim and north of living floor		
6/4/1998		vine across sub-basement east to west is 95% of way; other vines of same species are growing visibly day to day on living floor		small disturbance made at south end of living floor by trowel/visitor

Table E.8 Observations Recorded for XF 8 (Continued)

Observation Date	Geomorphology	Floral turbation	Faunal turbation	Other
6/5/1998		3 vines (same species) coming from north corner of sub-basement have grown significantly (15-20cm) since yesterday; the vine from eastern edge has come within 2cm of west rim of sub-basement and is sinking down due to weight of its growing foliage; another vine is beginning to grow from the west wall eastward and has grown approx. 10 cm since yesterday		
6/8/1998		quickly growing vine from south end of sub-basement		
6/9/1998		5 silver maple trees growing: 1 on edge of living floor close to the center/SW edge of sub-basement; 4 are evenly spaced in sub-basement bottom		
6/10/1998				
6/11/1998		vine from sub-basement is now drooped down along floor of sub-basement and beginning to grow up west wall; silver maple on sub-basement rim and 2 in the center of sub-basement floor have some discolored leaves		
6/15/1998	smoothing of sediments from weekend rain			
6/16/1998				

Table E.8 Observations Recorded for XF 8 (Continued)

Observation Date	Geomorphology	Floral turbation	Faunal turbation	Other
IH 6/17/1998		vines continue to grow across sub-basement opening		
6/18/1998				
6/19/1998				
6/22/1998				
6/23/1998				
KBS 6/25/1998				sediments more moist than other pits
6/26/1998				
6/29/1998		living floor is covered with fine green mossy groundcover and fine grass and increased viney plant growth in all directions; trees are now 10-15cm tall; the one in the northern portion of sub-basement seems to be doing the best.		
6/30/1998		leaves along bottom of sub-basement covered with dirt from rains this weekend		still moist - living floor and sub-basement
7/1/1998		grass on living floor is about 8cm tall, and evenly dispersed and very fine.		
7/2/1998		several new plants on living floor (near sub-basement) look like possible trees - unknown type; another silver maple noted at extreme north edge of living floor		

Table E.8 Observations Recorded for XF 8 (Continued)

Observation Date	Geomorphology	Floral turbation	Faunal turbation	Other
7/3/1998				
7/6/1998		silver maple at north end of sub-basement is 2/3 of way to top and looking good; others not doing as well		drying of living floor in patches; sub-basement remains wet
7/7/1998				
7/8/1998				
7/9/1998		all 5 silver maples survive; a new one growing on living floor just south of the other there		sediments soaked again
7/10/1998				
7/13/1998		more vegetation growth		still moist
7/14/1998				living floor drying out; sub-basement still moist
7/15/1998				starting to dry sub-basement
7/16/1998				
7/17/1998				
7/20/1998		most of living floor is covered by viney crossings but surface still visible		
7/21/1998		middle silver maple thriving best		west sub-basement wall is still retaining moisture
7/22/1998				

Table E.8 Observations Recorded for XF 8 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalturbation	Other
7/23/1998	B-horizon much closer to surface here	2 more silver maple growing on living floor near SE rim are about 25cm tall now; growth of viney species, small trees and some vertically growing species; fine grasses in living floor and also some mossy groundcover		moister/cooler microclimate at east end of pit farm
7/24/1998				
7/27/1998		silver maples in sub-basement are doing well		sub-basement and slope of living floor still damp
7/28/1998				
7/29/1998		leaves drooping on largest sapling		sub-basement still damp
7/30/1998				
8/3/1998		large clover plant in east edge of sub-basement; northernmost 2 saplings almost as tall as sub-basement rim (western); southernmost about 5cm shorter; more living floor vegetation growth		
8/4/1998				
8/5/1998				
8/6/1998			30-40 millipedes active in of sub-basement.	only very bottom sediments are still moist - the rest dried out
8/10/1998		further vegetation growth		

