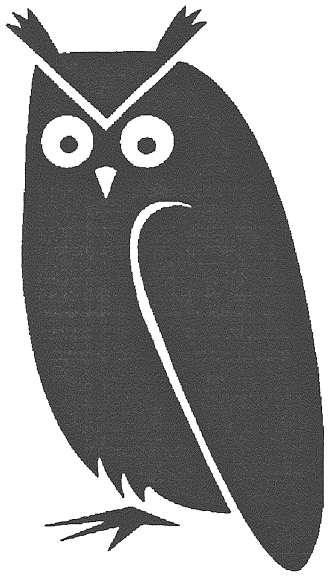
Cornwall Conservation Trust Properties

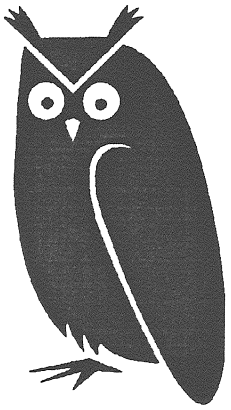


Cornwall, Connecticut

King's Mark Environmental Review Team Report

King's Mark Resource Conservation & Development Area, Inc.

Cornwall Conservation Trust Properties



Cornwall, Connecticut

Environmental Review Team Report

Prepared by the
King's Mark Environmental Review Team
of the
King's Mark
Resource Conservation and Development Area, Inc.

for the

Planning and Zoning Commission
Cornwall, Connecticut

December 2001

CT Environmental Review Teams
1066 Saybrook Road, P.O. Box 70
Haddam, CT 06438
(860) 345-3977

Acknowledgments

This report is an outgrowth of a request from the Cornwall Planning and Zoning Commission on behalf of the Cornwall Conservation Trust to the Litchfield County Soil and Water Conservation District (SWCD). The SWCD referred this request to the King's Mark Resource Conservation and Development Area (RC&D) Executive Council for their consideration and approval. The request was approved and the measure reviewed by the King's Mark Environmental Review Team (ERT).

The King's Mark Environmental Review Team Coordinator, Elaine Sych, would like to thank and gratefully acknowledge the following Team members whose professionalism and expertise were invaluable to the completion of this report.

The field review took place on Thursday, May 31, 2001.

Nicholas Bellantoni	State Archaeologist Office of State Archaeology - UCONN (860) 486-5248
Sean Hayden	Resource Conservationist Litchfield County Soil and Water Conservation District (860) 626-7222
Joe Hickey	Planner (Retired DEP) CT Greenways Council (860) 529-4363
Alan Levere	Environmental Analyst III, Wetland Reviewer DEP - Environmental & Geographic Information Center (860) 424-3643

Dawn McKay	Biologist/Environmental Analyst DEP - Environmental and Geographic Information Center Natural Diversity Data Base (860) 424-3592
Don Mysling	Senior Fisheries Biologist DEP - Fisheries Division Habitat Conservation & Enhancement Program (860) 567-8998
Larry Rouseau	Forester 2 DEP - Western District Headquarters (860) 485-0226
Laura Saucier	Resource Assistant/Wildlife Biologist DEP - Sessions Woods Wildlife Management Area (860) 675-8130
Randolph Steinen	Associate Professor of Geology UCONN - Dept. of Geology and Geophysics (860) 486-4435
Julie Victoria	Wildlife Biologist DEP - Franklin Swamp Wildlife Management Area (860) 642-7239
Judy Wilson	Wildlife Biologist DEP - Sessions Woods Wildlife Management Area (860) 675-8130

I would also like to thank, , Rick Lynn, chair, planning and zoning commission, Maggie Cooley, president, Cornwall Conservation Trust, Brad Harding, Cornwall Conservation Trust and Gordon Ridgway, first selectman, for their cooperation and assistance during this environmental review.

Prior to the review day, each Team member received a summary of the proposed review with location and soils maps for each property. During the field review Team members were given additional information concerning the parcels. Some Team members made individual or additional visits to the project sites. Following the

review, reports from each Team member were submitted to the ERT coordinator for compilation and editing into this final report.

This report represents the Team's findings. It is not meant to compete with private consultants by providing site plans or detailed solutions to development problems. The Team does not recommend what final action should be taken on a proposed project - all final decisions rest with the Trust, the town and landowners. This report identifies the existing resource base and evaluates its significance to potential management, and also suggests considerations that should be of concern to the Trust and town. The results of this Team action are oriented toward the development of better environmental quality and the long term economics of land use.

The Eastern Connecticut RC&D Executive Council hopes you will find this report of value and assistance in developing management guidelines for stewardship, education and passive enjoyment and appreciation.

If you require additional information please contact:

Elaine Sych, ERT Coordinator
CT ERT Program
P. O. Box 70
Haddam, CT 06438
(860) 345-3977

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Introduction

Introduction

The Town of Cornwall on behald of the Cornwall Conservation Trust (CCT) has requested assistance from the King's Mark Environmental Review Team in conducting a natural resource inventory of four (4) parcels of land that they own or have an easement on. The four parcels are: Dodd/Prudhomme Property, 43 acres on Town Street adjacent to Cream Hill Lake, 19 acres on the west side of Town Street; Paul Property, 10 acres on Town Street; Brokaw Property, 53 acres, Dibble Hill Road and the Vogel Property, 77 acres, off of Cherry Hill Road.

Objectives of the ERT Study

The purpose of the review is provide the CCT with a natural resource inventory and management guidelines to aid them in their goals of stewardship, public education, passive recreation and enjoyment and appreciation of these properties. Information on management for forest products, wildlife habitat, trail development and educational opportunities were topics requested by the trust in their application.

The ERT Process

Through the efforts of the Cornwall Planning and Zoning Commission and the Cornwall Conservation Trust, this environmental review and report was prepared for the town of Cornwall.

This report provides an information base and a series of recommendations and guidelines which cover the topics requested. Team members were able to review maps and discuss the properties with town officials and trust members.

The review process consisted of four phases:

1. Inventory of the site's natural resources;
2. Assessment of these resources;
3. Identification of resource areas and review of plans; and
4. Presentation of education, management and land use guidelines.

The data collection phase involved both literature and field research. The field review was conducted on Thursday, May 31, 2001. The emphasis of the field review was on the exchange of ideas, concerns and recommendations. Being on site allowed Team members to verify information and to identify other resources.

Once Team members had assimilated an adequate data base, they were able to analyze and interpret their findings. Individual Team members then prepared and submitted their reports to the ERT coordinator for compilation into this final ERT report.

