COMPREHENSIVE PLAN

FOR

THE TOWN OF SMITHFIELD, MAINE

1987

PREFACE

At a special town meeting in June 1986, a moratorium was passed on all major building and land use projects to give the Planning Board time to develop a Comprehensive Plan for the town.

After many regular meetings, special meetings, workshops, and public hearings, the Plan has been completed and is, therefore, presented to the citizens.

The Plan is not an ordinance as such and does not contain any new laws, regulations, restrictions, etc. It is a guideline to be used when new ordinances are necessary to restrict certain activities that are, or will, effect the quality of the life style of the citizens of Smithfield.

All of the discussions point out that Smithfield has very good land use ordinances already on the books and very little has to be added. The opinion surveys show that 59 percent of the people do NOT want any major new laws and ordinances to further restrict how they live, work, and play.

There are a few ordinances that are felt necessary to strengthen land use regulations and we are asking the citizens to review them carefully before casting their votes.

Many people/organizations helped with the Plan, and we thank them all; especially the Selectmen, the Administrative Assistants, the North Kennebec Regional Planning Commission, the Maine Department of Environmental Protection, the East Pond Association, and those citizens that came to the hearings and workshops to help.

Robert L. Joly, Chairman
Smithfield Planning Board

SMITHFIELD COMPREHENSIVE PLAN

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INTRODUCTION

I. INTRODUCTION

Growth and change are facts of life for Maine communities, especially those on the coast and those in the lake regions. Smithfield's population has grown 42% since 1970. Shoreland values have skyrocketed and we are in the midst of new economic growth and changes in the environment. This change has prompted the town to prepare this Comprehensive Plan.

In Maine, a Comprehensive Plan is defined as "a compilation of policy statements, goals, standards, maps, and pertinent data relative to the past, present, and future trends of the municipality with respect to its population, housing, economics, social patterns, land use, and water resources and their use, transportation facilities, and public facilities prepared by the municipal planning board, agency, or office. The Commprehensive Plan, being as much a process as a document capable of distribution, may at successive stages consist of data collected, preliminary plans, alternative action proposals, and finally as a Comprehensive Plan to be adopted. In its final stages, it may consist of a series of subsidiary but interrelated plans such as, but not limited to, a transportation plan, an urban renewal or rehabilitation plan, an air or water pollution control plan, and a park and open space plan. The Comprehensive Plan shall include recommendations for Plan execution and implementation such as, but not limited to, a capital improvements program, renewal and rehabilitation programs, land use control ordinances, and building, safety, and housing codes.

The Plan may include planning techniques such as planned unit development, site plan approval, and clustered development."

The present version of the Comprehensive Plan is designed to be a framework for growth in Smithfield. It is expected that other more specific plans and ordinances will be appended to this document as they are deemed necessary.

All plans must be flexible enough to meet and overcome new problems and new conditions. The Planning Board, as the originator and custodian of the local plan has to be capable and willing to recommend modifications without undue hesitation.

Section II of the Plan is a municipal profile that provides data on Smithfield.

This municipal profile was developed from the 1980 Census. It presents a picture of the community as a complete entity. It has been updated wherever more current data was available.

Section III contains Land Use Ordinances already in existence along with recommendations to add, change, or delete specifics in order to satisfy goals and objectives desired by the citizens.

Section IV is compiled of various maps, citizen survey, and other backup data pertaining to the overall Plan.

SECTION II.

MUNICIPAL PROFILE

II. MUNICIPAL PROFILE

GENERAL INFORMATION

Smithfield is a suburban community of 750 people located in Central Maine. Its geographic coordinates lie at 44°32° north latitude and 69°44° east longitude. The town is topographically located in the low-lying area east of the foothills at the approximate termination of the coastal plain. The mean elevation is 300 feet above sea level. Geologically, the town is part of the Kearsarge - Central Maine synclinorium and has a bedrock of interbedded petite and limestone and/or dolomite. The primary soil types are listed below.

1. Biddeford Association: Shallow, very poorly drained, nearly level in concaves and depressions in the valleys.

2. Buxton Association: Deep, moderately well drained to poorly drained, nearly level to sloping, medium textured soils, in flat areas and near waterways.

3. Bertshire-Peru Association: Deep and shallow, somewhat excellent, drained to moderately well drained, gently sloping to moderately steep, medium textured and moderately coarse textured soils, on hills and ridges.

Land use is mostly rural but with a small built-up central area in the village surrounded by farmland, lakes, and forests. There are two major water bodies in town (East and North Ponds) and 3 streams (Great Meadow, the Serpentine, and Sucker Brook).

- Total area	16,140 acres	100.0%
- Lakes and Ponds	1,960 acres	12.1%
- Wetland	2,050 acres	12.7%
- Residential and Developed	280 acres	1.8%
- Seasonal Development	200 acres	1.2%
- Farmland	300 acres	1.9%
- Forests	11,350 acres	70.8%

(Source: North Kennebec Regional Planning Coommission, 1978 Land Use Study.)

For transportation, the town has State Routes 8 and 137 and various local roads and streets. By road, Smithfield is ten (10) miles from both Waterville and Skowhegan, twenty (20) miles from Augusta, and approximately eighty (80) miles from Portland. It is just a little over an hour's drive to the mid-coast and to major recreational areas in the western mountains; Boston, Massachusetts is under two-hundred (200) miles via the interstate highway.

DEMOGRAPHICS

(The demographic section of this profile is broken into four areas: population, education, employment, and housing. The 1980 Census of population provided most of the data used in this section.)

Population

Smithfield has 748 residents. The male-to-female ratio is nearly 1 to 1 with 387 females and 361 males. The number of residents has remained fairly staple since 1980:

YEAR	RESIDENTS
1981	731
1982	755
1983	769
1984	757
1985	757

Eighty-one (81) percent of the town residents were born in Maine and 36 percent have been living in the same house for over five years. Thirty-two (32) percent of the population have moved to Smithfield from some other locale in Maine and 32 percent have come from other states or a foreign country.

The ancestry of the population reflects an homogeneous society with a leaning toward ancestry in the United Kingdom.

Smithfield grew from 527 people in 1970 to 748 in 1980, a numerical increase of 221 or 42 percent. During the decade, Smithfield had more births (70) than deaths (54). Also, 205 more people moved into town than moved out, making up the total increase of 221.

All towns in the Smithfield area had a net in-migration except Waterville and Skowhegan. Most of the towns had a larger numerical increase than Smithfield, and all the towns had a larger net in-migration except Waterville, Skowhegan, and Fairfield.

POPULATION CHANGE

	1970	1980	Total Change	% Chge	Births	Deaths	Natu- al Ch.	Net Migrat.
Fairfield	5,684	6,113	429	7.5	967	680	287	142
Waterville	18,192	17,779	-413	-2.3	2,430	2.015	415	-828
Oakland	3,535	5,162	1,627	46.0	742	390	352	1,275
Smithfield	527	748	221	41.9	70	54	16	205
Norridge-wock	1,964	2,552	588	29.9	363	194	169	419
Skowhegan	7,601	8,098	497	6.5	1,396	877	519	-22
Clinton	1,971	2,696	725	36.8	458	220	238	487
Benton	1,729	2,188	459	26.5	251	150	101	358
Winslow	7,299	8,057	758	10.4	1,102	594	508	250
TOTALS	48,502	53,393	4,891	10.1	7,779	5,174	2,605	2,286