Table E.8 Observations Recorded for XF 8 (Continued)

Observation Date	Geomorphology	Floralturbation	Faunalturbation	Other
8/11/1998	a slump ~25cm wide, ~15cm tall in the SE corner; sediment from it has been smoothed as it moves toward the center of sub-basement; erosion spot is undercut by at least 5cm; another cut in west wall (~25x35-40x5-7cm) dirt from this one also well smoothed towards center adding to bulk at south end; north end appears to have an undercut section smaller than the others and obscured by vegetation; some new sediment at north end due to this slump	silver maple seedling at west edge of sub-basement living floor not doing well; all others are; trumpet vines on north wall obscuring the slump; vines and twigs on floor are covered by mud		saturated sediments but no standing water
8/12/1998		new clover patches on living floor		sediments remain saturated
8/13/1998				
8/14/1998				
8/15/1998				
8/17/1998				sediments of both living floor and sub-basement are still damp
8/18/1998	increased erosion in SW, SE, and northern corner adding substantially to the sediments in the north and south of the sub-basement; large broad chunk from NE wall fell to floor and is also well smoothed	clover in NE sub-basement has increased in density but not height		
8/19/1998	undercut at south end of sub-basement continues to add sediment to southern bulk; SE erosion continues as well; in north, sediment added from corner erosions; bulks from south and north are almost joined in center; a little mud in deepest part of sub-basement			

Table E.8 Observations Recorded for XF 8 (Continued)

Observation Date	Geomorphology	Floral turbation	Faunal turbation	Other
8/20/1998		3 morning glories blooming on vine in SE of sub-basement, growing up wild rose thorns		
8/21/1998				
8/24/1998	eroded deposits in bottom are drying and cracking	thorny plant in SW corner of living floor is dead; most of trumpet vine in sub-basement is covered with mud		sediments are moist
8/25/1998		mosses on slope to sub-basement cover about 40% of this area		sediments are still damp, except for center of living floor
8/26/1998				all dry except sub-basement; moist to rim
8/27/1998				
8/28/1998		2 morning glories blooming at SE corner of sub-basement again	worm drowning at north end (next to largest silver maple seedling)	standing water over 2/3 of sub-basement floor about 8cm deep
8/31/1998	NE sub-basement wall has slumped into floor; SW erosion pocket has grown adding to southern sub-basement bulk			sediments moist throughout
9/1/1998	small rounded white pebble fell from SW erosion spot and now on SW mound	morning glories blooming to west of living floor		
9/2/1998		morning glories blooming again		sub-basement holding water; almost half full; but receding within 1/2 hour
9/3/1998	fresh dirt in sub-basement from all erosion spots			all standing water is absorbed
9/4/1998	more erosion from all significant spots			standing water in sub-basement
9/5/1989		morning glory blooming on living floor near the center		

Table E.8 Observations Recorded for XF 8 (Continued)

Observation Date	Geomorphology	Floral turbation	Faunal turbation	Other
9/7/1998				
9/8/1998	more erosion from all sub-basement walls; fresh mud covering debris in south			very little standing water in sub-basement in northern half
9/9/1998		goldenrod beginning to bloom around periphery of pit; moss on living floor flourishing on west end		
9/10/1998		morning glory blooming at NE rim of living floor; goldenrod leaning over north of living floor and north end of the sub-basement in full bloom - growing at NW rim and over west living floor also		
9/14/1998	small patch of subsoil fresh inside the floor of SW erosion pocket on sub-basement wall	moss on slope of living floor is greener today; viney growth on living floor and sub-basement is becoming more yellowed; northernmost and next south silver maple seedling are the same height as the western rim of the sub-basement	subsoil may have been exposed by bees or worms - finer than usual erosion	
9/24/1998		vegetation is beginning to wilt and brown; vines of living floor surface are more sparse		
10/1/1998	sediments remain well-rain-smoothed; no new erosion	vegetation is dying all around and within pit, especially on living floor		