Figure 1

Location Map

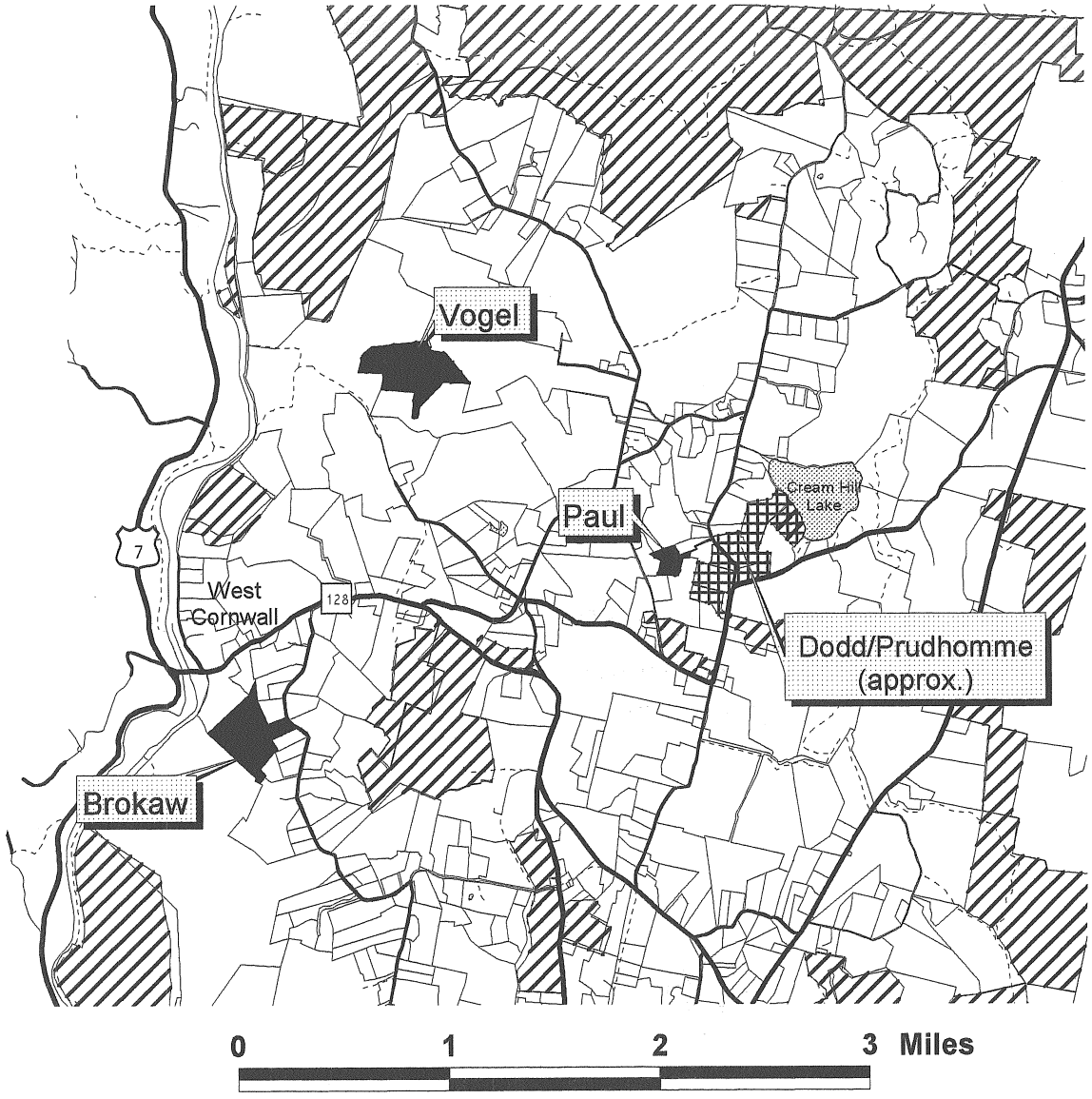


Figure 2

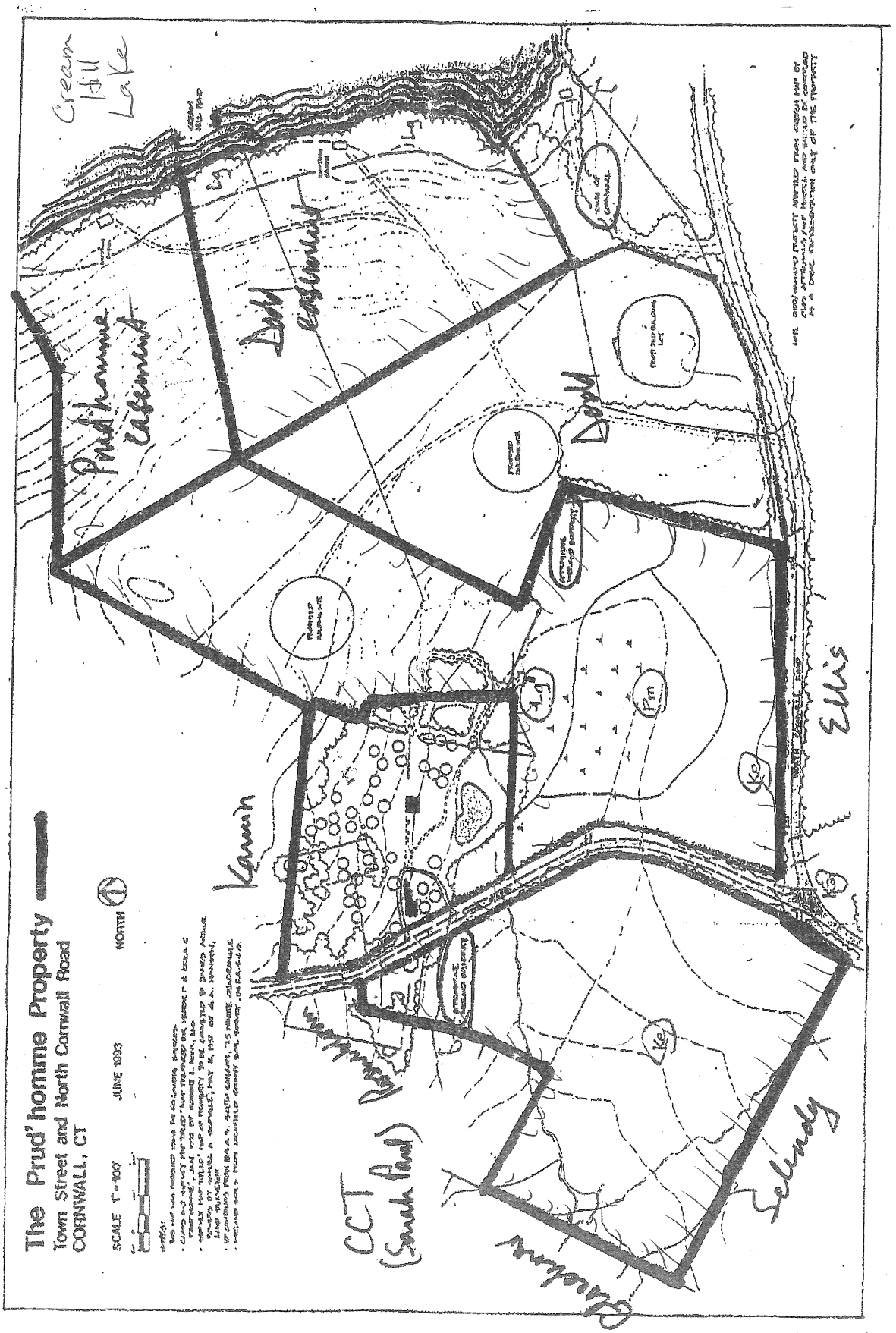
Topographic Map

Scale 1″ = 2000′

⇑

Figure 3

Dodd/Prudhomme Property



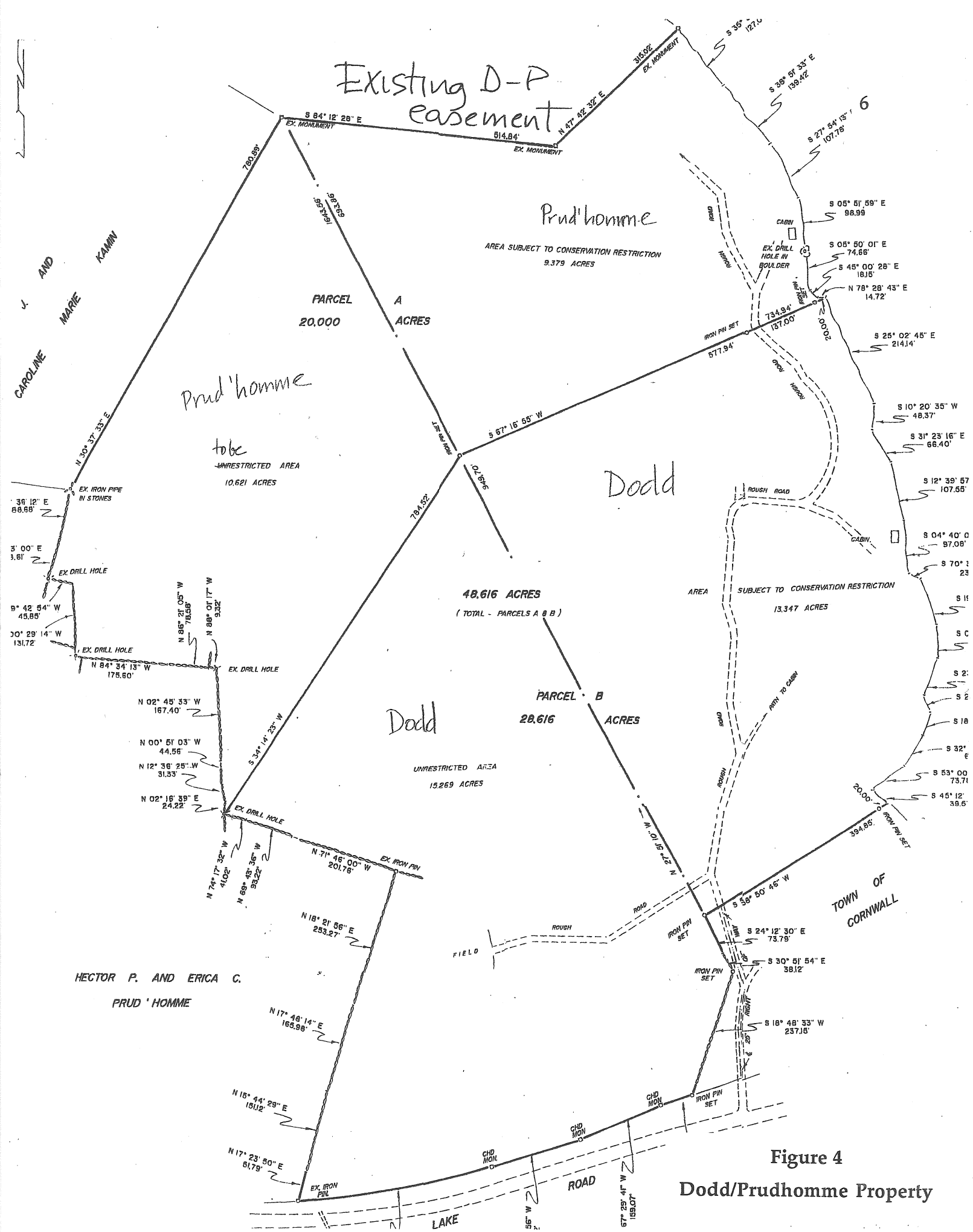
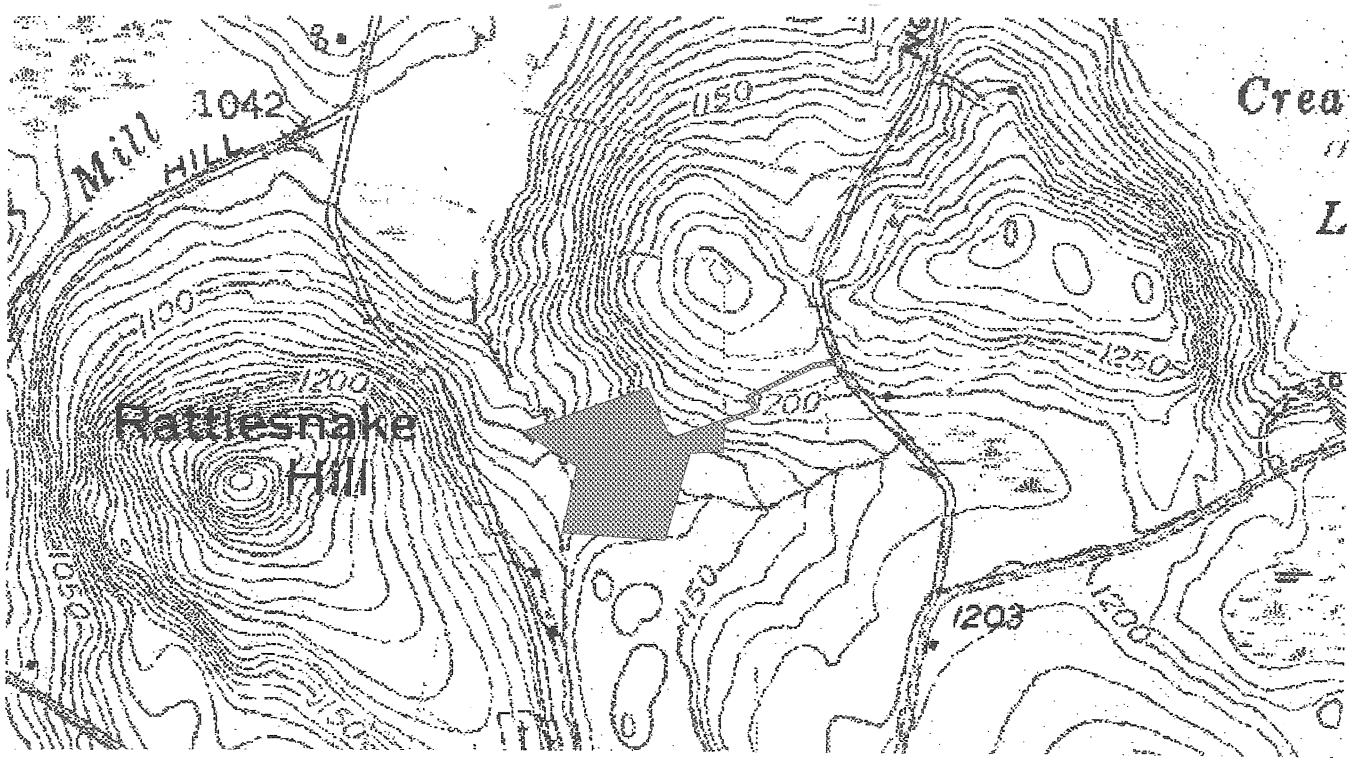


Figure 4

Dodd/Prudhomme Property

Figure 5

Paul Property



Paulprop.shp

0 1000 2000 Feet

N
W E
S

Figure 6
Paul Property

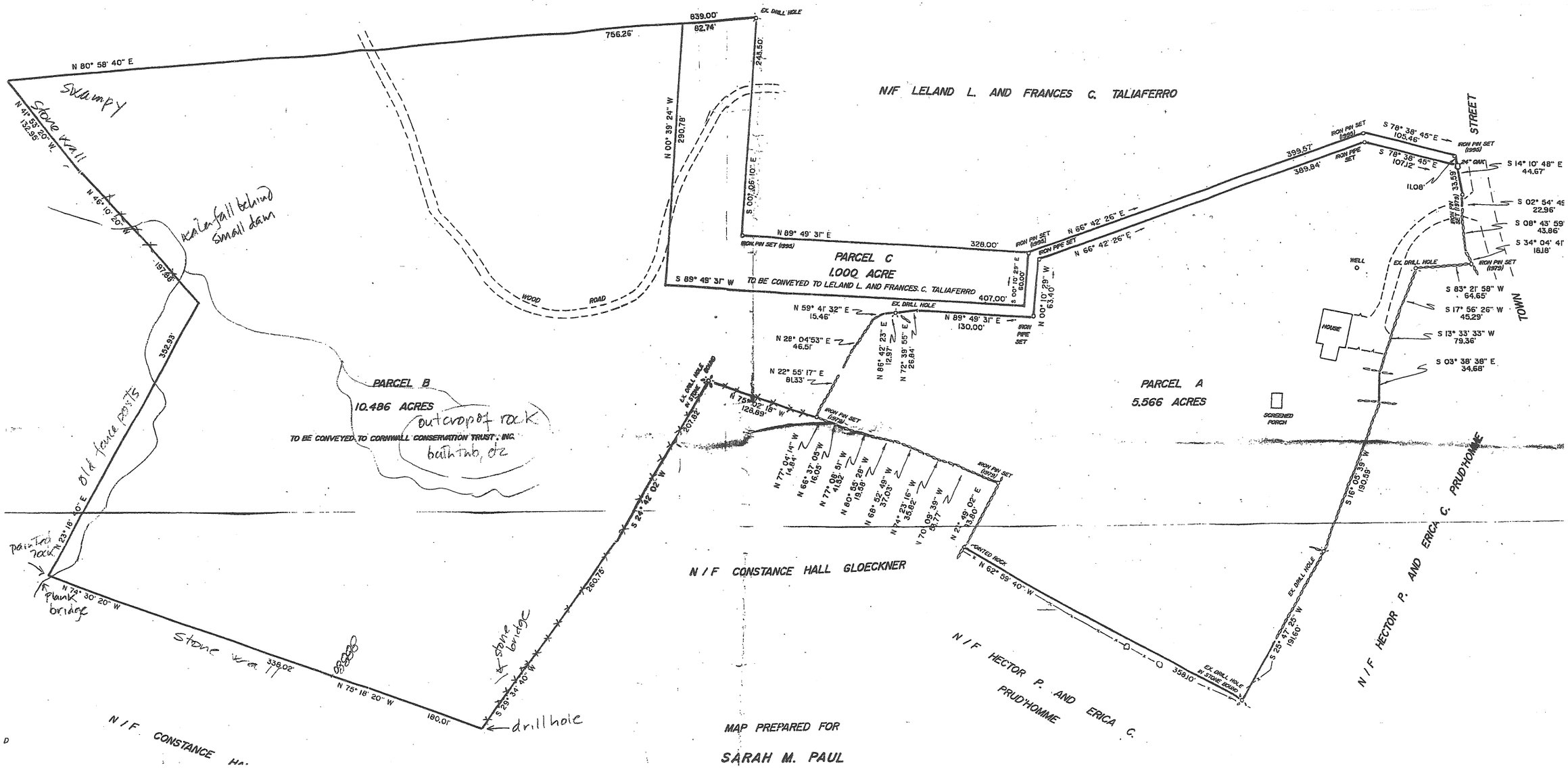
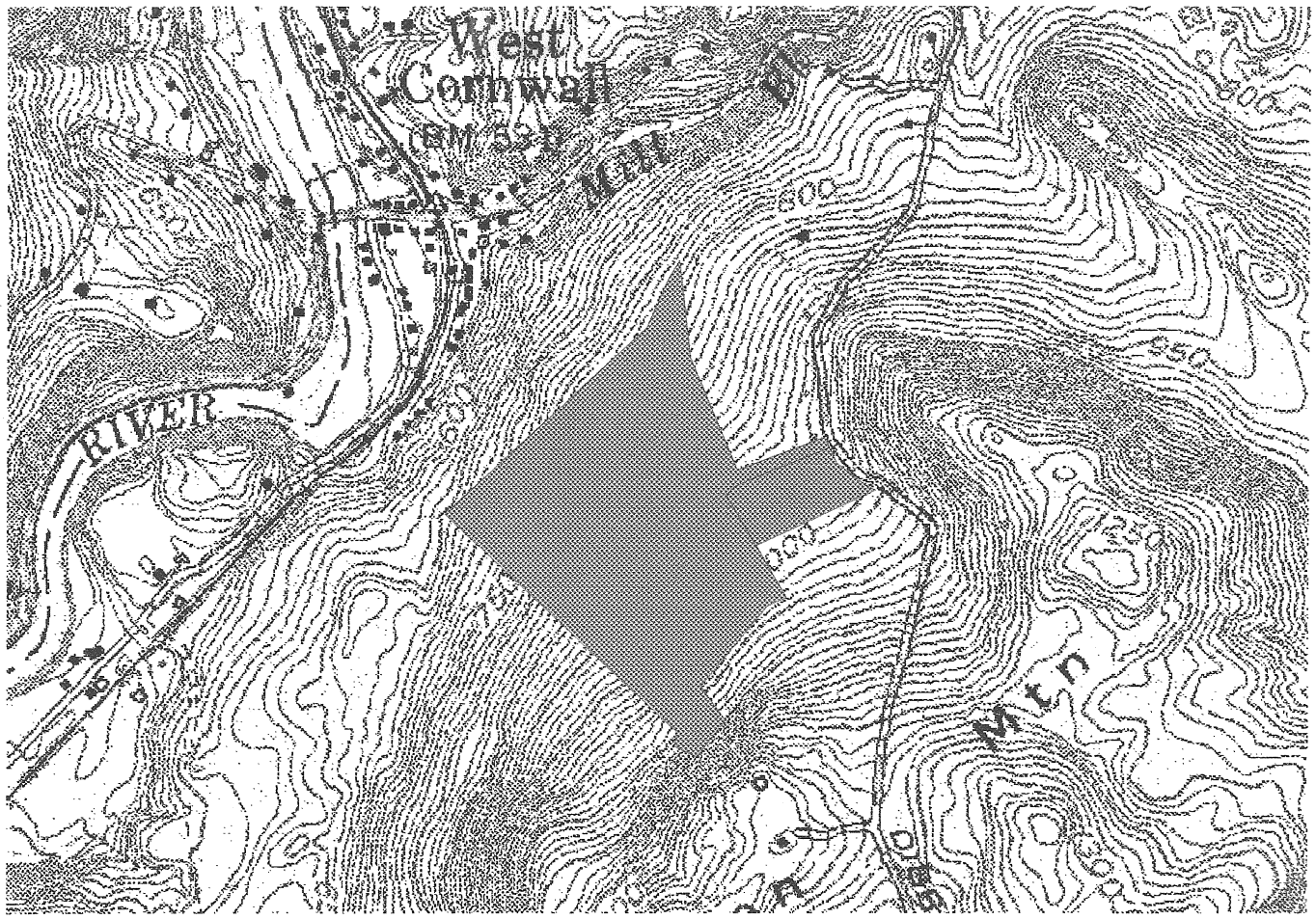