POPULATION CHARACTERISTICS

POPULATION COMPARISONS - PERCENT OF CHANGE

TOWN/PLANTATION	POPULATION 1970	POPULATION 1980	CHANGE 1970-1980	% OF CHANGE 1970-1980
Oakland	3,535	5,162	1,627	46.0
China	1,850	2,918	1,068	57.7
Vassalboro	2,618	3,410	792	30.3
Winslow	7,299	8,057	758	10.4
Belgrade	1,302	2,043	741	56.9
Sidney	1,319	2,052	733	55.6
Clinton	1,971	2,696	725	36.8
Norridgewock	1,964	2,552	588	29.9
Skowhegan	7,601	8,098	497	6.5
Albion	1,056	1,551	495	46.9
Benton	1,719	2,188	459	26.5
Fairfield	5,684	6,113	429	7.5
Hartland	1,414	1,669	255	18.0
Smithfield	527	748	221	41.9
Mercer	313	448	135	43.1
Madison	4,278	4,367	89	2.1
Bingham	1,254	1,184	-70	-5.6
Pittsfield	4,274	4,125	-149	-3.5
Waterville	18,192	17,779	-143	-2.3
Somerset County	40,597	45,028	+4,431	10.9
Kennebec County	95,306	109,809	+14,503	15.3
Waldo County	23,328	28,414	+5,086	21.8
Maine	993,722	1,124,660	+130,938	13.2
United States	203,302,031	226,504,825	+23,202,794	11.4

Source: U.S. Census

Change and Change Percentages: NKRPC Calculations

ANCESTRY OF THE RESIDENTS OF SMITHFIELD

Single Ancestry Group:			
Dutch	3	Italian	1
English	128	Scottish	24
French	75	Swedan	5
Irish	23	Other	24
Multiple Ancestry Group:			307
Other			158

(Source: 1980 U.S. Census)

Education

School enrollment is approximately 154 students. Of the people over 25 years of age, 45 completed their education through four years of college, 51 have some college credits, 185 completed high school, and approximately 66 completed the eighth grade.

SMITHFIELD'S POPULATION BY AGE GROUP

Age Group	Number	Percent
0 - 5	56	7.5%
6 - 17	202	27.0%
18 - 64	422	56.4%
65 / Over	68	9.1%
TOTALS	748	100.0%

(Source: U.S. Census)

Future Population: It is very difficult to estimate future population because so many factors can change and will change. With such a small base (748), the addition of just one major project can result in high percentage increases; a.e. the Eastwood Project of 50 condominiums could result in 100-150 more people, a gain of 13 percent to 20 percent.

The entire Belgrade area is just starting to see the same kind of growth and economic expansion as has been taken place on the coast of Maine during the last decade. It is mainly for this reason that the Plan is being written. Population (both year round and seasonal) could even grow tenfold and more in the next few years.

Employment Type of employment is varied with no single area showing unexpected concentrations. However, with the predicted boom in second homes, condominiums and recreational business, an opportunity for employment to service these activities is anticipated. The two following tables indicate the industries that

employ people who live in Smithfield and what these people do for the industry:

EMPLOYMENT BY TYPE OF INDUSTRY

Agriculture, Forestry, Fisheries, and Mining	6
Construction	23
Manufacturing: Nondurable Goods	71
Durable Goods	29
Transportation	18
Wholesale Trade	3
Retail Trade	47
Finance, Insurance, and Real Estate	4
Business and Repair Services	2
Personal, Entertainment, and Recreation Services	10
Professional & Related Services:	
Health Services	25
Education Services	14
Other Professional	4
Public Administration	13

(Source: 1980 U.S. Census)

EMPLOYMENT BY OCCUPATION:

Managerial and Professional Specialty Occupations:	
Executive, Administrative, & Managerial	13
Professional Specialty Occupations	39
Technical, Sales, and Administrative Support:	
Technicians & Related Support Occupations	6
Sales Occupations	16
Administrative Support Occupations, - Including Clerical	33
Service Occupations:	
Private Household Occupations	5
Protective Service Occupations	0
Service, Except Protective & Household	23
Farming, Forestry, & Fishing Occupations	11
Precision Production, Craft, & Repair Occupations	48
Operations, Fabricators, & Laborers:	
Machine Operators, Assemblers, & Inspectors	50
Transportation & Material Moving Occupations	14
Handlers, Equipment Cleaners, Helpers, Laborers	12

(Source: 1980 U.S. Census)

HOUSEHOLD INCOME

Less than $ 2,500	6
$ 2,500 to 4,999	19
5,000 to 7,499	25
7,500 to 9,999	40
10,000 to 12,499	19
12,500 to 14,999	14
15,000 to 17,499	17
17,500 to 19,999	31
20,000 to 22,499	10
22,500 to 24,999	15
25,000 to 27,499	17
27,500 to 29,999	9
30,000 to 34,999	12
35,000 to 39,999	0
40,000 to 49,999	0
50,000 to 74,999	3
75,000 and more	2

Fifty-two (52) percent of the households have incomes below $15,000. Forty-one (41) percent have incomes between $15,000 and $30,000 and 7 percent have incomes over $30,000. The average household income in 1979 (the last year data was available) was just over $16,000.

(Source: 1980 U.S. Census)

Even though many people in the town are employed, there are still 14 percent of the residents who are below the poverty level. This shows that a segment of the population needs more chance for employment and/or education. There are 8 to 10 individuals over 65 who are living below the poverty level.

Housing Smithfield's housing is not concentrated in any one part of the community, unlike most small village oriented Maine towns.

HOUSING TYPES

Total year-round housing	271
Occupied year-round housing	243
Vacant year-round housing	28
Total seasonal housing	237

Smithfield's housing stock has a good percentage of adequately-sized housing with the most common size for year-round housing being five rooms. The national average of three people per unit is reflected in Smithfield - the actual number is 2.7 persons per unit.

Owner-occupied units cover the spectrum of assessed value, from less than $10,000 to over $100,000 with the majority of the housing in the $15,000 to $50,000 catagory. Like most of Maine, the value of housing units in Smithfield has risen dramatically

during the past decade. This rise, however, is a reflection of two items that do not necessarily reflect an increase in the quality of the housing. These two items are the dollar inflation and an increase in selling price stimulated by in-migration of families able to pay a higher price for housing.

VALUE OF OWNER-OCCUPIED HOUSING

Less than $15,000	16
$15,000 to 24,999	25
25,000 to 34,999	16
35,000 to 49,999	32
Over $50,000	6

(Source: 1980 U.S. Census)

Condition of Housing Stock

There are several indicators of substandard housing that show what percentage of a community's housing needs repair or renovation. These are: plumbing, heating, sewage disposal, water supply, and age of housing. The following numbers indicate how Smithfield stands using these indicators. Note: Systems marked with an asterisk are considered substandard in areas with severe winters.

1. Plumbing

Units with complete plumbing	247
*Units lacking complete plumbing	24

2. Heating

Steam or hot water systems	28
Central warm-air furnace	86
Built-in electrical units	83
*Room heaters with flue	5
*Fireplaces, stoves or portable heaters	142
(50% Substandard)	

3. Sewage Disposal

Septic tank or cesspool	279
*Other means	13
(4% Substandard)	

4. Water Supply

Drilled well	104
*Dug well	144
*Some other source	49
(65% Substandard)	

5. Age of Housing (Year structore was built)

1939 or earlier	115
1940 to 1949	15
1950 to 1959	12
1960 to 1969	43
1970 to 1974	50
1975 to 1980	59

(Source: 1980 U.S. Census)

Suggestion: A townwide building permit system should be instituted; not to regulate buildings but to make it possible for the assessors and code enforcement officer to keep track of construction. Tax dollars are being lost because construction is going unnoticed. A minimal fee could be charged, perhaps $2.00 to cover permits, etc.

Using the five indicators previously discussed and assuming some cross correlation between indicators, it appears that between 5 percent and 10 percent of the town's housing is substandard.

Smithfield's mix of single-family detached units to multi-family units show the following:

Single unit, conventional construction	247
Single unit, mobile or trailer	38
Multi-family units	3
Condominiums (Approved pending approval by DEP)	50

BUSINESSES

Businesses that are located in Smithfield and employ some citizens are divided into two parts: year-round and seasonal.