Table E.8 Observations Recorded for XF 8 (Continued)

Observation Date	Geomorphology	Floral turbation	Faunal turbation	Other
10/9/1998	NE edge of sub-basement had collapse beginning ~15cm from North corner, 15cm below surface extending to ~35cm along east edge at 25cm below surface at eastern edge; the collapse has occurred just below the A-E interface, and consisted of E-horizon soils; this collapse has undercut the walls about 2 cm at each end and 5 cm in the center, gently sloping out to meet the natural sub-basement wall curve	trumpet vine is yellowing on living floor; goldenrod blooms touching center of living floor just north of center from that leaning from NW edge; mostly dying some dead		saturated sediments
10/15/1998		vines to east lost all leaves; stalks still hanging into sub-basement		
10/22/1998	sediments are crumbly and dry	grasses in sub-basement are well developed on east side of bottom; living floor vegetation is still dying		
11/14/1998	no major erosion changes	leaves of seedlings yellowing in sub-basement yellowing, while on living floor has red leaves; clover in bottom wilting; leaves collecting in larger erosion pockets of sub-basement, especially in south		
11/21/1998	collapse in SW corner on west wall seems considerably larger (~15cm deep in undercut) but no new sediment is evident in bottom; NW corner has also deepened (~15cm undercut into E-horizon); minimal fresh dirt fallen into north end of sub-basement	northernmost seedling is leafless; middle has all brown leaves; southern turning brown; southernmost also leafless; living floor seedling turning brown		

Table E.8 Observations Recorded for XF 8 (Continued)

Observation Date	Geomorphology	Floralurbation	Faunalurbation	Other
1/16/1999	partial collapse of north corner of sub-basement into eroded cavity below the A-horizon collapse ~10x8cm; several east-west cracks on living floor from frost	deer (?no tracks) crunched some remaining dead upright vegetation.		
2/26/1999	south and SW corner of sub-basement A-horizon sediments have partially collapsed into void created by E-horizon erosion; lengthens the sub-basements N-S axis by a few cm's; other collapsed sediments, mostly those in north corner, have smoothed and are set			
3/27/1999	living floor has gullies draining the slope into the sub-basement running west to east		dead bird in sub-basement at south end; ants have begun to swarm it	
4/24/1999		living floor almost covered with trumpet vine and VA creeper; silver maple seedlings growing new leaves (both in sub-basement and living floor); ragweed to north of pit growing well	dead bird is gone	
5/22/1999		further growth especially the trumpet vine in sub-basement		sub-basement sediments are moist, but no standing water
6/26/1999		viney growth obscuring the bottom of pit; grasses on living floor doing better		sub-basement is drying out
7/24/1999	small erosion pocket opened in north wall; no smoothing of resulting sediments; sub-basement is dry and cracking			
8/28/1999	more fresh sediment in bottom of sub-basement			
9/18/1999	large eroded areas continue to erode	large mushroom has grown on east rim (~15x20cm)		standing water in sub-basement

Table E.8 Observations Recorded for XF 8 (Continued)

Observation Date	Geomorphology	Floral turbation	Faunal turbation	Other
RPM 11/10/1999		large fungi still present; 3-4 maples growing from bottom still		
12/3/1999	some soil slough	large fungi still present but reducing in size; maples are leafless; accumulating leaf mold		
1/4/2000				
2/11/2000	sloughing			snow filled and melting
2/17/2000	more slumping	fungi still present	deer hair lying on shallow end	
4/19/2000	soil deflation is apparent towards the east of the sub-basement.	5 maples growing still from sub-basement; 1 from the rim; large fungi still present from last season; honeysuckle and vinca covering sidewalls; grass dogbane, and rose growing throughout shallow end of feature		
CLB 12/13/2000			pit affected by fence construction, north rebar bent, brush mechanically pushed into subbasement (removed), surface/subsurface undisturbed, altered extant brush growth	
1/11/2001		sub has leaf litter		
2/27/2001	slumping along east wall of sub, east half of sub is steep/higher due to topography, SW corner of sub sloped, walls/edge of living floor is sloped	Walls of sub are stabilized by brush, living floor is primarily grass covered, two 1-2 cm saplings 1.5-1.6 m tall grow within sub		