Figure 7

Brokaw Property



LOUIS GEILERT

HAROLD F. & ELIZABETH R. MEYER

N/F ESTATE MARY D. STURGES

FRANK WHITNEY

PARCEL 'C'

TRINITY EPISCOPAL CENTER ASSOCIATION, INCORPORATED

N/F JACK MURRAY

HAROLD A. VAN DORN

PARCEL 'A'

PARCEL 'C'

LAND of RUTH H. ROME

HILL ROAD

AREA 5.32 ACRES

AREA 5.88 ACRES

AREA 5.95 ACRES

AREA 5.23 ACRES

AREA 5.77 ACRES

PASSWAY STRIP

KEY MAP
SCALE 1"=1000' (APPROX)

NOTE: NEW DRIVE & CULVERT TYPICAL FOR LOTS NO. 1-5

Final Plan
Resubdivision #5
Approved April 15, 1966
Frederick J. Bates
John Tuttle
Hunner R. Hillman
Edward H. Foot
Cornwall Planning Commission

NOTE:
. PERIMETER OF THIS MAP WAS TAKEN FROM MAP DRAWN BY PETER B. MYER, LAND SURVEYOR, DARIEN, CONN., DATED SEPT. 16, 1965.
. THE INDICATED CONTOURS ARE OF 10 FOOT INTERVALS, AND WERE TAKEN FROM U.S.G.S. MAP.
. INDICATED PROPERTY IS IN R-5 RURAL RESIDENCE DISTRICT.
. TOTAL AREA - PARCELS 'A' - 'C' - IS 75.872 ACRES.

MAP #101
Drawer VI
Received June 21, 1966
Horace S. Lobdell
Asst. Town Clerk.

SUBDIVISION MAP
LAND OWNED BY RUTH H. ROME
TOWN OF CORNWALL, CONNECTICUT
SCALE 1"=100Ft. MARCH 1966.
PARCEL 'A' (SEE KEY PLAN)

DRAWING 1 OF 2

Figure 8

Brokaw Property

Figure 9

Vogel Property

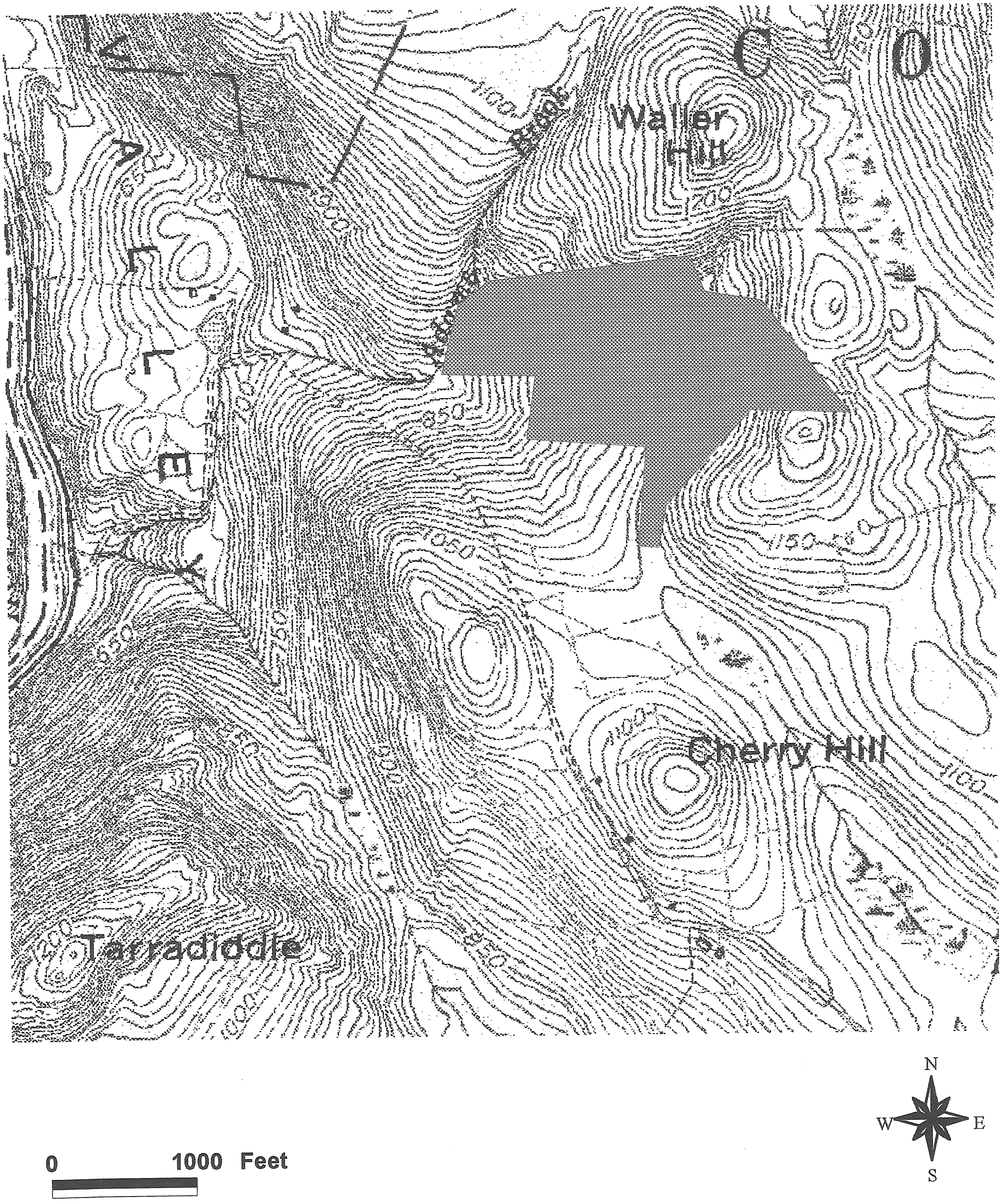
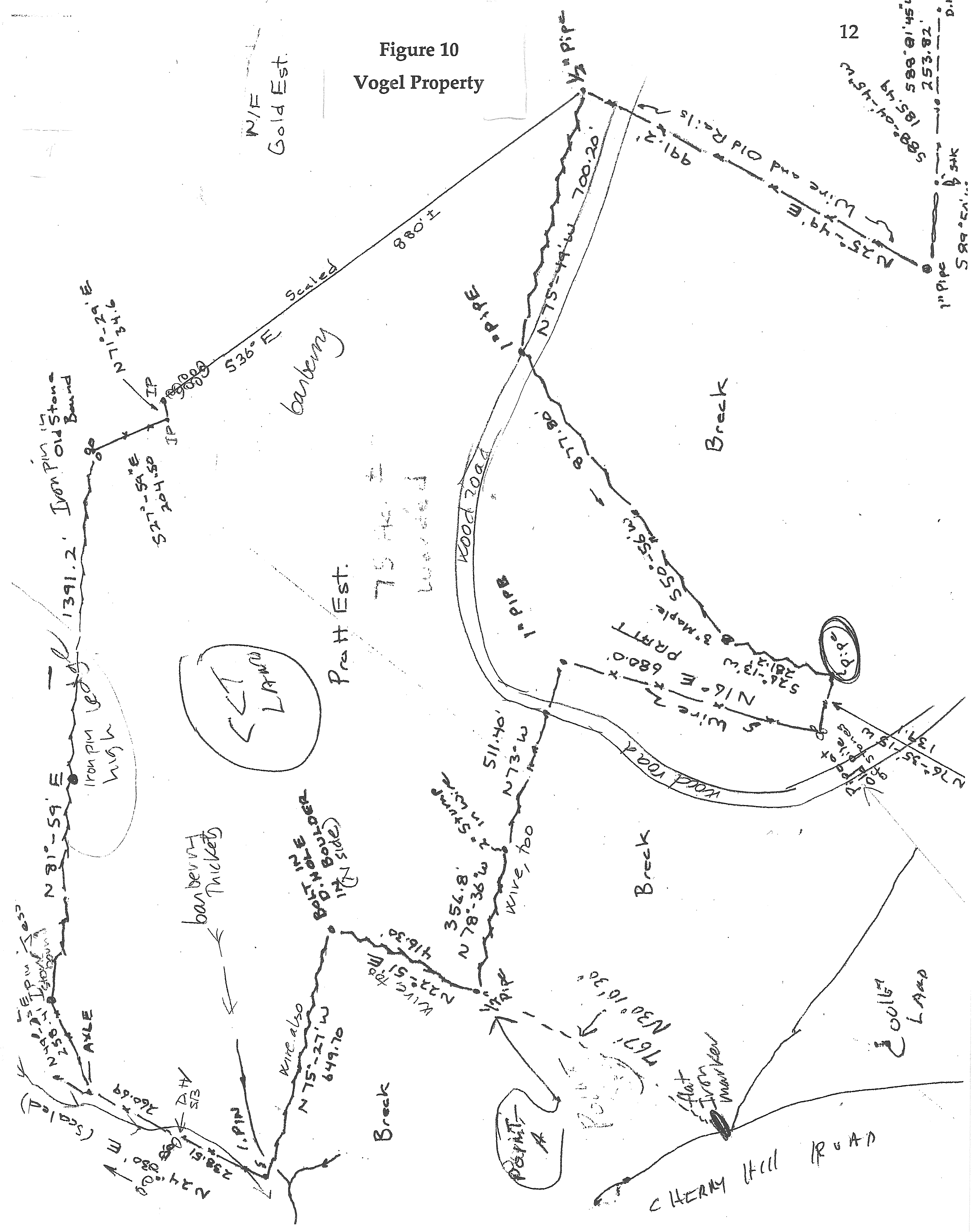


Figure 10

Vogel Property



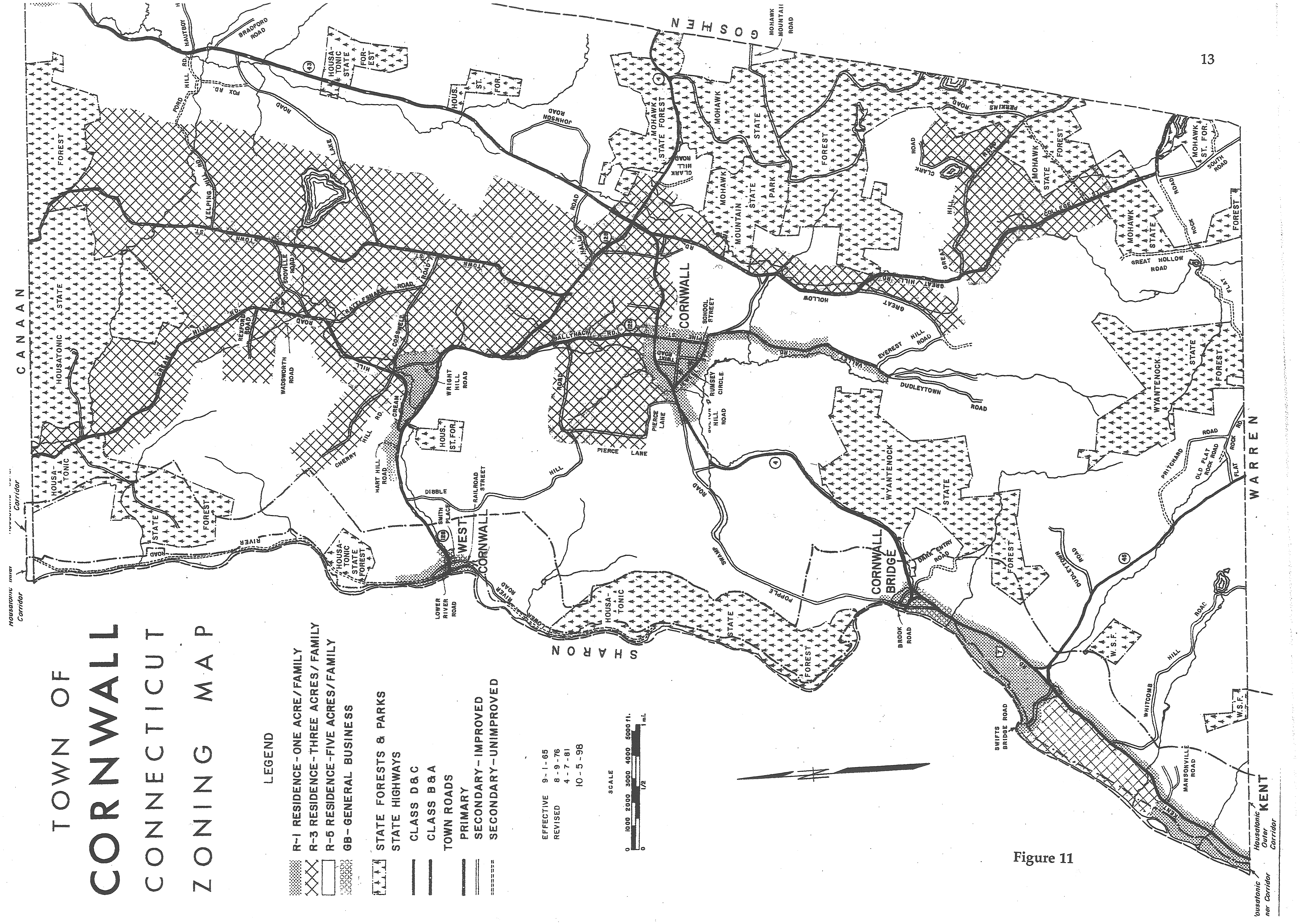

TOWN OF
CORNWALL
CONNECTICUT
ZONING MAP
LEGEND
R-1 RESIDENCE-ONE ACRE/FAMILY
R-3 RESIDENCE-THREE ACRES/FAMILY
R-5 RESIDENCE-FIVE ACRES/FAMILY
GB-GENERAL BUSINESS
STATE FORESTS & PARKS
STATE HIGHWAYS
CLASS D&C
CLASS B&A
TOWN ROADS
PRIMARY
SECONDARY-IMPROVED
SECONDARY-UNIMPROVED
EFFECTIVE 9-1-65
REVISED 8-9-76
4-7-81
10-5-98
SCALE
0 1000 2000 3000 4000 5000 ft.
0 1/2 1 mi.
CANAAN
GOSHEN
WARREN
KENT
SHARON
CORNWALL
WEST CORNWALL
CORNWALL BRIDGE