Year Round:

3 General stores
1 Garage
1 Contractor

Seasonal:

2 Sets of housekeeping camps
3 Operating children's camps
1 Closed childrens camp

Also, there are several home-based businesses operating in the town, and numerous single unit summer cottages that are rented during the summer season. These facts illustrate how important the lands are to Smithfield's economy and tax base.

MUNICIPAL SERVICES

Smithfield currently provides some municipal services. The breakdown of the services provided by personnel, equipment, and possible future needs follows.

Municipal Officers

Board of Selectmen
Administrative Assistant
Planning Board
Board of Appeals
Code Enforcement Officer
Tax Collector

Major Equipment

Copy Machine

The town has recently built a new town office adjacent to the fire station. It is open Monday through Friday from 7:30 A.M. to 2:30 P.M. for the convenience of the citizens and used periodically by the various officers and boards.

Police Department

Smithfield has no municipal police department. Service is provided by the Somerset Sheriff's Department and the Maine State Police.

Fire Department

Personnel (All Volunteers)

Chief
Assistant Chief
Firemen 22

Of the total 22 firemen, only 6 or 7 are available during the week's working hours as they work out of town.

Fire Department Equipment

Fire trucks 3

Future Needs

Continued upgrading of equipment
Additional training of personnel

HISTORY

(To be completed at a later date)

III. PLANNING ANALYSIS AND RECOMMENDATIONS

Citizen surveys were taken in 1980 and 1983 (see Appendix A). Below are listed the pertinent facts:

1. Average time living in town. 18 years.

2. All owned their own homes.

3. Place of employment
   - 26% employed in Waterville/Augusta area.
   - 26% employed in Skowhegan/Madison area
   - 19% employed in Smithfield
   - 29% retired.

4a. Major "likes" of Smithfield:
   - Lakes,
   - People,
   - Quietness and
   - Peacefulness

4b. Major "dislikes":
   - Distance from major towns.

5a. Over 50% stated that the following services were adequate:
   - Schools,
   - Fire Protection,
   - Police,
   - Cemetaries,
   - Recreation Facilities,
   - Local Government and
   - Street lights.

5b. Less than 50% stated that the following services were inadequate:
   - Roads and the dump.

6. Sixty percent of the citizens want to see the town grow . Forty percent wanted no growth. However, 59 percent of the people did NOT want more stringent laws concerning growth.

7. An average of 76% STRONGLY favor:
   - More agriculture
   - Senior citizens housing
   - More single family homes.

8. An average of 81% STRONGLY oppose:
   - Mobile home parks.
   - Multi-family homes.
   - Individual mobile homes.
   - Low income housing.
   - Industrial growth.
   - More vacation homes.

Since 1983, other factors have entered the picture and the results of open planning board meetings and workshops have isolated four major problems that must be addressed:

1. The dump.
2. Large residential and recreational pressure.
3. Protection of North and East Ponds.
4. Protection of wildlife and wet lands.

Not controlling the above would effect what the survey shows as reasons for living in Smithfield: the lakes, the people, the quietness and the peacefulness.

The town already has several good land use ordinances which are now in effect and working:

Noise Ordinance	passed	3/7/70
House Trailer Ordinance	passed	3/7/70
Shoreland Zoning Ordinances	passed	9/11/74
House, Camp, Trailer Ordinance	passed	6/23/75
Road Guidelines	passed	6/23/75
Street & Road Amendment	passed	6/4/77
Minimum Lot Size Ordinance	passed	11/3/81
Commercial-Industrial Site Plan Review Ordinances	passed	3/3/84
Flood Hazard Building Permits and Review Ordinance	passed	3/8/86
Shoreland Zoning Amendment (lot size)	passed	6/2/86
Subdivision Rules and Regulations	passed	6/2/86

Also, on June 2, 1986, the town passed a Moratorium Ordinance putting a hold on all subdivisions, major projects, etc. The moratorium will be up when the town passes this Comprehensive Plan or in two years, whichever is shorter.

THE DUMP

The Smithfield town dump does not comform with State law and will be closed by the State at some time. The State has not taken action on many small town dumps because of the tremendous costs that will have to be borne by the local taxpayers. However, this does not mean that the town should continue indefinitely to operate an open burning waste facility.

The Planning Board requested that the Selectmen form a citizen's committee composed of Selectmen, Planning Board Members, and the general public and solve this problem before the 1988 town meeting.

At the end of the last ice age, certain environmental conditions left geographical sections of the earth with more drainage than others. These were the results of melting ice and the rivers this condition formed. These soil "rivers" are called "eskers"

and there is one in Smithfield (see Appendix B). These soils absorb water (and whatever is in the water) very readily and the water flows along the esker. Smithfield's starts at the town dump and runs along Sucker Brook and Rt 8 through the village and south along Rt. 137.

Therefore, it is feasible that pollution from the dump could flow through the town and affect water quality in the lakes and also individual wells. This condition has already happened in many communities in Maine. Also, the headwaters of Sucker Brook are right at the dump (that's where it begins), and this brook runs into East Pond which in turn runs into North Pond.

At the 1986 town meeting, the citizens passed a warrant raising $3,000 to be set aside for eventual closing costs for the present landfill location. The planning board would like the town to keep building this fund. A good estimate of closing cost is needed.

NORTH AND EAST PONDS

North and East Pond are Smithfield's greatest assets and both of them have been designated "Fragile" by the Department of Environmental Protection (DEP). That is, although they are O.K. now by most standards, it will take very little activity to lower the water quality. This potential problem is so great that we are including in this Comprehensive Plan an article written by Jeff Dennis of the DEP that clearly states the problems and suggests ways that all citizens can adopt to help out (Appendix C).

Both of our ponds are relatively shallow and have numerous dwellings built right on the shore. Some of these are nonconforming under the shoreland zoning ordinance but are grandfathered.

Smithfield's shoreland Zoning Ordinance is a good one. It is tougher than the State's standard and a lot more restrictive than many other lake communities. Because both ponds are not entirely within Smithfield, it is difficult for the individual towns to regulate certain lake activities. The town is fortunate to have an active East Pond Association that is taking an active part in protecting the quality of East Pond's water and shoreland.

North Pond has no such group and we urge that one be formed as soon as possible. An active lake association can do more than all kinds of new ordinances. It also contributes immensely in policing the Shoreland Zoning Ordinance now in effect.

A few additions/changes in the Shoreland Zoning Ordinances have been recommended by the citizens and/or Planning Board:

1. No building within shoreland zoning shall be more than 2-1/2 stories or 35 feet high.

2. Cluster Development is the development of smaller lots than those specified elsewhere in the minimum lot size and/or the Shoreland Zoning Ordinance in exchange for land permanently reserved for the good of all, be that active or passive in its use.

   Smithfield's minimum lot size is 80,000 square feet with no boundary less than 200 feet. Therefore, for every single dwelling unit constructed on a smaller lot (as in a condominium development), 80,000 square feet must be set aside. This land must be all grouped together and be contiguous to the cluster development.

   The open space must be a minimum of 80,000 square feet for each dwelling unit. Any open space occupied by land located within the 100 year flood plain or wetlands, wetland soils, or wetland vegetation shall not be counted as part of the open space.

3. Principal dwelling units of cluster developments must be set back 200 feet from the hign water mark.

At every meeting, workshop, hearing, etc., the subject of enforcing (or lack of enforcing) the town ordinances is brought up. We ask the selectmen to address this problem and publish procedure plans to the satisfaction of the citizens. Citizens at the workshops have requested that the selectmen be permitted to borrow up to $5,000 for legal help, if needed, to take court action against anyone violating the Land Use Ordinances of the Town.

A new problem concerning North Pond has just been identified. It is the increase in the number of seagulls roosting at night on the Pond. These gulls feed during the day at the Norridgewock landfill operation. Seagulls are, among others, host to a parasite known commonly as a fluke. The presence of flukes in swimming areas can cause "swimmers itch," an irritating but not dangerous rash. The DEP is aware of the problem and is considering courses of action. The gulls also increase the potential of adding high amounts of nutrients to the pond.