Table E.9 Climatic Data for Features Degradation Study Observations

Observation Date	Daily Maximum Temperature	Daily Minimum Temperature	Daily Mean Temperature	Monthly Temperature	Daily Precipitation	Monthly Precipitation	Storm Events	Local Weather Conditions
CSG 2/27/1998	62	32	47	42.6	0.00	5.50		
3/2/1998	56	43	49.5	46.5	0.00	5.57		pm rain
3/3/1998	50	35	42.5		0.85			pm rain
3/4/1998	49	33	41		0.13			
3/5/1998	49	31	40		0.00			
3/6/1998	50	28	39		0.00			
3/10/1998	68	40	54		0.00			windy; rain over weekend
3/11/1998	40	26	33		0.00			windy
3/12/1998	35	21	28		0.00			windy
3/13/1998	39	21	30		0.00			frost
3/16/1998	42	29	35.5		0.00			
3/17/1998	44	27	35.5		0.00			pm rain
3/18/1998	45	38	41.5		0.50			rain
3/20/1998	51	41	46		0.07			rain
3/23/1998	49	30	39.5		0.00			rain over weekend
3/24/1998	50	28	39		0.00			light frost
3/25/1998	48	28	38		0.00			frost
3/26/1998	65	38	51.5		0.00			
3/27/1998	81	56	68.5		0.00		Unseasonably Warm	
3/30/1998	85	58	71.5		0.00			
3/31/1998	85	65	75		0.00		Unseasonably Wet	windy
4/1/1998	79	64	71.5	56.3	0.03	2.86		windy; pm rain
4/2/1998	74	55	64.5		T			

Table E.9 Climatic Data for Features Degradation Study Observations (Continued)

Observation Date	Daily Maximum Temperature	Daily Minimum Temperature	Daily Mean Temperature	Monthly Temperature	Daily Precipitation	Monthly Precipitation	Storm Events	Local Weather Conditions
4/3/1998	74	43	58.5		0.00			
4/6/1998	56	37	46.5		0.00			
4/7/1998	64	35	49.5		0.00			
4/8/1998	70	47	58.5		0.00			
4/9/1998	70	46	58		0.22			rain; windy
4/13/1998	66	34	50		0.00			
4/14/1998	69	48	58.5		0.00			
4/15/1998	71	53	62		0.03			
4/16/1998	78	55	66.5		0.00			rain
4/20/1998	59	46	52.5		0.61			rain over weekend
4/21/1998	65	42	53.5		0.00			
4/22/1998	68	45	56.5		0.00			pm rain
4/23/1998	57	47	52		0.06			
4/24/1998	72	49	60.5		0.07			
4/27/1998	60	42	51		0.11			
4/28/1998	58	40	49		0.00			
4/29/1998	70	41	55.5		0.00			
4/30/1998	73	53	63		0.00			
5/1/1998	74	57	65.5	65.4	T	4.63		
5/4/1998	73	56	64.5		0.10			rain over weekend; rain
5/5/1998	64	56	60		0.00			
5/6/1998	64	56	60		0.00			pm rain
5/7/1998	68	53	60.5		0.06			rain
5/11/1998	58	51	54.5		0.30			rain over weekend

Table E.9 Climatic Data for Features Degradation Study Observations (Continued)