Figure 11

Geology

The Team geologist made site visits to the Land Trust properties adjacent to or near Cream Hill Lake in Cornwall. The properties on the westward facing slopes of the Housatonic River valley were not visited and do not contain important geological features to his observation or knowledge.

The topography of the area is characterized by rolling hills, many of which are locally steep. The area visited had generally thin soils with many areas of small non-descript outcrops of metamorphic rock. There is a east-northeast/west-southwest (~N.60° E.) topographic grain to the region likely caused by the orientation of prominent fractures. A second topographic grain is oriented north-northwest/south-southeast (~N.30° W) and is likely caused by a combination of fracture orientation and glacier movement. Although the topographic map indicates steep slopes and cliffs in the immediate area, cliffs and large outcrops do not occur on the subject properties. In the Team Geologist's opinion the properties are suitable for development of short trails and nature hikes.

The rocks observed were granitic gneiss, amphibolite gneiss, and rusty weathering quartz-feldspar gneiss that are part of the Housatonic Highlands Massif. Most of the rocks are steeply dipping (tilted) toward the west-northwest in the vicinity of Cream Hill Lake, but, according to Gates (1961 and 1975), dip toward the east-southeast closer to the Housatonic River. Prominent steeply dipping fractures are oriented east-northeast/west-southwest and give the area a topographic grain as numerous southerly facing steep slopes and cliff faces attest. The fractures likely also influence groundwater flow. Indeed, springs were observed on the shores of Cream Hill Lake issuing from southwesterly oriented fractures. Springs are also noted on the map of the Brokow property. A line connecting the observed and mapped springs has an orientation that is east-

northeast/west-southwest, parallel to the topographic grain of the land, and suggests that the two springs may have a hydrologic connection.

The area has an interesting geologic history (see Bell, 1985, p.111-170) beginning almost 1 billion years ago when the rocks observed on the Dodd property were formed. The area was part of a large mountain range that connected to the Andean mountain range now in South America. Approximately 600 million years ago (m.y.a.) the edge of the North American Continent was located in or just east of Cornwall. Sand and mud eroded from the mountain range washed into the ancient ocean which geologists call the Iapetus Ocean. There the sediment settled out of the water and built up the edge of the continent with layers of shale and sandstone and some limestone. About 450 m.y.a. volcanoes developed along the eastern margin of North America and volcanic ash along with eroded volcanic rock was washed into the edge of the Iapetus Ocean. The rocks were deformed and squeezed in response to the closing of the Iapetus Ocean by the African Plate sliding into the North American plate between 350-275 m.y.a. As a result the rocks where buried and then overthrusted, all of which caused them to heat up (they were 10-30 km deep) and recrystallize. Shales were metamorphosed into gneiss and schist. During the process another large mountain range, the Appalachians, formed. They were perhaps as spectacular as the Himalayas or the Alps but have been wearing away ever since. Still comparatively rugged topography still exists in the region. About 200 m.y.a., faults (along with strong earthquakes) were particularly active in Connecticut and New Jersey causing large areas to sink. Southwesterly-flowing streams filled the depressions with sand and gravel. Possibly some of the same streams washed across the Cornwall area. Dinosaurs stalked the area.

The final chapter of the geologic history occurred when large sheets of ice, several kilometers thick, slid across Connecticut, eroding the landscape and when they melted, depositing soil, called glacial till, on top of the underlying rock (Holmes, Newman and Melvin, 1970, and Warren and Colton, 1974). Sand

and gravel were deposited by meltwater streams in several local valleys of the region. When the last of the ice still filled the Housatonic Valley, meltwater flowed out of the valley through small passes such as that between Cherry Hill and the southward extension of Walker Hill. These are referred to as spillways.

References

Bell, Michael, 1985, *The Face of Connecticut,* State Geol. and Natural Hist. Survey, Bull. 110, 196p.

Gates, R.M., 1961, Geologic Map of the Cornwall Quadrangle, CT, State Geol. Natural Hist., Quad. Rpt. #11, plate 1.

Gates, R. M., 1975, Bedrock Geology of the South Canaan Quadrangle, CT, State Geol. Natural Hist., Quad Rpt. #32, plate 1.

Holmes, G. W., Newman, W.S., and Melvin, R.D., 1970, Preliminary Surficial Geologic Map of the South Canaan Quadrangle, CT, U.S. Geol. Surv. Open File Rpt.

Warren, C.R., and Colton, R.B., 1974, Surficial Geologic Map of the Cornwall Quadrangle, Litchfield County, CT, U.S. Geol. Surv., Geol. Quad. Map GQ-1148.

Soils

To determine the soil types present at each of the four Cornwall Conservation Trust properties, the maps supplied in the ERT application were overlaid on the Litchfield County Soil Survey maps (USDA, 1970). The most prevalent soils on each site were then recorded in order of size (see Table 1) and cross referenced to a list of wetland soils. Those listed as wetland soils were recorded and measured to determine their acreage. The total wetland acreage was then totaled for each parcel. It should be noted that the wetland acreage is based on soil type as defined in the Soil Survey (USDA, 1970) and is not based on field sampling and delineation. Also included on Table 1 are the following:

- Zoning of each property based on the town of Cornwall Zoning map.
- The acreage of each site as listed on the ERT application.
- The CCT Land Evaluation System Score.

For additional detailed soil information and the soil maps of the CCT properties see Appendix A. The detailed soil information includes the follow topics.

- Non-technical Soils Description Report
- Water Features and Hydrologic Soil Groups
- Soil Capabilities for Recreational Development
- Soil Capabilities for Woodland Management and Productivity
- Soil Capabilities for Wildlife Management
- Soil Capabilities for Construction Materials
- Soil Capabilities for Building Site Development
- Soil Capabilities for Recreational Development

Prudhomme/Dodd Property - West of Town Street

The Prudhomme/Dodd Parcel west of Town Street is largely made up of wetland soils (of the Kendaia-Lyons series). Given the hydric regime and very stony nature of these soils, management alternatives are limited. These soil characteristics cause shallow root systems in trees. Therefore, older stands are susceptible to wind throw. Passive recreation may also be limited given the difficulties of creating access paths in wetland soils. If the CCT decides that public access to this property is a priority, then a boardwalk might be an alternative.

Prudhomme/Dodd Property - East of Town Street

The Prudhomme/Dodd Parcel adjacent to Cream Hill Lake has a wide variety of soil types (see Table 1). Most of the soils are not considered wetlands. This parcel also scored the highest (100) on the CCT Land Evaluation System out of all the parcels being investigated by Environmental Review Team (ERT). The high score can be attributed to:

- Passive Recreation Value (access by walking trails)
- Abuts and has access to water (Cream Hill Lake)
- High scenic and esthetic value
- Diverse habitat for wildlife

The soils of this parcel would support passive recreation. The existing wood roads and paths on the property are in excellent shape. However, if traffic were to be increased on these paths the soils would need to be stabilized. Stabilization measures could include installation of water bars on the steeper sections to keep water from eroding the trial. Mulching the heavy traffic areas would stabilize soil by increasing infiltration and protecting against compaction. This parcel is the only one that has a portion within a Flood Plain as delineated by the Federal

Emergency Management Agency (FEMA). The flood plain is located along the shore of Cream Hill Lake and is approximately 30 feet wide.

Paul Property

The Paul parcel has a very narrow access right-of-way. However, there is a diverse mosaic of habitats. This parcel has a high potential for educating the public not only about different habitat types but also the historic progression of land use here in Litchfield County. The soil type here would also support passive recreation. However, care should be taken in the construction of walking paths because of the shallow to bedrock nature of the soil (see recommendations for walking paths in the Dodd/Prudhomme Parcel above).

Brokaw Property

The Brokaw Parcel soils are well suited to support wood roads and paths. Given the slope of the property, design of paths should include ample opportunities for surface water to pass under the walking grade. This will greatly reduce the need for trail maintenance. A small stream cuts between Dibble Hill Road and the property. A small wetland will be disturbed if this site is developed for public access. However, an older crossing structure could be replaced which would minimize the disturbance to wetlands.

Vogel Property

When access is gained to this parcel it will becomes a valuable asset to CCT. The Vogel parcel soils are well suited to support many passive recreational activities because there are very few wetlands and the soil types are easily managed (see Appendix A).

Conclusions

The best way to avoid soil erosion and sedimentation on all the CCT properties is to minimize the disturbance to existing established vegetation. This is easy to do when creating wood roads and paths. However, installing parking areas and access roads for vehicles may create erosion and sedimentation problems. The Litchfield County Soil and Water Conservation District would welcome the opportunity to review any such development plan to assure it's environmental integrity.

References

United States Department of Agriculture, 1970. Soil Survey of Litchfield County, Soil Conservation Service. USDA, Washington D.C.

Table - 1
Cornwall Conservation Trust Properties

Property Name	Total Acres	Soil Types (in order of most to least common)	Estimated Wetland Acreage (by soil type)	Total Estimated Wetland Acreage	Zone (acre)	CCT Land Evaluation Score
Dodd/Prudhomme Parcel (west of Town Street)	19	Kendaia-Lyons very stony silt loams (Ke)*	16		R-3	50
		Charlton very stony fine sandy loam, 3-15% slope (CrC)	-			
		Charlton stony fine sandy loam, 8-15% slope (ChC)	-			
		Kendaia silt loam (Ka)*	0.5	**16.5**		
Dodd/Prudhomme Parcel (adjacent to Cream Hill Lake)	43	Hollis very rocky fine sandy loam, 3-15% slope (HrC)	-		R-3	100
		Hollis very rocky fine sandy loam, 15-35% slope (HrE)	-			
		Charlton very stony fine sandy loam, 3-15% slope (CrC)	-			
		Leicester, Ridgebury and Whitman very stone fine sandy loams (Lg)*	7			
		Kendaia-Lyons very stony silt loams (Ke)*	8	**15**		
Paul Parcel	10	Hollis very rocky fine sandy loam, 3-15% slope (HrC)	-		R-3	45
		Hollis very rocky fine sandy loam, 15-35% slope (HrE)	-			
		Charlton stony fine sandy loam, 15-35% slope (CrD)	-			
		Leicester, Ridgebury and Whitman very stone fine sandy loams (Lg)*	5	**5**		
Brokaw Parcel	53	Paxton very stony fine sandy loam, 15-35% slope (PeD)	-		R-5	55
		Charlton stony fine sandy loam, 15-35% slope (CrD)	-			
		Hollis very rocky fine sandy loam, 3-15% slope (HrC)	-	-		
Vogel Parcel	77	Charlton stony fine sandy loam, 15-35% slope (CrD)	-		R-5	20
		Charlton very stony fine sandy loam, 3-15% slope (CrC)	-			
		Sutton very stony fine sandy loam, 3-15% (SxC)**	-			
		Paxton very stony fine sandy loam, 3-15% slope (PeC)	-	-		

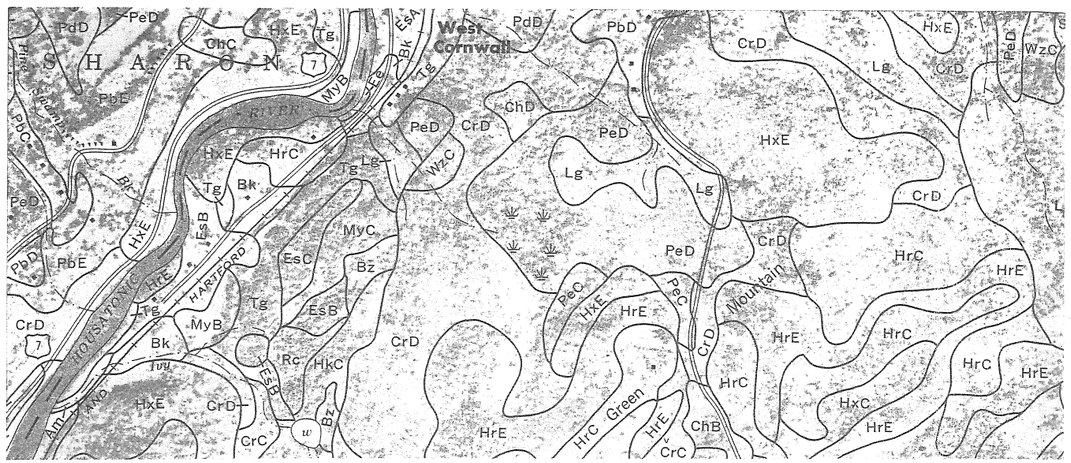
* wetland soil

** possibly includes areas of wetland (Lg soil type)

Prepared by:

The Litchfield County Soil and Water Conservation District

Figure 12
Soils Map
Scale 1″ = 1320′



Wetland Resources

This wetland resource inventory is for four properties managed by the Cornwall Conservation Trust (CCT). In combination the four are very similar and protect just over 200 acres of land. Individually they each have their own imprint on the landscape and range in size from ten to 77 acres. All of these properties are within three miles of the Housatonic River, the penultimate outlet for the water that passes over, under and filters through, the wetlands of these properties.