It is felt that too much time is spent initiating new rules and regulations and not enough time spent assuring that present conditions are not having an adverse effect on the quality of the ponds. New dwellings are being constructed according to all the new regulations and, therefore, are not causing new problems: but how the old dwellings are affecting water quality is an unknown.

The DEP has given us the form they use when they initiate a sanitary survey field data sheet. We will ask the East Pond Association to conduct this survey during the summer of 1987.

The same survey must by taken on North Pond. It is necessary to visit each owner of a lake dwelling to get the necessary information. This job should also be done on North Pond.

Another danger to the water quality of East Pond and to private wells is the uncovered sand and salt pile (used for winter roads) at the junction of Routes 8 and 137. This situation has been declared illegal by State statutes. However, like the open dump situation, the State hesitates to enforce because of the high cost of enclosing the pile.

During the rainy periods, the salt from the pile leaks into the ground and eventually into wells and the pond. There is a small brook that originates very close to the pile and this brook emptys right into wetlands on the south side of East Pond. The Selectmen are currently addressing this problem.

LARGE RESIDENTIAL AND RECREATIONAL PRESSURE

Northern New England has experienced tremendous growth in the last decade. Business, banking, and commerce operations have established large facilities in the Boston/Southern Maine areas. Land has become scarce and prices have soared. This activity has attracted many affluent people to the urban regions. They work hard all week and want a country place to relax on weekends and eventually migrate to.

The peace and quietness that these people seek has disappeared in Southern Maine. What little land is still available is so costly that only the very rich can afford this kind of investment. The Belgrade Lake Region might be called the "Last Frontier." It is close to Route 95, it is beautiful, it has many lakes, and it is still peaceful and quiet..... and ripe for development!

Smithfield's land use ordinances control most factors that could happen in a development that would adversely effect the character of the town.

The Planning Board does suggest that an ordinance should be considered that would:

> Insist that for each unit in multi-family (over 2) housing and cluster developments, 80,000 square feet must be set aside as open space, as suggested in the shoreland zoning detail.

PROTECTION OF WILDLIFE AND WETLANDS

Of Smithfield's total area (16,150 acres), 15,860 acres or 96 percent, consists of lakes/ponds, wetlands, and forests. This is what makes our town such an attractive place to live and we must keep it that way.

Fishing is great! The ponds hold several State records for warm water species and hunting for deer is good. An average of 50 deer are harvested each year and small game and nongame wildlife is abundant.

Nine wetland areas have been identified and marked by the Maine Geological Survey for the DEP. Also there are seven areas either all in Smithfield, or partially so, that are used as deer yards during severe winters.

This information and maps are in the town files and they will be kept updated as conditions change. The information will be used by the Planning Board during reviews of major developments that could affect the quality of Smithfield's wildlife.

Loss of habitat due to land development is the biggest danger to the future of the town's wildlife. However, with the old ordinances in effect, and with the suggested "open space" additions already discussed, wildlife should be protected as much as possible and taken into consideration in reviewing development applications by the Planning Board.

PROTECTING AND ENHANCING THE NATURAL BEAUTY OF THE VILLAGE

The first impressions one gets when driving into the Village from the East is really awesome. A quaint New England Village snuggled in a valley of a lake with the western mountains in the background. The buildings are what one sees in the movies: a garage, a grange hall, a fire station, a church, a roller rink, general stores, and well-kept houses. We even have a stream running right through the middle with cosy seasonal cottages and a beautiful sand beach.

We must not let anything happen to change this scene and with very little expenditures we could even improve it. We suggest that the town's recently formed "Recreation Board" be given the challenge of maintaining and improving the physical beauty of the Village. Some suggestions:

1. Make a small natural park on the land bordering the street across the highway from Sunset Beach.

2. Inviting the East Pond Association to clean up the banks and stream bed on their property below the dam.

3. Asking summer residents to donate funds to purchase park benches.

4. Encourage home and business owners to install and plant window boxes on the front of the buildings.

5. Seed wild flowers along the highways leading into town.

6. Investigate the possibility of obtaining a vacant house in the Village for a town reading room/library for the benefit of all, especially the senior citizens. This could be done without tax dollars by gifts and fund- raising activities.

7. Ask the owners of the gravel pit if they would landscape(plant trees, shrubs, plant flowers, etc.,) along the highway to camouflage the workings of the pit.

8. See if town owned property (through tax default or other) might be put to use for the good of all. Land swaps might be utilized to combine properties or obtain properties that could be more utilized by the town.

9. Identify town-owned right-of-ways for possible use as hiking trails and bird and wildlife watching areas.

10. Report to the code enforcing officer violations observed that are illegal under the Site Selection and shoreland Zoning Ordinances of the town.

The Senior Citizens group should be invited to participate in all these programs.

Any recommendations contained in this Plan are just that. To become legal and binding, they must be proposed as ordinances or amendments to ordinances and voted on separately from this document.

SUMMARY OF RECOMMENDATIONS DETAILED IN THE PLAN

A. Four major problems that must be addressed:

1. The dump.
2. Large residential and recreational growth.
3. Protection of North and East Ponds.
4. Protection of wildlife and wetlands.

B. Planning Board requests that the Selectmen form a Citizen's Committee composed of members of the Planning Board, Selectmen, and general public to solve the dump problem before the 1988 town meeting.

C. Planning Board urges the town keep building the "Dump Closing" fund to be set aside to cover costs of closing and moving the sanitary landfill facilities. Also, requests the Selectmen to estimate total costs of such a move.

SECTION III.

PLANNING ANALYSIS AND RECOMMENDATIONS

D. Planning Board would like to see a "North Pond Association" be formed similar to the East Pond Association.

E. The Planning Board recommends passage of certain Land Use Ordinances ammendments:

1. No dwelling to be higher than 2-1/2 stories or 35 feet.

2. Dwellings in cluster development projects must be 200 feet back from high water.

3. For each dwelling in a cluster development project, 80,000 square feet must be set aside for common use.

F. Planning Board requests the Selectmen to address the problem of deficient enforcement of existing town Land Use Ordinances and publish procedural plans to the satisfaction of the citizens.

G. Planning Board requests that the East Pond Association conduct the Department of Environmental Protection's Sanitary Survey during the summer of 1987. The Survey should also be done on North Pond (or the proposed new North Pond Association).

H. Planning Board suggests that the town's Recreational Committee agree to accept the responsibility of maintaining and upgrading the physical beauty of the village.

I. Planning Board requests the citizens vote to allow the Selectmen to borrow up to $5,000 for legal fees to be used, if need be, to enforce the Land Use Ordinances.

APPENDIX A

PLANNING BOARD SURVEY OF CITIZEN OPINION

SMITHFIELD, MAINE

APPENDIX A

PLANNING BOARD SURVEY OF CITIZEN OPINION - SMITHFIELD, MAINE

The Planning Board is currently working on a Comprehensive Plan for the Town's future. We want this plan to represent the thinking of a majority of the town residents; so we ask you to share your thoughts with us. Please fill out this questionnaire and return it as soon as possible to the Town Office at the Grange Hall.

Additional comments are welcome; please use the reverse side of this sheet. Thank you for your cooperation.

1. How long have you been a resident of this town? 18 years.

2. Do you own or rent? 100% own

3. In what town are you employed? 26% Waterville/Augusta; 26% Skowhegan/Madison; 19% Smithfield.

4. What do you like best about living in this town? 29% retired; lakes, quietness, people, peacefullness.

5. What, to you, are the major disadvantages to living in this town? Distance from major towns.

6. Please rate the following:

	Adequate	Need some Improvement	Need much Improvement
Schools	59%	35%	6%
Fire Protection	57%	37%	6%
Roads	46%	43%	11%
Dump	48%	29%	23%
Police	54%	19%	27%
Cemeteries	85%	12%	3%
Recreation facilities	64%	26%	10%
Local Government	66%	28%	6%
Street Lights	82%	15%	3%

7. How would you like to see the population of the town change? (Check one)

37%	Rapid growth	31%	Remain the same
57%	Moderate growth	9%	Decrease

8.