Observation Date	Daily Maximum Temperature	Daily Minimum Temperature	Daily Mean Temperature	Monthly Temperature	Daily Precipitation	Monthly Precipitation	Storm Events	Local Weather Conditions
5/13/1998	62	48	55		0.11			
5/14/1998	68	41	54.5		0.00			
5/15/1998	82	44	63		0.00			
5/18/1998	80	56	68		0.00			
5/19/1998	88	64	76		0.00			
5/20/1998	88	64	76		0.00			
5/21/1998	87	66	76.5		0.00			
5/22/1998	80	51	65.5		0.00			
KBS 5/26/1998	80	54	67		0.06			
5/27/1998	76	61	68.5		0.00			
5/28/1998	78	59	68.5		0.00			
5/29/1998	86	64	75		0.00			
6/1/1998	87	63	75	72.1	0.30	3.13	50 knot Wind	pm rain on 5/31/98
6/2/1998	79	52	65.5		0.00			
6/3/1998	79	68	73.5		0.00			pm rain
6/4/1998	74	64	69		0.03			
6/5/1998	70	56	63		0.00			
6/8/1998	71	53	62		T			rain over weekend
6/9/1998	77	52	64.5		0.00			
6/10/1998	76	57	66.5		0.03			
6/11/1998	72	60	66		0.00			
6/15/1998	83	62	72.5		0.13			rain over weekend; pm thunderstorms
6/16/1998	84	67	75.5		0.09			pm rain

Table E.9 Climatic Data for Features Degradation Study Observations (Continued)

Observation Date	Daily Maximum Temperature	Daily Minimum Temperature	Daily Mean Temperature	Monthly Temperature	Daily Precipitation	Monthly Precipitation	Storm Events	Local Weather Conditions
IH 6/17/1998	84	64	74		0.16			
6/18/1998	86	67	76.5		0.00			
6/19/1998	85	65	75		0.00			
6/22/1998	86	69	77.5		0.00			
6/23/1998	77	70	73.5		0.23			
KBS 6/25/1998	90	71	80.5		0.00		Hot Spell	
6/26/1998	92	72	82		0.00		70 knot Wind	pm high winds
6/29/1998	83	64	73.5		0.00			rain over weekend; am rain
6/30/1998	86	74	80		0.00			
7/1/1998	86	65	75.5	76.1	0.00	1.69		pm rain
7/2/1998	85	63	74		0.00			
7/3/1998	86	64	75		0.00			
7/6/1998	83	64	73.5		0.00			rain over weekend
7/7/1998	80	63	71.5		0.00			
7/8/1998	77	60	68.5		0.74			am rain
7/9/1998	77	64	70.5		0.02			
7/10/1998	86	70	78		0.00			
7/13/1998	86	59	72.5		0.00			
7/14/1998	85	64	74.5		0.00			
7/15/1998	84	67	75.5		0.00			
7/16/1998	85	68	76.5		0.00			
7/17/1998	86	72	79		0.00			
7/20/1998	90	71	80.5		0.00		Excessive Heat	

Table E.9 Climatic Data for Features Degradation Study Observations (Continued)

Observation Date	Daily Maximum Temperature	Daily Minimum Temperature	Daily Mean Temperature	Monthly Temperature	Daily Precipitation	Monthly Precipitation	Storm Events	Local Weather Conditions
7/21/1998	92	70	81		0.00			pm rain
7/22/1998	94	71	82.5		0.28			
7/23/1998	94	72	83		0.00			
7/24/1998	91	70	80.5		0.30			
7/27/1998	81	63	72		0.00			rain over weekend
7/28/1998	84	67	75.5		0.00			
7/29/1998	88	70	79		0.00			
7/30/1998	88	70	79		0.00			
8/3/1998	84	57	70.5	75	0.00	4.86		
8/4/1998	84	60	72		0.00			
8/5/1998	82	59	70.5		0.00			
8/6/1998	81	61	71		0.00			
8/10/1998	84	67	75.5		0.00			
8/11/1998	84	68	76		3.44			T'storms with 5" rain
8/12/1998	85	68	76.5		0.00			
8/13/1998	83	63	73		0.00			
8/14/1998	79	66	72.5		0.00			
8/15/1998	83	65	74		0.00			
8/17/1998	85	71	78		0.00			
8/18/1998	86	68	77		0.28			pm rain on 8/17/98; pm rain
8/19/1998	83	56	69.5		0.28			
8/20/1998	78	54	66		0.00			
8/21/1998	83	57	70		0.00			
8/24/1998	92	72	82		0.00			
8/25/1998	93	73	83		0.00			