In this section, each of the four properties will be discussed individually and then summarized as a whole. Below is a description of the properties in order of the ERT field visit.

The ***Dodd/Prudhomme Property*** is approximately 43 acres in size and is dominated by steep terrain, mostly forested with a variety of rocky out-crops. This parcel has wetlands on two locations. The first is along its northeast property border with Cream Hill Lake. Here the lake shore is bordered by a strip of poorly and very poorly drained Leicester, Ridgebury Whitman complex soil, typically extending 80 -100 feet inland from the lake shore. These are till-based soils that are nearly level and very stony. They exhibit mostly scrub shrub/wooded vegetation cover grading to a more closed canopy cover away from the water. Some small mucky, organic areas are present where the grade approaches the water surface. The shore line area visited was bouldery.

The second wetland area on this first property is located on the southeast portion of the parcel in the vicinity of the intersection of Town Street and Lake Road. Here (very approximately) is a total of 13 wetland acres. This 13 acres is divided roughly into thirds with Leicester, Ridgebury, Whitman to the northeast, shallow muck south of that, and Massena (formerly Kendaia) along the southwest border abutting the road intersection. These three soil types combine

to form a shallow, wet, and wooded wetland grading from stoniness at the northeast, through highly decomposed organic materials, to limestone/crystalline based soils. Here, within a distance of 300 yards the soils change from strongly acidic (as low as pH 5.1) to moderately basic with a pH ranging from the high sixes to low sevens.

Both of these areas have been mapped as wetland soils. Their value and ecological integrity would undoubtedly yield good scores when evaluated for ground water recharge, wildlife habitat, flood control, educational value, and aesthetics. The Team visited the lakeshore on the field walk. The Team wetland reviewer revisited the wetlands along the southeast boundary to investigate them more fully on June 12, 2001.

The wetland reviewer's site walk on the twelfth was north through the wetland roughly parallel to Town Street north of Lake Road. This wetland is dominated by red maple with an understory of spice bush, sensitive fern, marsh fern, some sphagnum moss, jack-in-the-pulpit, poison ivy and Japanese barberry. The micro topography, including long decaying windthrows, dictate much of the variance in plant cover. Walking towards the northwest property boundary the land gets tussocky and the woods thin as it opens to cattail swamp along that northwest boundary.

On the west side of Town Street is a parcel the Team did not visit on the ERT field walk but it is also part of the ***Dodd/Prudhomme Property***. It is mapped all wetlands and time constraints dictated that the ERT visit other, more diverse parcels. This was walked along with the eastern parcel on June 12, 2001. Nearly the entire 19 acre area is mapped as Ke: Kendaia -Lyons now called Massena-Alden. This series is typified by poorly and somewhat poorly drained soils that are often wet and generally stony. They form over a limestone and crystalline calcareous glacial till. The parcel was found to be heavily wooded with stands of coniferous white pine towards the center and east and deciduous red maple in

the eastern and northwest section. The herb layer was dominated by a diversity of hydrophytes including false hellebore, and various ferns including marsh fern, sensitive fern, and royal fern. The undergrowth exhibited some invasive species near the road with Japanese barberry and Garlic mustard present; but only the former deeper in the woods. The area shows frequent intermittent stream-ways, each being extremely damp with accumulated, undecomposed dark, organic debris in the bed.

To the southwest there is a deeply incised watercourse, both sandy and rocky/cobbly on the 4 - 5 foot wide bottom. It was flowing as a large, constant trickle on this visit. Near the south-central part of the parcel it is as deep as 55 - 60 inches and it levels to grade as it flows off the property (downhill) to the west and into a swampy, then marshy, area. This property has another stream roughly parallel to this one to the north which had two to three times the volume of the southern stream. This larger stream has its headwaters at the wetlands of the first property. Several intermittent streams cross the property as well. These watercourses have a confluence just off the property to the west, or further west on the Paul Property.

The second property is the ten acre ***Paul Property***. It was, for the most part quite rocky and heavily wooded with the watercourses and their riparian areas being the wetlands of note. The stream valleys, their riparian areas, and wetlands dominate the steep terrain. Most of these wet areas are along the west and southerly portion of the property though exact parcel boundary lines were difficult to translate onto the landscape of this and many of the other parcels.

Briefly, a small stream flows east to west across the top of the southern third of the property. This has a confluence with an unnamed tributary of Mill Brook which flows northerly along the western boundary of this parcel. The watercourse that enters the property from the east-southeast flows from a marshy to forested cattail marsh wetland just off the boundary to the east. Here

cattails, sensitive fern, alder, and willows dominate. On this property, the stream passes under a stone foot bridge and continues towards a confluence with a nearly identical stream. Downstream from this confluence this watercourse empties into an unnamed tributary of the Mill River that passes along the western boundary of the property.

Thus, it should be noted that there is a hydrological link between the first, and second properties. The missing gap here is the undeveloped or privately held land, between the western Prudhomme/Dodd Property (the ±19 acres on the west side of Town Street) and the Paul property. Here a wetland in a topographic depression collects the waters flowing from the first two properties and outlets this same water across the Paul property to continue its flow to Mill Brook to the west. Acquisition or protection of this missing link would protect approximately half a mile of headwaters streams that drain into Mill Brook and ultimately the Housatonic River.

The third parcel is the ***Brokaw Property*** which totals 53 acres. Due to the constraints of time the Team did not have a chance to thoroughly investigate this property on the field walk. However, within a few hundred yards of where the group entered the site the Team crossed three streams. These streams flow over soils mapped as Leicester. As mentioned above, this is a poorly drained, mostly level, wetland soil which lies over till and in this setting is quite stony. The preponderance of wetlands and watercourses that were seen on the property, and that can be detected from aerial photos, are this mapped soil unit.

It was recognized that this was probably the only parcel that had the best suitability for at least semi-formalized recreation. This would likely take the form of a loop walking trail. If that does happen resource protection concerns should be given to the stream crossings, especially those sized for the automobiles to access a parking area. Sedimentation and erosion precautions should be implemented. The reviewing commission in town should treat all

work as if it was a development and hold all construction to standard erosion and sediment control guidelines. The pond that is apparent on aerial photos and the springs that are designated on the hand-out map of the day should be assessed for sensitivity before any pathways or loop trails impact what would normally be considered a wetland buffer (typically 50 to 100 feet).

Of note regarding the streams that were crossed, those closest to the road were laden on the bottom with what appeared to be road sand. If the land trust has the means to investigate and control this sediment build up, in the regard of priorities and fix its, this should rate high on the "to-do" list of maintenance.

The final parcel is the ***Vogel Property***. It is the largest of the parcels at 77 acres. This property is quite remote and distant from any hard surfaced roads. The portion of it the Team visited was consistently wooded. This remote parcel was reached after driving 9/10 of a mile from the main road to the end of the surfaced road and walking approximately half a mile to the closest property boundary. The only mapped wetland area occurs on the southreaching panhandle of the property and is underlain by Leicester soils. This is a poorly drained soil having formed over glacial till and is generally wet and stony. Only in this section are there any mapped indications of wetlands. The likelihood of use that would negatively impact the wetlands or the property as a whole seems unlikely in the foreseeable future; especially since it is for all intents and purposes landlocked. More importantly, the greatest asset of this property is its location. It is within the bounds of a "possible Greenway Corridor" as plotted on the *Greenway Ideas and Opportunities* map dated April, 1992, produced by the Connecticut Council on Environmental Quality. Its proximity to the state forest land and its isolated nature make it an ideal fit for inclusion in this type of planning, especially when considered in conjunction with the large parcel of land owned by Trinity Episcopal Church to the southwest. Leslie Lewis is the DEP contact for more information on the greenways program (860) 424-3578.

Summary

In Connecticut, to most observers, the town of Cornwall falls into the category of not being under much pressure of development and it features a fairly low density of housing. There is a tremendous amount of undeveloped land in town - but this does not always translate into protected open space. Not to be ignored is that developmental pressure is a relative thing, varying by community. What has been presented is the opportunity to review four protected parcels which total in excess of 200 acres.

- From a wetlands view point these four properties offer unique opportunities. The wetlands on the first two properties taken together protect nearly an entire watershed, albeit small, from its headwaters to its confluence with the next order stream. The wetland on the southwest corner of the first property (Dodd/Prudhomme) is the headwaters for the stream that passes under Town Road, flows west-southwest across and off of the second property and passes onto the second (Paul) property where its confluence with a Mill River tributary completes its run. It is a rare educational opportunity to be able to observe, record and measure the ecology, water and wildlife of such a protected area. Indeed, the calcareous base that these wetlands occur on provide the opportunity for specific, higher pH communities to exist and they invite investigation along those lines.

- The third property (Brokaw) has the chance to be used for passive recreation. Here the unique properties of the hilly northwest corner of the state with its well streamed forests poses a lure for a loop-trail, vegetative identification field walks and opportunity for historic land use descriptions/interpretations.

- The unique setting of the final property (Vogel) offers an opportunity to preserve land that can possibly be contributing to a greenway or compliment

near-abutting habitat of state forest property or even potentially a natural area preserve.

- In all, these wetlands, by virtue of the diversity they offer, especially those centered around the Town Road intersection, can/should be offered for educational use for the observation of wetland, watercourses and a diversity of wetland plants in the herb, shrub and tree layers.

- The use of the land trust properties for any public use often strengthens the existence of the entity and adds momentum to the program. There is the chance for just that opportunity with these four properties.

Aquatic Resources

Watershed and Waterbody-Watercourse Characteristics

Of the four parcels included in the Cornwall Conservation Trust Properties review, aquatic resources are found on the Dodd/Prudhomme, Paul and Vogel properties. The aquatic resources on these properties are portions of Cream Hill Lake, an unnamed tributary to Mill Brook and Adams Brook respectively.

Cream Hill Lake is natural in origin with the water level raised slightly by a low earthen and masonry dam. The lake has a surface area of 72 acres. Habitat and fish surveys were conducted on Cream Hill Lake by the Connecticut State Board of Fisheries and Game - Lake and Pond Survey Unit during the late 1950's. Those surveys reported the lake to have a maximum depth of 43 feet and an average depth of 15.7 feet. The lake bottom was composed of coarse boulders with dense beds of aquatic vegetation in shoal areas. At that time, as it is now, shoreline development was slight. Attached is a bathymetric map of Cream Hill Lake produced by the Connecticut State Board of Fisheries and Game - Lake and Pond Survey Unit (Figure 13).

The ***unnamed tributary to Mill Brook*** is physically characteristic of a coldwater stream found in Connecticut. These characteristics are a moderate to steep gradient channel, surface flow of moving pool interspersed by riffle and a substrate composed of boulder, cobble, gravel, coarse sand, and sand-silt fines. Although the section of ***Adams Brook*** on the Vogel property has similar physical characteristics as the unnamed tributary to Mill Brook, it is intermittent in flow. This stream was completely dry the date of the property review.

Dense growths of hardwoods and woody shrubs predominate as riparian vegetation and provide both streams with a nearly complete canopy. Physical

instream habitat in the unnamed tributary to Mill Brook is provided by the water depth in pools, boulders, undercut banks, and fallen or overhanging riparian vegetation.

Although residential development has occurred, land use within and adjacent to the Cornwall Conservation Trust Properties remains primarily forested with a mix of agriculture. The limited development to date provides a means of maintaining lake and stream water quality. The Department of Environmental Protection classifies the Cream Hill Lake and the unnamed tributary to Mill Brook as *Class a* surface waters. Designated uses for surface water of this classification are potential public drinking water supply, fish and wildlife habitat, recreational use, agricultural and industrial supply, and other purposes. Segments of Adams Brook which are perennial in flow are also considered as *Class a* surface waters.

Aquatic Resources

Historically, Cream Hill Lake is reported to have been stocked with brook trout (*Salvelinus fontinalis*), brown trout (*Salmo trutta*), rainbow trout (*Oncorhynchus mykiss*), largemouth bass (*Micropterus salmoides*), smallmouth bass (*Micropterus dolomieu*), black crappie (*Pomoxis nigromaculatus*), chain pickerel (*Esox niger*), yellow perch (*Perca flavescens*), sunfish (*Lepomis spp.*) and bullhead (*Ameiurus spp.*). When surveyed by the Connecticut State Board of Fisheries and Game - Lake and Pond Survey Unit, Cream Hill Lake was found to contain a fish population composed of largemouth bass, smallmouth bass, red breast sunfish (*Lepomis auritus*), and yellow perch. Trout were collected in the size class stocked but there were no apparent holdover-sized fish.