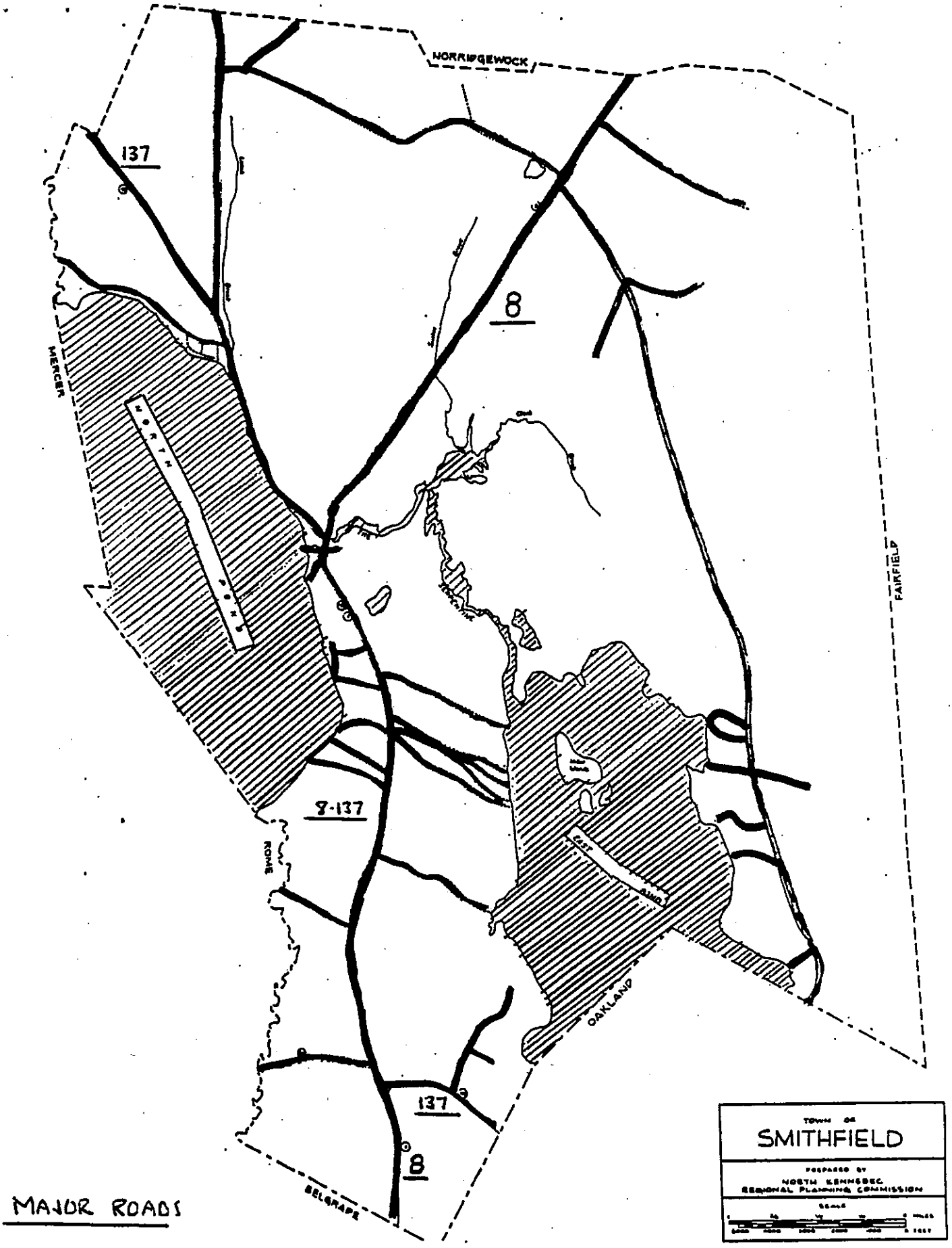
In your opinion, should the town:	Yes	No
Have more single family housing?	69%	31%
Have more multi-family housing (apts.)?	17%	83%

Have more vacation homes?	42%	58%
Have mobile home parks?	14%	86%
Have more individually located mobile homes?	20%	80%
Have more commercial businesses?	41%	59%
Have industrial growth?	26%	74%
Encourage more agriculture?	87%	13%
Support senior citizen housing project?	73%	27%
Plan for housing for low-income people?	23%	77%

9. What, if any, are some major problems you see facing the town in the near future? _____

_____

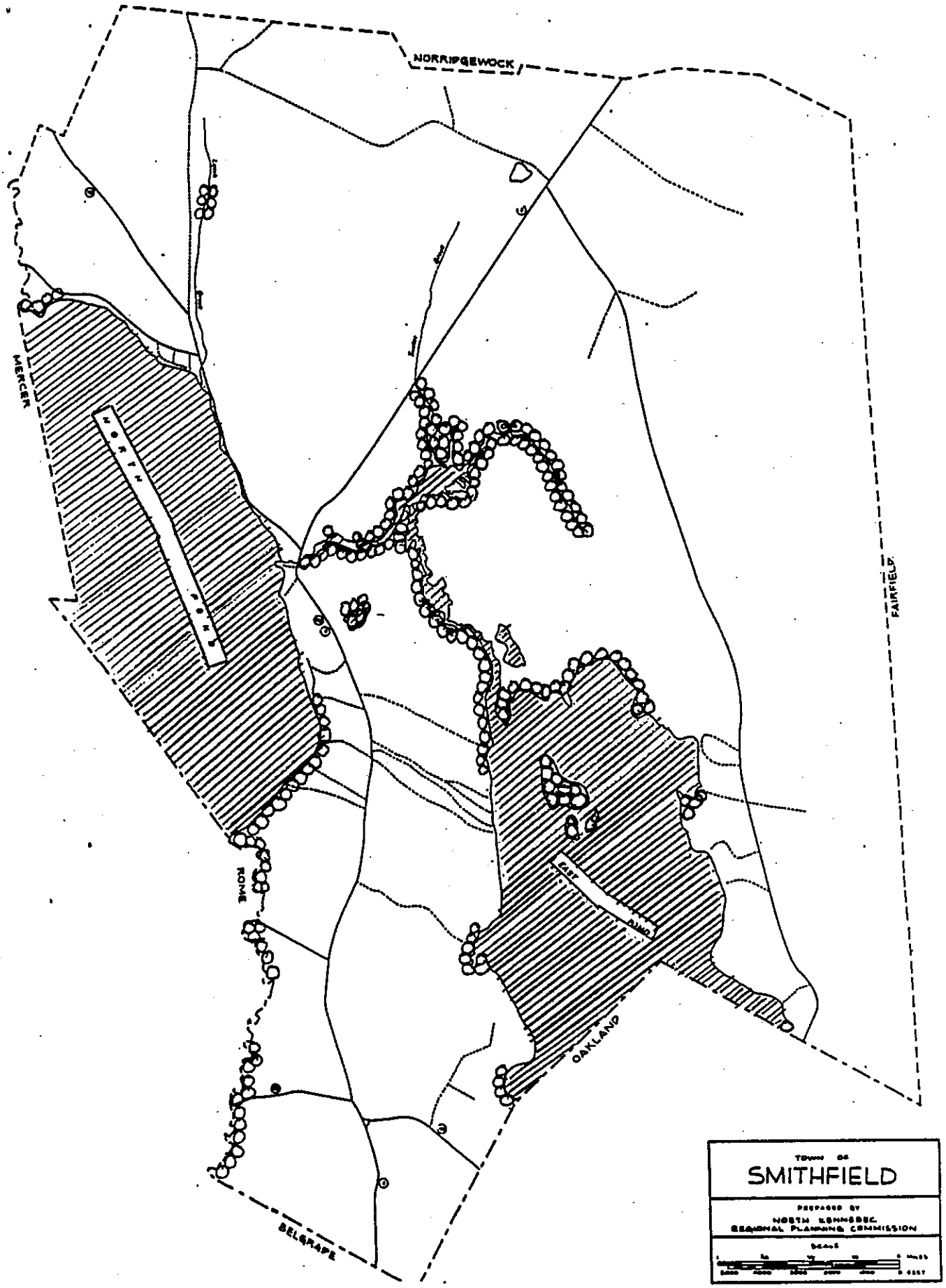
10. Would you like to see more stringent laws governing the growth of this town? 41% Yes 59% No