Table E.9 Climatic Data for Features Degradation Study Observations (Continued)

Observation Date	Daily Maximum Temperature	Daily Minimum Temperature	Daily Mean Temperature	Monthly Temperature	Daily Precipitation	Monthly Precipitation	Storm Events	Local Weather Conditions
8/26/1998	93	73	83		0.00			
8/27/1998								Tropical Storm Bonnie
8/28/1998	83	70	76.5		0.39			rain; windy
8/31/1998	88	70	79		0.00			am rain
9/1/1998	88	67	77.5	71.8	0.00	2.90		
9/2/1998	80	62	71		0.83		50 knot Wind	am thunderstorm/ heavy downpour
9/3/1998	81	61	71		0.00			
9/4/1998	80	68	74		0.25			
9/5/1989	85	68	76.5		0.00			
9/7/1998	87	71	79		0.00			pm thunderstorms
9/8/1998	87	61	74		1.57			
9/9/1998	69	49	59		0.00			
9/10/1998	70	51	60.5		0.00			
9/14/1998	84	64	74		0.00			rain over weekend
9/24/1998	68	43	55.5		0.00			
10/1/1998	75	57	66	57.2	0.04	1.94		
10/9/1998	68	61	64.5		0.43			pm rain on 10/8/98; misting
10/15/1998	64	42	53		0.00			rain past week
10/22/1998	58	39	48.5		0.00			
11/14/1998	58	37	47.5	48.8	0.00	1.21		rain/wind past week; frost every morning
11/21/1998	64	38	51		0.10			pm rain on 11/20/98
1/16/1999			0	38.8	0.00	6.53		
2/26/1999			0	39.8	0.00	2.31		

Table E.9 Climatic Data for Features Degradation Study Observations (Continued)

Observation Date	Daily Maximum Temperature	Daily Minimum Temperature	Daily Mean Temperature	Monthly Temperature	Daily Precipitation	Monthly Precipitation	Storm Events	Local Weather Conditions
3/27/1999			0	42.7	0.00	4.98		
4/24/1999			0	54.3	0.03	2.37		
5/22/1999			0	63	0.00	0.90		pm rain on 5/21/99; am rain
6/26/1999				71.6				no rain for 3 weeks
7/24/1999			0	79.5	0.00	2.42		no rain
8/28/1999			0	76.8	0.00	3.53		no rain
9/18/1999			0	69.2	0.00	10.51		Hurricane Floyd (9/16/99)
RPM 11/10/1999			0	52.6	0.00	2.74		
12/3/1999			0	41.1	0.00			
1/4/2000								
2/11/2000			0	40.4	0.00			rain
2/17/2000			0		0.00			
4/19/2000			0		0.00			
CLB 12/13/2000								sunny / high 30's
1/11/2001							recent snow	
2/27/2001								sunny / 50's

Table E.10 List of Observers

Code	Observer	Dates of Observation
CSG	Charlaine S. Gross	2/27/1998-5/22/1998
KBS	Karen B. Supak	5/26/1998-6/16/1998
IH	Ian Henry	6/17/1998-6/23/1998
KBS	Karen B. Supak	6/25/1998-9/18/1999
RPM	Robert P. Meyer, Jr.	11/10/1999-4/19/2000
CLB	Christopher L. Bowen	12/13/2000-2/27/2001