As mentioned previously, the unnamed tributary to Mill Brook can be classified as a coldwater stream based upon channel grade, morphology, and substrate composition. Although never have been subject to formal Inland Fisheries

Division surveys, brook trout and blacknose dace (*Rhinichtys atratulus)* were observed at the time of the property review. These fish species are common to coldwater streams in Connecticut.

The section of Adams Brook on the Vogel property does not support a fish population due to the intermittent flow regime.

Recommendations

The reported goal of the Cornwall Conservation Trust is to develop a knowledge of opportunities to better manage the four parcels including management for forest products and passive recreation in the form of hiking/walking trails. As previously mentioned, limited development within and around the four properties has to date maintained water quality and physical habitat conditions within Cream Hill Lake and the unnamed tributary to Mill Brook at levels supportive of fish species diversity including intolerant fish species such as brook trout.

The preservation of open space and creation of protective buffers would be an extremely effective mechanism to assure the long term viability of the aquatic habitats and resources found within these four properties. As a means to achieve this goal it is recommended that the Cornwall Conservation Trust adopt the Inland Fisheries Division riparian buffer policy of maintaining a 100 foot wide buffer along Cream Hill Lake and the unnamed tributary to Mill Brook. A 50 foot wide buffer should be maintained along Adams Brook. Research has indicated that a 100 foot wide buffer zone along perennial surface waters and 50 foot wide buffers along intermittent watercourses prevents damage to aquatic ecosystems that are supportive of diverse species assemblages. Buffers absorb surface runoff, and the pollutants they may carry, before they enter wetlands or surface waters. The buffer zone boundaries should be measured from either, (1) the edge of riparian inland wetland as determined by Connecticut inland wetland soil

delineation methods or (2) in the absence of riparian wetlands, the edge of the stream bank based upon bank-full flow conditions. Please refer to the attached documentation presenting Inland Fisheries Division policy and position regarding riparian buffers for additional information (see Appendix B).

Timber harvests should not be allowed within established riparian buffers. Hiking/walking trails may be allowed within the buffers, however, the trails should not be placed along the lake shoreline, streambank tops of slope or wetlands associated with Cream Hill Lake or the two streams.

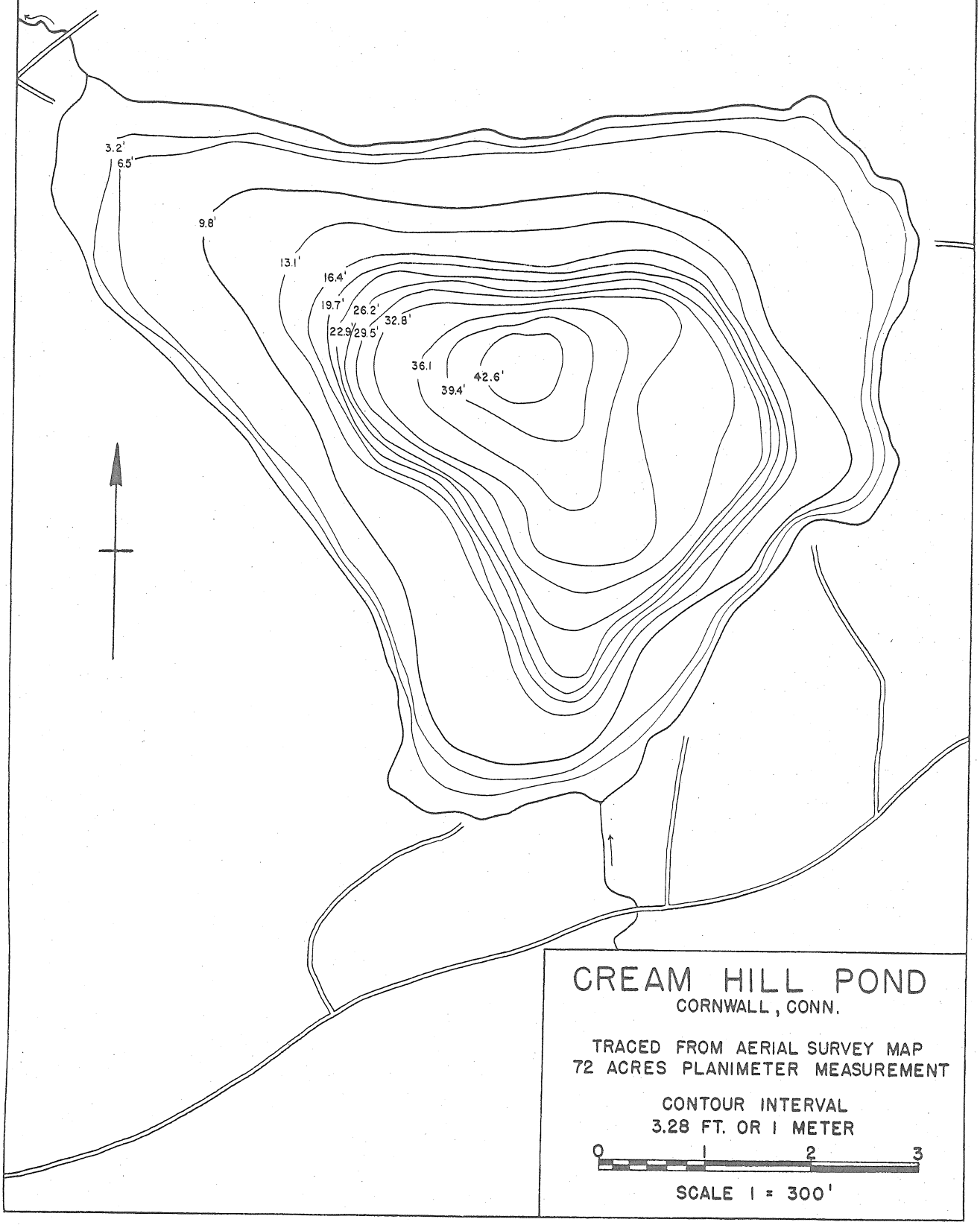
Recreational angling opportunities exist at Cream Hill Lake but do not exist in the unnamed tributary to Mill Brook or Adams Brook. The lake can support angling for largemouth bass, smallmouth bass, sunfish, yellow perch, chain pickerel, and bullhead. The lake contains a moderate volume of water suitable for trout. Rainbow trout and brown trout would be best suited to the lake environment. The recommended maximum stocking rate would be 75 to 100 adult sized (greater than 8 inch) fish per surface acre of water.

Anglers are required to adhere to State regulations for both fishing season and the length and possession limits of fish harvested which are as follows:

Species	Season	Minimum Length	Possession Limit
Largemouth bass, Smallmouth Bass	No closed season	12"	6 per day
Sunfish, Black crappie, Yellow perch, Bullhead	No closed season	None	None
Chain pickerel	No closed season	15"	6 per day
Trout	Third Saturday in April through February 28	None	5 per day

The Town of Cornwall can establish it's own fishing regulations for species length and possession limits but those limits cannot be less restrictive than those established by State regulation.

Figure 13


3.2'
6.5'
9.8'
13.1'
16.4'
19.7'
22.9'
26.2'
29.5'
32.8'
36.1
39.4'
42.6'
CREAM HILL POND
CORNWALL, CONN.
TRACED FROM AERIAL SURVEY MAP
72 ACRES PLANIMETER MEASUREMENT
CONTOUR INTERVAL
3.28 FT. OR 1 METER
0 1 2 3
SCALE 1 = 300'

The Natural Diversity Data Base

The Natural Diversity Data Base maps and files regarding the Cornwall Conservation Trust Properties (Dodd/Prudhomme Parcel, Paul Parcel, Brokaw Parcel, and Vogel Parcel) have been reviewed. According to our information, there are no known extant populations of Federal or State Endangered, Threatened or Special Concern Species that occur at the Dodd/Prudhomme and Paul Parcels. Our information indicates that we have a historic record (1934) of a State Species of Special Concern *Parula americana* (Northern Parula) in the vicinity of the Brokow Parcel. Another State Species of Special Concern, *Aegolius acadicu* (Northern Saw-whet Owl) was known to occur near Cherry Hill Road, an area in close proximity to the Vogel Parcel.

Our data on Northern Saw-whet owl *(Aegolius acadicus)* distribution and abundance in Connecticut is poorly documented as are their habitat requirements and limiting factors. Fragmentation and loss of habitat to human development are continuing problems for this species in the Northeast. The species is associated with coniferous woods. Saw-whet owls are small owls, approximately 7 to 8 inches in size and weigh 3 to 4 ounces. They are nocturnal birds that hunt along the edges of open parks, meadows or fields. Their food items are mainly insects and occasionally mice, chipmunks and birds such as sparrows and juncos. Northern saw-whet owls are cavity nesters and will nest in artificial nesting boxes that are placed in the area. Artificial nesting box plans will be provided at your request. Nesting boxes and silvicultural practices that maintain high densities of nesting and roosting cavities in trees with a minimum diameter of 30.5 cm will benefit this species.

The Northern parula *(Parula americana)* nests in woodlands near ponds, lakes and swamps in areas where the trees may be covered with a gray-green

lichen (*Usnea*). The lichen is required for nesting. The nesting season extends from May to August. The Northern parula winters in Central and South America and are considered a neotropical migrant. Neotropical migrants are the bird group that has recently, made news because they are declining number and are subject to habitat loss and degradation of their wintering grounds.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Natural Resources Center's Geological and Natural History Survey and cooperating units of DEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substitutes for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available.

Also be advised that this is a preliminary review and not a final determination. A more detailed review may be conducted as part of any subsequent environmental permit applications submitted to DEP for the proposed site.

Saw-Whet-Owl

Wildlife

Introduction

A site visit was conducted on June 26, 2001 to evaluate existing wildlife habitats on four parcels ranging in size from 10 to 77 acres managed by the Cornwall Conservation Trust. A variety of habitat types were identified: hardwood forest interspersed with stands of conifers (softwoods), forested wetland and riparian type habitat.

Existing Wildlife Habitats and Use

Wildlife habitat is said to be the complex of vegetative and physical characteristics that provide for all the requirements of wildlife, that is food, shelter, resting, nesting and escape cover, water and space. Generally, the greater the habitat diversity and degree of interspersion of various habitat types, the greater the variety of wildlife there will be using an area. Conversely, while there may be fewer wildlife species, large unbroken expanses of one habitat type provide important habitat for many species of wildlife including species that avoid edges. For instance, some species of migratory birds, for which population declines have been noted, can only successfully nest in forest interiors well away from edges. Still other species need large expanses of grasslands or bushy shrublands. There are many factors to consider when determining habitat use and quality of an area for different species, including habitat types, size of habitat types and their quality, overall size of the study area, location, degree of isolation, diversity, and juxtaposition with other neighboring habitat type, etc.

The parcels of forestland contain quality forest habitat, but their individual value to wildlife is limited due only to their small size. Fortunately the land

holdings of the Cornwall Conservation Trust are located within a sparsely populated town where much of land is still undeveloped and more than a thousand acres of state forest is located. Because these parcels are embedded in a landscape that is largely still in forest and agricultural land use, their value as wildlife habitat is increased.

Hardwood Forest Habitat

Hardwood forests provide an abundance of food in the form of mast; berries, buds, insects, and catkins. Cover value for wildlife is greatly enhanced by the presence of snags (dead standing trees), cavity trees and larger diameter den trees. Wildlife observed/heard while at the sites were: hermit thrush, ovenbird, pileated woodpecker (4 juveniles), veery, red-eyed vireo, grey catbird, wood thrush, common yellowthroat, hairy/downy woodpecker, bluejay, American toad, spring peeper, wood frog, white-tailed deer, and chipmunk. Wildlife likely using the mature hardwood forest include scarlet tanager, white-breasted nuthatch, black-capped chickadee, black and white warbler, eastern wood-peewee, American redstart, barred owl, broad-winged hawk, red-backed salamander, and black rat snake. Mast produced by oaks provides excellent forage for a variety of animals such as white-tailed deer, gray squirrel, wild turkey, white-footed mouse and eastern chipmunk.

Coniferous Forest Habitat

Areas of conifer or evergreen trees, such as hemlock and pine, provide food in the form of cones for squirrels, chipmunks and small mammals. They provide year round cover for songbirds, hawks, owls, turkeys, deer and many other species. This cover is of particular importance during the winter because it provides shelter from severe weather.

Forested Wetland Habitat

Forested wetlands (hardwood swamps) typically contain a mix of vegetation including sedge tussocks, herbaceous vegetation, shrubs and trees, interspersed with standing water, depending on the time of year. These areas produce an abundance of insects providing food for reptiles, amphibians, birds and bats. Many species of birds use forested wetlands at varying times of the year for breeding, feeding, and shelter. Examples include wood thrush, northern water thrush, common yellowthroat, and eastern phoebe. Other wildlife likely using this habitat for food and cover are raccoons, star-nosed moles, wood frogs, pickerel frogs, spring peepers, gray tree frogs and eastern garter snakes.

Open Water Habitat

Open water habitat, such as Cream Hill Lake, provides a roosting area for waterfowl as well as a source of water for many species of wildlife. Maintaining a vegetative buffer along the shoreline will ensure waterfowl nesting habitat, breeding habitat for amphibians and reptiles, as well as cover for animals using the lake as a source of water.

Riparian Habitat

Riparian habitat, a greenway of trees, shrubs and herbaceous plants, that follows the edge of streams, rivers, lakes and ponds provides habitat for many aquatic-based organisms such as frogs, salamanders, toads, ducks, herons, muskrat, otter and mink. Vegetative diversity along the edges of watercourses provide valuable cover for wildlife as well as a diverse source of berry producing shrubs and vegetation for foraging. The vegetation found in this habitat is tolerant to periodic flooding and its presence causes floodwater to slow down and allows the soil to absorb the excess water. This zone of

vegetation along a stream or river is often the only remaining contiguous vegetation within a developed area, especially in a densely populated state like Connecticut. Riparian zones can provide important travel corridors for wildlife by connecting larger areas of habitat together.