NORRIDGEWOCK
137
8
MERCER
NORTH
POND
FAIRFIELD
8-137
ROME
EAST
POND
OAKLAND
137
8
BELGRADE
TOWN OF
SMITHFIELD
PREPARED BY
NORTH KENNEBEC
REGIONAL PLANNING COMMISSION
SCALE

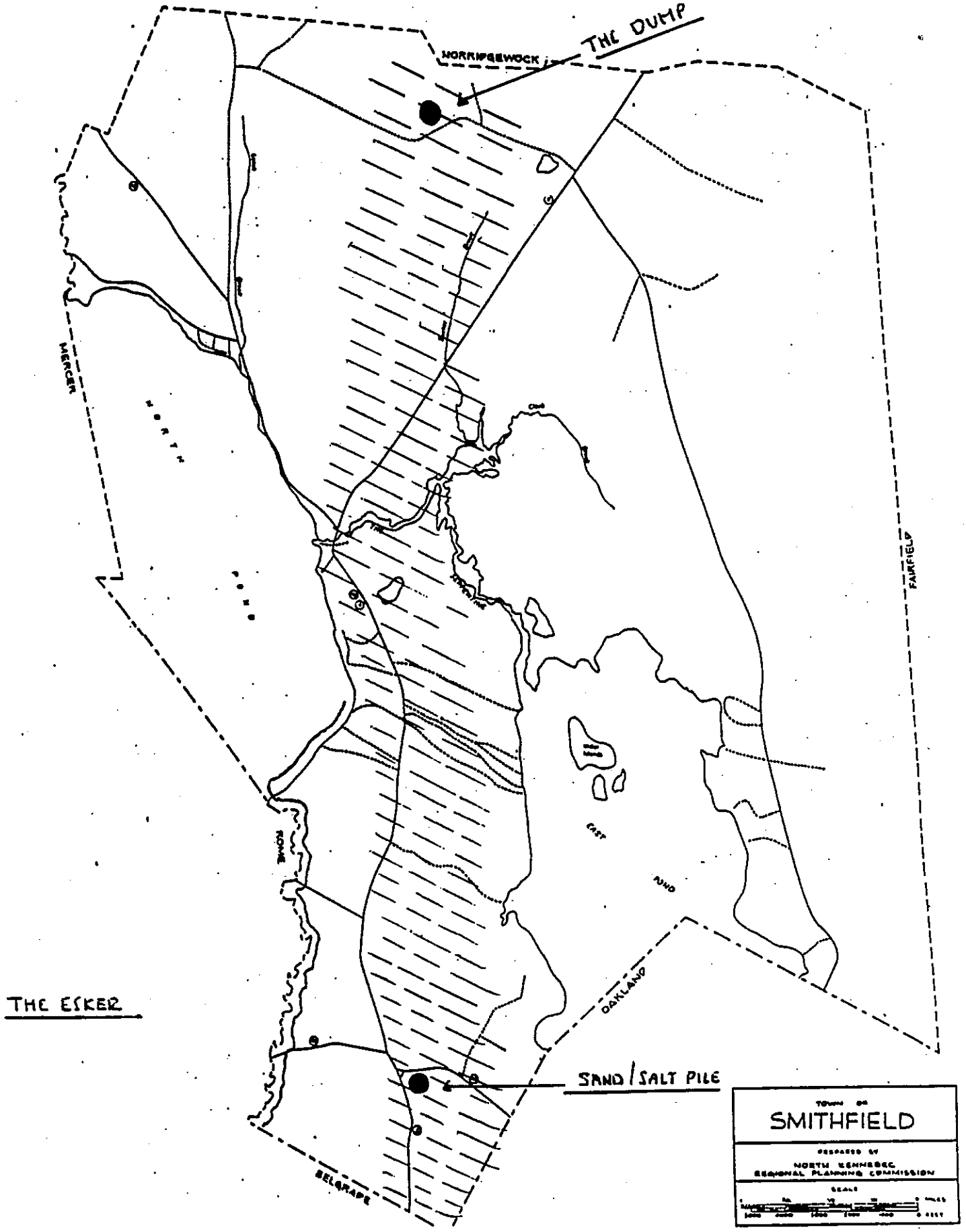
MAJOR ROADS

APPENDIX B

MAPS



ooo — RESOURCE PROTECTION AREAS


THE DUMP
NORRIDGEWOCK
MERCER
FAIRFIELD
ROME
EAST
AUG
OAKLAND
BELGRADE
THE ESKER
SAND / SALT PILE
SMITHFIELD
NORTH KENNEBEC
REGIONAL PLANNING COMMISSION

APPENDIX C

DEVELOPMENT AND LAKES

(Some Things to Consider)

APPENDIX C

DEVELOPMENT AND LAKES: Some Things to Consider

Jeff Dennis, Biologist
Division of Lakes & Biological Studies
Dept. of Environmental Protection
July 1981

The purpose of this paper is to make developers and local decision makers aware of the potential impact of residential development on lake water quality and to present some of the methods available to reduce this impact. Hopefully, it will assist local planning boards, selectmen, and town or city councils in administering the municipal subdivision law in lake watersheds.

The Significance of Phosphorus

Good water quality in Maine lakes depends primarily on one factor - the amount of phosphorus in the lake. Phosphorus is a fertilizer, and, just as the growth of corn is dependent on fertilization of the soil, so the growth of the simple microscopic plants in the lake water, called algae, is dependent on the phosphorus in the lake. The more phosphorus, the more algae. The more algae, the less transparent (clear) the water. Sebasticook Lake in Newport is a prime example of a Maine lake which has received extremely large additions of phosphorus, and, as a result, supports extremely dense, obnoxious growth of algae, called algae blooms. In order to prevent reduced water transparency and ultimately algae blooms in other Maine lakes, it is necessary to minimize any increases in the amount of phosphorus entering these lakes.

Surface Runoff

Most of the phosphorus entering Maine lakes is carried to the lake in water running over the ground surface following rainfall or snowmelt. This water is called surface runoff or stormwater runoff. In addition to the small amounts of phosphorus present in the rainwater, the runoff picks up more phosphorus from the material it comes in contact with as it flows. Much of this phosphorus will be transported to the lake unless the water is absorbed (infiltrated) into the ground first. Although water which enters the ground may eventually reach the lake in ground water flow, most of the phosphorus it contains will either be filtered out at the soil surface or will adhere to small soil particles as it moves through the ground.

It is very important to realize that surface runoff transports phosphorus to a lake not only from near shore areas but from the entire lake watershed which may include areas many miles from the lake.

Land Use Effects

The amount of phosphorus which is carried, or exported, from a particular piece of land by surface runoff is dependent to a large extent on how the land is being used. When evaluating the impact of a new development on a lake, we must consider the effect that the change from undeveloped to developed land will have on the phosphorus transport.

Forested Land

Most new developments in Maine take place on land that was previously forested. Relatively speaking very little phosphorus is carried in runoff from forested land. There are several reasons for this.

First: The volume of water which runs off forested land is less than for most other land uses. The leaf canopy of the trees intercepts some of the precipitation and stores it until it evaporates. Natural irregularities of the forest floor provide many small depressions which can temporarily store water which would otherwise run off. Given time, this water will either infiltrate into the ground water, be taken up by vegetation, or evaporate directly into the air.