General Recommendations for Habitat Management for Wildlife

- Large blocks of a habitat type are generally more valuable to wildlife than smaller areas, so when possible, add to the existing CCT properties.
- Connect CCT holdings via protected corridors of habitat (through easements, outright purchases, short-term agreements, etc.) whenever possible.
- Riparian buffers should be a minimum of 100 feet.
- Manage for diversity of forest classes if increasing wildlife diversity is the goal.
- Manage large areas of sawtimber for area sensitive species.
- Where possible, mange land in conjunction with surrounding landowners if possible.

General Forest Management

In the Northeast, our forests are predominately the same age, around 60 to 80 years old, (containing mostly sawtimber size trees), because of our history of clearing for agriculture and charcoal in the late 19th early 20th century. In the Northeast, we lack old growth forest (trees at least 100 years old) and young forest (seedling/sapling and brushy/shrubby growth). In the northeast, 77% of the bird species and 88% of the mammal species use various combinations of tree size classes, that is seedling/sapling, pole and sawtimber size (Scanlon 1992). In general, most species of wildlife, be it bird, mammal, reptile or

amphibian, need a variety of tree size classes or age classes to ensure their survival.

There are some species of neotropical migrant birds like the ovenbird and wood thrush, which are considered "area sensitive," meaning they need large blocks of mature forest (500 to 1000 acres) in order to produce successful nests/fledglings which in turn provide for a viable population of these species. None of the blocks of CCT land considered by themselves are big enough to provide for these large unbroken blocks of forest. When surrounding lands are considered, they may. But, it should be noted that other neotropical migrants such as the blue-winged warbler, prairie warbler, and chestnut-sided warbler, require seedling, sapling and/or brushy shrubby areas of habitat. There is a need for both large expanses of unbroken forestland and areas of "early successional habitat," which includes fields, old fields, grasslands and seedling, sapling and brushy/shrubby areas.

If desired, one way to create forest diversity is through forestry operations. The two basic forestry silvicultural methods used in Connecticut are "uneven-age management" and "even-age management". Each system produces both positive and negative impacts for all wildlife species. In general, under the even-aged management system, all the trees in an area are cut and a new forest is grown from existing sprouts/seedlings and new sprouts that occur after cutting. This produces the seedling/sapling habitat that is so important for many species of wildlife. Under the uneven-aged management system, certain trees are selected, creating temporary gaps in the forest, which can be beneficial for some species. For information on determining the feasibility and appropriateness of a forestry operation for CCT properties please refer to the Forestry Resources section of this report.

Recommendations for Managing Forest Habitat for Wildlife

- Use best management practices for forestry operations.
- Use forestry practices to benefit both forest health and wildlife.
- Leave snag trees (a standing dead or dying tree) at a distribution of 3 to 4 per acre.
- Leave den trees (a large diameter tree - 15 inches or greater dbh (diameter at breast height) - with a cavity in it) at a distribution minimum of 1 per acre.

Conclusion

The four existing CCT properties provide quality forest habitat for a variety of species, but when considered alone, without consideration of adjacent lands, their value is limited by their small size. Of most benefit to all wildlife species would be the enlargement of the CCT holdings, in order to protect more land from development in perpetuity. Linking CCT properties with other protected parcels of existing protected land such as Housatonic State Forest would be desirable. Actively managing the holdings using well planned, professionally recommended and implemented forestry operations could help increase wildlife diversity.

Literature Cited

Scanlon, J., 1992. Managing forests to enhance wildlife diversity in Massachusetts. Northeast Wildlife, Vol. 49, pp. 1-9.

Forestry Resources

The Cornwall Conservation Trust Properties ERT covers four parcels totaling 185 acres of forestland (the west side Town Street Dodd/Prudhomme 19 acre wetland parcel was not reviewed for this section). A forest reconnaissance was made on each of the properties. This process entails laying out the boundaries of the parcel on a recent aerial photo, dividing the forest cover into stands, visiting each stand and noting the forest vegetation that occurs there. Along with the vegetation, other physical characteristics of the property such as aspect, slope, terrain, drainage, accessibility from roads, limits to the operability of equipment, and evidence of past management activity are noted. This reconnaissance is the prelude to conducting a forest inventory. The data derived from that inventory would be used by a certified forester to develop a forest management plan. The Team forester recommends that the Cornwall Conservation Trust enlist the services of a certified forester to conduct a forest inventory and develop a forest management plan for the properties that lend themselves to active forest management.

Dodd/Prudhomme Property

The Dodd/Prudome property is a 43-acre parcel bounded by Cream Hill Lake in the east, Lake Street in the south, Town Street in the west and private forestland in the north.

Forest Cover Description:

The forest cover of the property can be divided into three stands.

Stand one is a 27 acre mixed hardwood sawtimber stand that contains a main canopy of red oak, black oak, chestnut oak, white oak, black birch, yellow birch,

white birch, red maple, sugar maple, white ash, yellow poplar, hickory, black cherry, hemlock, and white pine. The predominant species are red oak and black oak. The mid canopy tree species present are black birch, American chestnut, sugar maple, red maple, striped maple, red oak, chestnut oak, shadbush, hemlock, and white pine. Shrub species present are mountain laurel and witch hazel. The understory layer contains seedlings of American chestnut, striped maple, sugar maple, white oak, and red oak. Shrub species present are witch hazel, mountain laurel, blueberry, huckleberry, and maple-leafed viburnum. The stand's terrain varies with steep to moderate slopes in the north and northeast portion and slight to level slopes in the western and southern sections. The eastern portion of the property has numerous rock outcrops on the surface, while the western portion's surface contains scattered large rocks. The aspect of the stand varies, slopes in the eastern portion face the northeast while slopes in the western part have southerly aspect. The operability of the stand is limited by the stoniness of the surface and the steep slopes in the eastern portion. There is an existing access road leading from Lake Street through the Town of Cornwall Beach access to the cabins on the shore of Cream Hill Lake. The scattered large stumps are evidence of past timber harvesting which occurred at least 10 years ago. This activity has given rise to what appears to be a two-aged stand with large diameter red oak and white oak sawtimber - sized trees are scattered amongst smaller diameter mixed hardwood sawtimber sized trees.

Stand two is a three-acre softwood/hardwood pole/sawtimber stand located in the center of the property. Hemlock and white pine make up the softwood component of the stand. The mixed hardwood portion contains chestnut oak, red oak, black oak, black birch, white birch, yellow birch, and red maple. The mid canopy contains hemlock, red maple, and black birch pole-sized trees. The understory is open due to the dense shade from the hemlocks. The stand's terrain varies from moderately sloping in the east to nearly level in the west. The aspect of the stand is north-northwest. There are numerous rock outcrops on the surface of the stand. Elongated hemlock scale (*Fiorinia externa*) was

observed on the hemlock's needles. This sap-sucking insect feeding will weaken the trees. If the scale population increases, the hemlocks' health will decline and mortality will occur. At this time the scale infestation appears to be light. There is no cost-effective treatment for the scale in a forest setting.

Stand three is a 15 acre mixed hardwood sawtimber stand located in the southern and western portion of the property. The main canopy tree species present are white ash, sugar maple, red maple, hickories, black birch, elm, yellow birch, big-toothed aspen, black cherry, and white pine. The mid canopy is occupied by pole sized tree species such as sugar maple, hickory, elm, white ash, red maple, and black cherry. The understory species present are tree seedlings of sugar maple, white ash, and hickory. Shrub species present are spicebush and Japanese barberry. The stand terrain is level to slightly sloping to the Southwest. The aspect of the stand is also southwesterly. The stand's surface is stony with scattered large rocks. The stand is growing on soils that have been classified as inland wetland soils. These soils with their seasonally high water tables and poor subsurface drainage restrict operability and access to the stand.

Management Recommendations:

Stand one is the only area that appears suitable for active forest management due to its established access, the forest cover type present, and it's well drained soils. Uneven-aged forest management is recommended to maintain the "big tree" look and to lessen the visual impact of timber harvesting. On the remainder of the property, forest management would be limited to locating and marking the boundaries.

Paul Property

The Paul property is a 10-acre parcel located 550 feet West of Town Street and 200 feet East of Rattlesnake Road. The access to the property is an 11-foot wide unimproved right-of-way from Town Street.

Forest Cover Type Description:

The forest cover is comprised of two forest stands.

Stand one is a six-acre softwood/mixed hardwood sawtimber stand. The softwood component is large sawtimber sized white pine and sawtimber sized and pole sized hemlock. The mixed hardwood species present are red oak, white oak, red maple, sugar maple, white ash, and black birch. The understory tree species are red maple, black birch, red oak, white ash, black cherry, and hemlock. The shrub species present are Japanese barberry and spicebush. The property's terrain is sloping to the southwest and its surface has numerous rock outcrops and large rocks on it. The property's drainage consists of an intermittent stream in the south and a perennial stream in the west both of which drain into Mill Brook to the north.

The **second stand** is a four-acre mixed hardwood sawtimber stand located in the north and east of the property. The main canopy species are small sawtimber sized black birch, red maple, sugar maple, hickories, and scattered large sawtimber sized white oak and red oak. The understudy contains shrubs of Japanese barberry and spicebush and tree species of sugar maple, black cherry and black birch. The stand appears to be a two-aged stand with the red oak and white oak exhibiting the open grown form of short boles and wide crowns.

Forest Management Recommendations:

This property has little potential for forest management due to the restrictive access from Town Street. The only management activity recommended is locate and mark the boundaries of the property.

Brokow Property

The Brokaw property is a 53-acre parcel located west off of Dibble Hill Road.

Forest Cover Description:

The forest cover type found on the property is a softwood/hardwood sawtimber stand. The softwood component is predominately hemlock sawtimber and scattered white pine sawtimber. The hardwood component is predominately white ash and red maple. Scattered throughout the stand are sugar maple, big toothed aspen, basswood, yellow poplar, elm, red oak, white oak, and black birch. An unusual hardwood species found along an intermittent drainage was sycamore. The mid canopy species are black birch, sugar maple, white pine, and hemlock. The understory was occupied by Japanese barberry. A moderate infestation of elongated hemlock scale (*Fiorina externa*) was found on the hemlocks. The health of the hemlocks will continue to decline if the scale population increases or if another sap-sucking insect, Hemlock Wooly Adelgid, become established on the trees. The property's terrain is moderately sloping with a rocky surface. The aspect of the property is northwesterly. The drainage on the property is several intermittent streams located in the eastern and northern portions. These drainages correspond to the presence of inland wetland soils. The access to the property is directly off of Dibble Hill Road via an old driveway leading to a foundation. This road will require upgrading by replacing the rotted wooden bridge, the plugged culvert pipes, and restoring the road's surface. There is evidence of past timber harvest activity.

Forest Management Recommendations:

The Brokaw property would benefit from an active forest management program for the following reasons: Hemlock, the major component of the forest cover type, is directly threatened by an insect that cannot be controlled in a forest setting. Public access to the property is limited because of the lack of off-road parking and an established trail system. A forest management, plan created by a certified forester, would be the blueprint for improving the health of the forest and providing passive recreational opportunities for the public.

Vogel Property

The Vogel property is a 77-acre parcel located 2,000 feet north of the end of Cherry Hill Road and 3,000 feet east of River Road.

Forest Cover Type Description:

The parcel's forest cover type is mixed hardwood stand with tree sizes in the main canopy ranging in size from pole to large sawtimber. The main canopy species are white ash, sugar maple, black birch, red maple, black oak, red oak, scarlet oak, chestnut oak, white oak, yellow poplar, big-toothed aspen, and scattered white pine. The tree species present in the mid canopy are black birch, red maple, sugar maple, American beech, white ash, black oak, red oak, scarlet oak, chestnut oak, white oak, American chestnut, yellow poplar, and aspen. Shrubs species present are witch hazel, spicebush, mountain laurel, and winterberry. The understory species present are tree seedling of red maple, black birch, sugar maple, beech and black cherry; shrub species present are witch hazel, Japanese barberry, and spicebush. The property's terrain is moderately sloping in the north and eastern portions and sloping in the central, western and southern portions. The northern portion of the property has a southwest aspect. The eastern portion has a northwest aspect. The remaining portions of the property

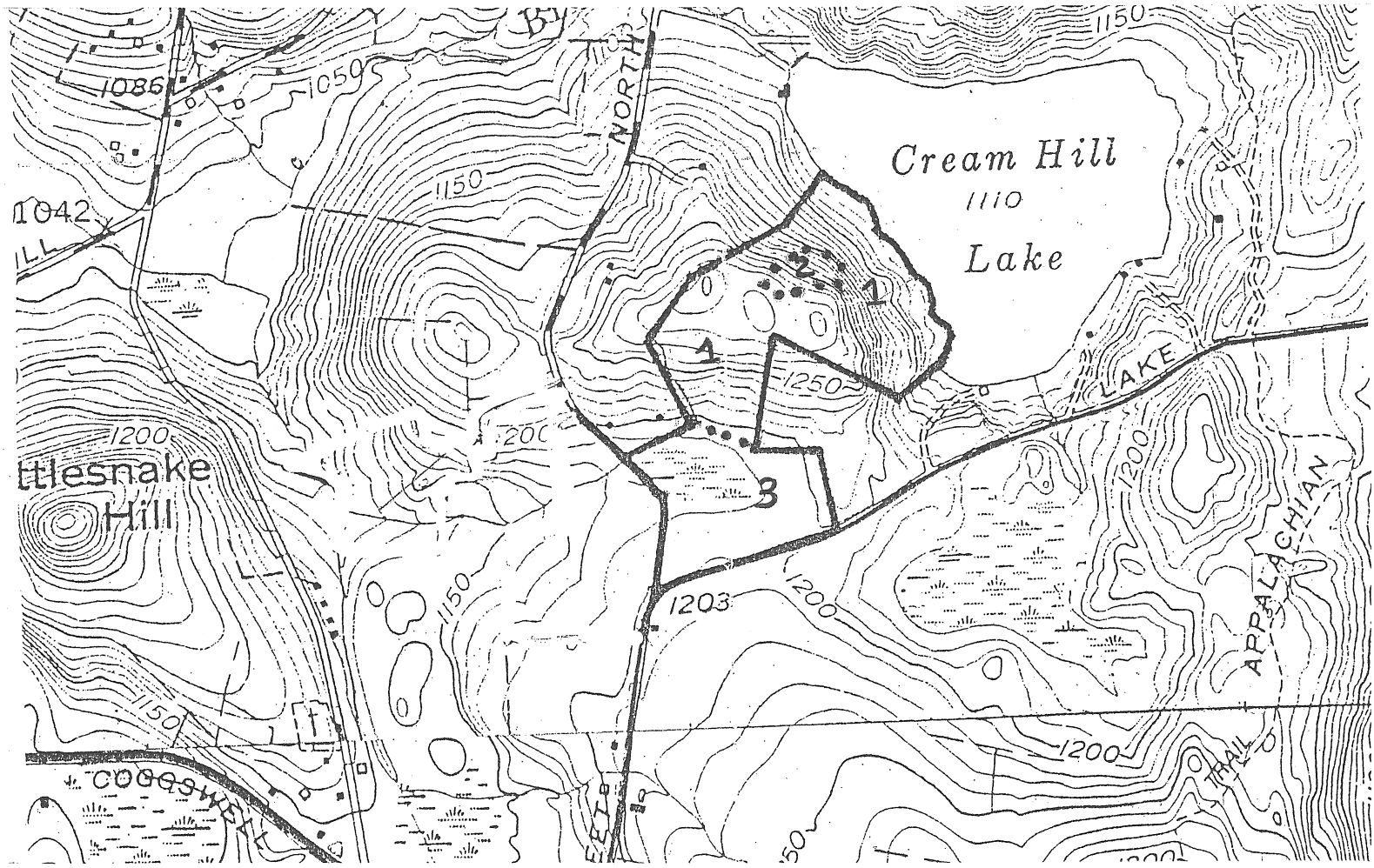
have a westerly aspect. The surface of the property is stony with numerous rock outcrops in the northern and eastern portions. The drainage on the property is a series of intermittent streams flowing westerly into Adams Brook, which is located along the northwestern boundary. There is evidence that the property had a timber harvest 20 or so yeas ago. It appears that forest stand was "hi-graded", that is the biggest and best were removed. The activity has given rise to the patchiness of the forest. In areas where groups of sawtimber was removed pole sized trees dominate the main canopy. In those areas where no removals were made, it is sawtimber-sized trees occupying the canopy.

Forest Management Recommendations:

Forest management activities are restricted because the distance from the road to the property is over 2,000 feet. The only management activity recommended at this time is to locate and mark the boundaries of the property.

Figure 14

Dodd/Prudhomme Property Forest Cover Map



Legend

..... Stand Boundary

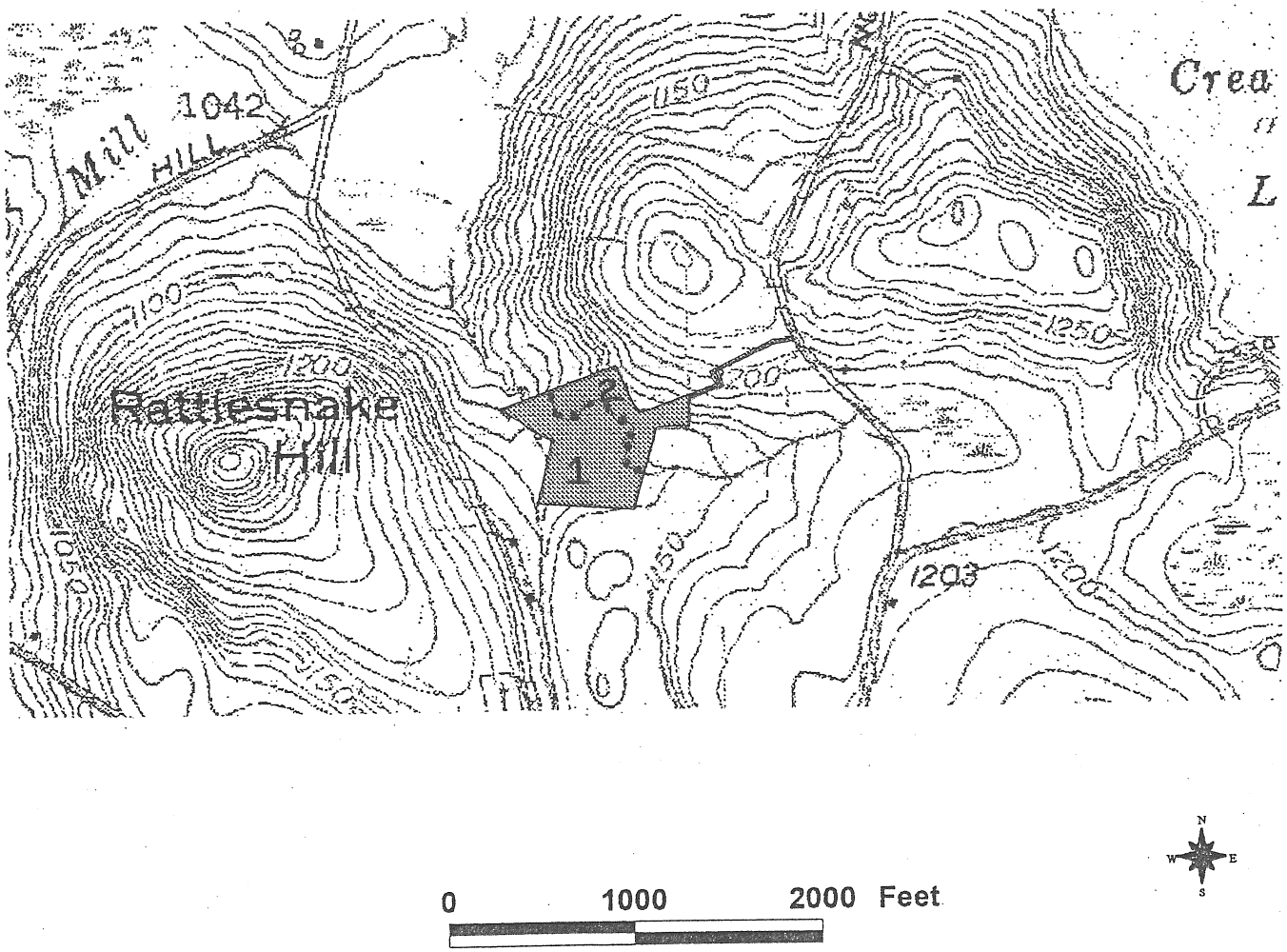
1 Stand Number

0 1000 Feet

N
W E
S

Figure 15

Paul Property Forest Cover Map



Legend

..... Stand Boundary

1 Stand Number

Planning Comments

The Team planner's comments on the properties visited reflect his career as a land planner with considerable familiarity with Cornwall as well as nearly 35 years involvement with a land trust.

A planner evaluating the land preservation or recreational potential of an area will look for key natural features such as ridgelines or streambelts as well as more localized sites of scenic, geologic, ecological, or hydrologic interest. One will also look for existing potential linkages assisting in the protection of greenways, greenbelts, etc. which can shape or control development patterns, provide recreational trail opportunity, and maintain wildlife migration corridors.

On the other hand, a land trust representative usually is constrained in terms of what is available or feasible to accomplish. Although often recognizing the value of the planner's systematic approach, the typical land trust is heavily dependent upon the philanthropy of landowners donating property meeting planning goals to often a very variable degree. Such acquisitions reflect both fiscal limitations in actively pursuing priority tracts as well as the need to establish a public image as an active, successful organization.

Dodd/Prudhomme Parcel(s)

Land on both sides of Town Street and extending northeasterly to Cream Hill Lake. The shape of the property, the proximity of the Prudhomme home and the easement rather than fee ownership of the Dodd/Prudhomme tracts abutting the lake all pose use constraints. Similarly, the existence of cottages/cabins on both easement areas as well as the existence of a large peat/muck area south of the Prudhomme home also are limitations. Therefore, although a trail stretching the

length of the property is theoretically possible, the following use recommendations are offered:

- Area west of Town Street - maintain as undeveloped open space unless linkages west to Rattlesnake Hill and even beyond can be promoted, in which case a trail may be worth considering.
- Area south of Prudhomme home - maintain as undeveloped open space unless linkage proposed above occurs.
- Fee ownership area east of Prudhomme home - same as above.
- Easement area along Cream Hill Lake and adjoining Cornwall Town Beach - if the owners are receptive to such a proposal, a short shoreline trail originating at the town beach could be considered, potentially linking westward as described above. However, extreme sensitivity is recommended to ensure that any proposed action is in full accord with the wishes and expectations of the donors of the easements.

Paul Parcel

A small 10 acre tract with very limited access and abutted on both sides by homes. Points of interest include a fieldstone bridge over a small brook and a small cascade along the same stream. Because of access limitation, proximity of neighbors and its small, presently isolated location, management as a non-developed woodland tract is recommended, with public access limited to casual trespass.

Brokow Parcel

A 53 acre tract with access off Dibble Hill Road along a rugged, wooded hillside above a large Episcopal church camp/conference center along the east bank of the Housatonic River. The parcel itself could support a small loop trail if a small (2-3

car) parking lot was developed along Dibble Hill Road. However, the Team planner sees far greater potential in two possible scenarios:

- Development of a greenway including the Brokaw Tract and extending south along the uplands from West Cornwall to Cornwall Bridge. Said greenway could include a hiking trail perhaps incorporating some/all of the informal trail reportedly existing.
- Development of linkages between the land trust property and the neighboring camp to permit construction of an extended trail system on both properties.

Vogel Parcel

A 77 acre woodlot off Cherry Hill Road in an area of extensive woodland as well as actively farmed land along both Cherry Hill and Cream Hill Roads. A major liability is the existing lack of access, an issue likely to be resolved only through legal action or donation of acreage or easement by an abutting landowner. Therefore, although the property is large enough to support a loop hiking trail, no recreational development is recommended pending resolution of the access issue.

Nevertheless, the close proximity of the state forest to the northwest of the Vogel tract plus the wild, hilly character of much of the surrounding area offers considerable opportunity for linkages, potentially resulting in a greenway extending south to West Cornwall and perhaps including a hiking trail.

Archaeological Resources

A review of the State of Connecticut Archaeological Site files and maps show no known archaeological sites listed for any of the Trust properties. However, our files do indicate two historic industrial mill ruins in close proximity to the Brokaw property. These sites represent late 19th - and early 20th-century structures associated with the J. Mallinson Shear Company factory, including the remains of housing for employees, several auxiliary buildings, and a water power system. J. Mallinson manufactured scissors along the Housatonic River in Cornwall for almost a hundred years. While the project area does not appear to have natural sources for extensive water power, auxiliary buildings and other historic resources associated with the industrial complexes of West Cornwall may be present.

The remaining properties have a high sensitivity for the discovery of Native American sites. Although specific information is not available, an archaeological survey of the Dodd/Prudhomme, Paul, and Vogel parcels should yield significant cultural resources. Models of prehistoric archaeological site locations, suggest that undisturbed portions of these properties, consisting of well-drained soils, and adjacent to interior wetlands have a potential for hunter-gatherer camps that date to over 5,000 years ago.

The Office of State Archaeology (OSA) suggests that these properties offer the potential for public educational opportunities in creating awareness of Native American and industrial/farming use of the land. Archaeological surveys can be conducted to locate and manage any cultural resources which might exist on the properties. The OSA is prepared to provide any technical assistance in this regard.

Appendix A

Non-Technical Soils Description Report

For Appendix A-B Information please contact the ERT Office at 860-345-3977

ABOUT THE TEAM

The King's Mark Environmental Review Team (ERT) is a group of environmental professionals drawn together from a variety of federal, state and regional agencies. Specialists on the Team include geologists, biologists, soil scientists, foresters, climatologists and landscape architects, recreational specialists, engineers and planners. The ERT operates with state funding under the aegis of the King's Mark Resource Conservation and Development (RC&D) Area - an 83 town area serving western Connecticut.

As a public service activity, the Team is available to serve towns within the King's Mark RC&D Area - *free of charge*.

Purpose of the Environmental Review Team

The Environmental Review Team is available to assist towns in the review of sites proposed for major land use activities or natural resource inventories for critical areas. For example, the ERT has been involved in the review of a wide range of significant land use activities including subdivisions, sanitary landfills, commercial and industrial developments and recreation/open space projects.

Reviews are conducted in the interest of providing information and analysis that will assist towns and developers in environmentally sound decision making. This is done through identifying the natural resource base of the site and highlighting opportunities and limitations for the proposed land use.

Requesting an Environmental Review

Environmental reviews may be requested by the chief elected official of a municipality or the chairman of an administrative agency such as planning and zoning, conservation or inland wetlands. Environmental Review Request Forms are available at your local Soil and Water Conservation District and through the King's Mark ERT Coordinator. This request form must include a summary of the proposed project, a location map of the project site, written permission from the landowner/developer allowing the Team to enter the property for the purposes of a review and a statement identifying the specific areas of concern the Team members should investigate. When this request is reviewed by the local Soil and Water Conservation District and approved by the King's Mark RC&D Executive Council, the Team will undertake the review. At present, the ERT can undertake approximately two reviews per month depending on scheduling and Team member availability.

For additional information regarding the Environmental Review Team, please contact the King's Mark ERT Coordinator, Connecticut Environmental Review Team, P.O. Box 70, Haddam, CT 06438. The telephone number is 860-345-3977.