The second reason that little phosphorus is carried in the surface runoff from forested land is that the concentration of phosphorus in this runoff is very low. This is, in part, because the forest does not receive the additions of phosphorus in the form of fertilizers, detergents, and road dust which other land uses receive and which are often carried in the surface runoff. Also, there is very little erosion of soil and organic particles in an undisturbed forest and what erosion takes place is usually filtered out of the runoff as it flows through the organic duff covering the forest floor.

Residential Development

When forested land is converted to residential use, both the volume and quality of the surface runoff change. Impervious structures such as buildings, driveways and roads are placed over previously permeable soil. The small scale irregularities of the forest are flattened out for lawns and gardens, thus reducing the surface storage area. Natural drainage ways are straightened out and runoff is concentrated into road ditches. These changes combine to significantly increase the amount of water leaving the site in the surface runoff, sometimes by as much as 40 percent.

When we consider that this increased volume of water also has a higher concentration of phosphorus because of the fertilizers, detergents, road dust and eroded soil particles which it carries, it is evident that significantly more phosphorus is transported from the residential development than from the

former forest. Studies have shown that for typical development this increase ranges from 2 to 10 times depending upon the density of development and the suitability of the land for development.

Development, however, can be designed, constructed, and maintained so as to minimize its impact on a lake. The following is a list of practices which can reduce the increase in phosphorus movement from the developed area.

Practices Which Reduce Volume of Runoff

The amount of phosphorus leaving a site in its stormwater runoff is proportional to the volume of the runoff. Any reduction in runoff volume through storage or infiltration will result in a concurrent reduction in phosphorus transport.

Practice	Rationale
1. Leave natural, undisturbed wooded areas, called buffer strips, between developed areas and any lakeshores. streambeds, natural or man-made drainageways, or even road ditches. The width of the buffer should depend on the slope of the land and the size of the developed area which drains into it. Buffers in flat permeable soils need only be 25' wide but on steeper slopes they should be 50' to 100'. It may be necessary to define the buffer zone as the entire streambank or gully.	1. Buffer strips intercept runoff from disturbed areas amd provide storage for eventual infiltration and/or evaporation of much of the runoff.
2. Restrict the amount of impervious surfaces allowed This can be done by either putting a square footage limitation on buildings, driveways and roads or by using permeable materials instead of pavement.	2. Reduction in impervious areas increases the opportunity for on site storage and infiltration of precipitation.
3. Limit the size of the developed area, including areas cleared and graded for lawns and gardens. This can be done on a lot by lot basis, or be best design of the of the entire development.	3. This will keep as much area as possible in a relatively natural state thus reducing increases in runoff also providing incidental buffer zones adjacent to developed areas.

4.	Provide on-site detention basins which will store and slowly release water to flat downslope infiltration areas. This can be done on a large scale for drainage from an entire development or on a lot by lot basis. Diversion of up slope natural runoff around disturbed area may be necessary to reduce size required for detention areas.	4.	Detention areas provide storage for the initial influx of runoff from a storm and slow release allows time for soil recovery and thus greater infiltration. They will also act as a sediment trap.
5.	Attempt to disperse concentrated runoff into flat areas. For instance, culvert outlets can be designed so they disperse flow into flat wooded areas.	5.	Once runoff is channelized, most of it will reach the lake unless it is physically intercepted and dispersed. Dispersion to flat areas provides additional opportunities for infiltration and evaporation.
6.	Use trapzoidal, not V-shaped, road ditches.	6.	Trapezoidal (flat-bottomed) ditches provide maximum contact of runoff with soil surface and therefore greatest opportunity for infiltration. They also have a lower erosion potential.

Practices Which Reduce Phosphorus Contamination of Runoff

The amount of phosphorus leaving a site in its stormwater runoff is also proportional to the phosphorus concentration in the runoff. Any reduction in phosphorus contamination of the runoff will result in a concurrent reduction in phosphorus transport.

	Practice		Rationale
1.	Limit the use of fertilizers containing phosphorus. This includes both inorganic and organic (i.e., manure) fertilizers. Fertilizer may be required to get a good vegetative cover established. Applying a liquid foliage fertilizer shortly after	1.	Solid fertilizers, especially inorganic, can be readily dissolved by precipitation and transported in the runoff.

	sprouting is most preferred because it can be taken up immediately by the vegetation.	
2.	Limit size of lawns and gardens.	2. This indirectly limits use of fertilizers.

Practices Which Prevent Erosion and Sedimentation

Much of the phosphorus leaving a developed site is attached to soil particles which have been eroded and are being carried down stream in the stormwater runoff. This is particularly true during the construction phase.

	Practice	Rationale
1.	Do not develop on steep slopes (20%). Leave them in as near to natural condition as possible.	1. Steep slopes are very vulnerable to erosion.
2.	Immediate vegetative or mechanical (i.e. riprap) stabalization of any disturbed soil. It may be necessary to limit the area of soil exposed at any one time to accomplish this.	2. Most unsodded soils are very easily eroded. This erosion is not continuous but is a catastrophic occurrence during major, unpredictable and usually infrequent storm events. The best way to be prepared for these events is to minimize the area of disturbed soil exposed at any one time.
3.	Placement of hay bales in drainage ditches below construction sites.	3. Properly installed hay bales will filter out the coarser sediments. They have only limited utility, however, since most of the phosphorus will be attached to the finer particles. Hay bales also serve as velocity reducers.
4.	Install filter fabric fences on down slopes below construction sites, preferably where runoff will be intercepted before it is concentrated into channelized flow.	4. Filter fabric fences are effective in removing fine as well as coarse soil particles from the runoff.

5.	Construct sedimentation basins on drainageways below major construction sites.	5.	Properly designed and maintained sedimentation basins settle out coarse and medium sized soil temporary storage and controlled release of runoff.
6.	Diversion of natural upslope runoff around construction sites.	6.	Diversions limit the runoff flowing over a site to that derived from rainfall falling directly on the site.
7.	Manmade waterways and road ditches should be seeded, sodded, or rip rapped, depending on the steepness of the grade and should have the capacity to handle any likely flows. On steep slopes road ditches and drainageways should have velocity reducing structures or should be discontinuous. Culvert outlets should have drop pools to reduce velocity and trap sediment.	7.	Underdesigned waterways and ditches will be washed out during major storms and will become chronic erosion problems.
8.	Make sure that natural drainageways and streambeds can handle the increased volume of runoff from the developed areas. It may be necessary to artificially stablize sensitive streams beds well downstream of the developed area.	8.	Overloading of natural streambeds and drainages can result in catastrophic erosion downstream of the developed area.

NOTE: Information on proper design and construction of 5 through 8 above can be found in:

1. Environmental Quality Handbook - Maine. Erosion and Sediment Control on Commercial, Industrial, Residential, Recreation, Governmental Construction Sites, 1974. Available from: Maine Soil and Water Conservation Commission, Department of Agriculture, State House, Augusta, Maine 04333.

2. Urban Hydrology for Small Watershed, Technical Release #55. Engineering Division, Soil Conservation Service, USDA 1975.

These practices should be designed to handle peak flow and runoff volume from a 25 year, 24-hour storm event.

The preceding list is by no means complete. There are many other methods available to minimize the impact of development, especially from erosion and sedimentation. One obvious addition is strict adherence to the Maine Plumbing Code. This should guarantee that any new wastewater will be properly treated in the soil. Many of the above practices may be implemented with deed covenants or restrictions.

We are not suggesting that all of the practices listed are necessary on all developments. The practices must be fitted to the needs of the site and the need of the particular lake in question. A development on highly permeable flat soils may have little impact even if none of these techniques are used. Conversely, development on steep, shallow soil may require use of many controls.

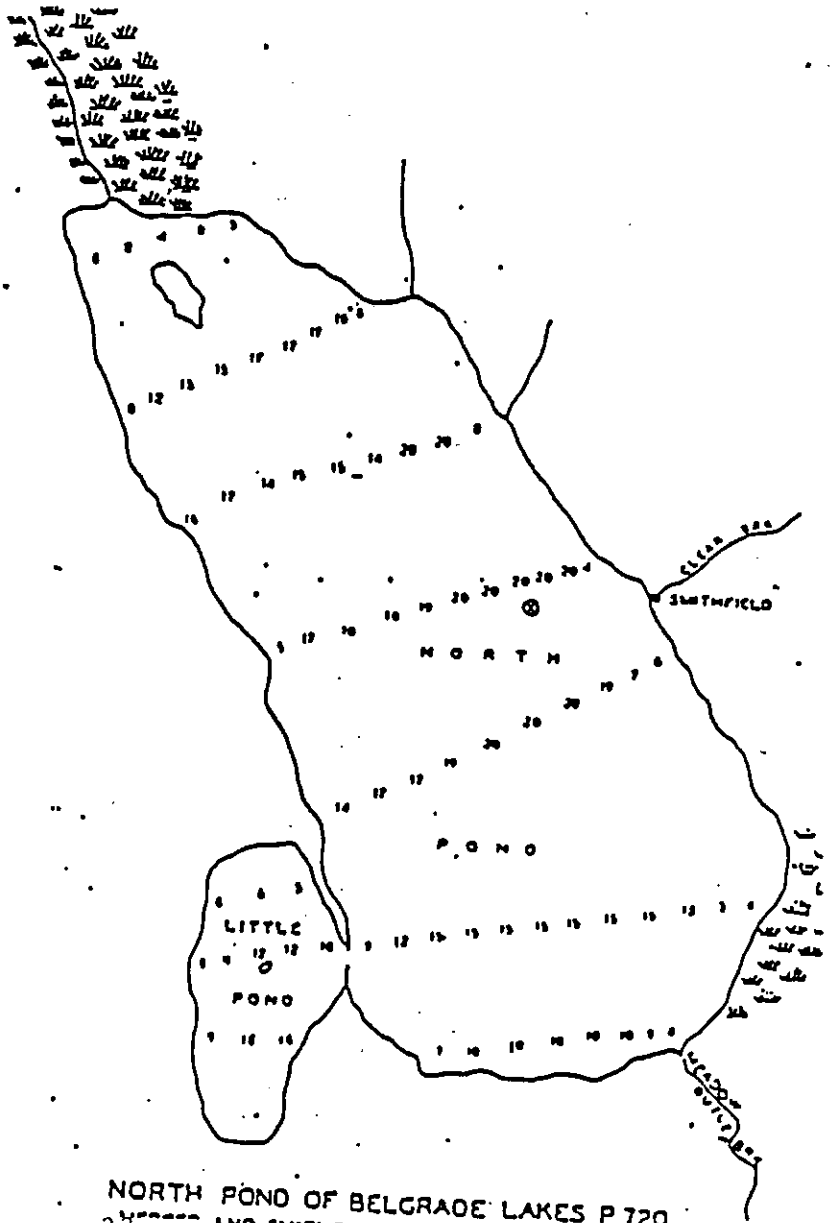
Some lakes are more vulnerable to small additions of phosphorus than are others. Generally speaking, large deep lakes and lakes with large watersheds and, hence, fast flushing rates are the least sensitive. Small shallow lakes with small watersheds, however, can be extremely vulnerable.

If you wish information on the vulnerability of a particular lake or assistance in planning or reviewing development in a lake watershed, please contact the Division of Lakes and Biological Studies at the Department of Environmental Protection, Station #17, State House, Augusta, Maine 04333 or by calling 1-800-452-1942 or 289-3901.

APPENDIX D

North Pond (Smithfield) #5344

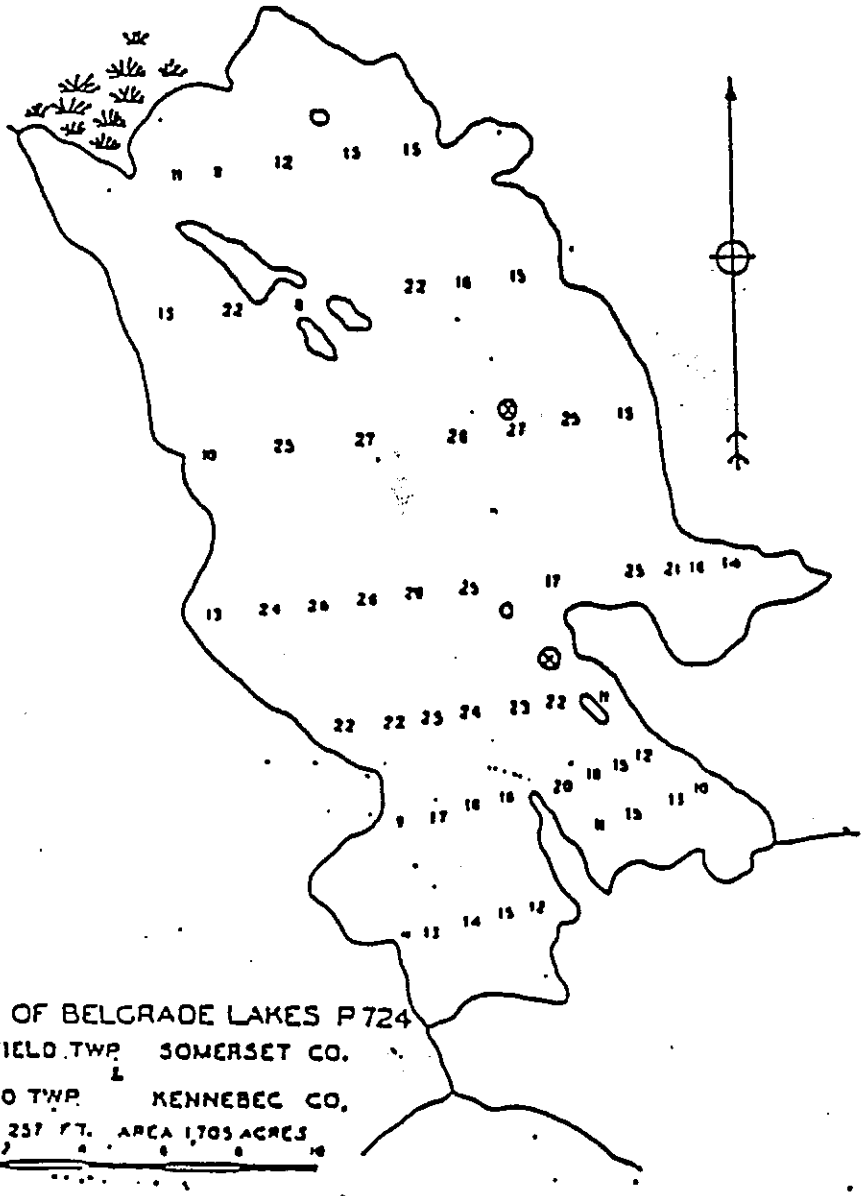
Surface Area	890 ha (2225 a)
Max. Depth	6.0m (20 ft)
Mean Depth	4.0m (13 ft)
Volume	3.6 X $10^6 m^3$ (2927 acre-feet)
Drainage Area	74.7 km^2 (28.9 mi^2)
Flushing Rate	1.0 (flushes/year)



NORTH POND OF BELGRADE LAKES P 720
AND SMITHFIELD TWPS IN SOMERSET CO.
AND ROME TWP. IN KENNEBEC CO.
ELEV 230FT AREA 2115 ACRES

East Pond #5349

Surface Area	690 ha (1705 a)
Max. Depth	8.2 m (27 ft)
Mean Depth	4.8 m (15.7 ft)
Volume	33.68 X 10^6 m^3 (27304 acre-feet)
Drainage Area	17.4 Km^2 (6.72 mi^2)
Flushing rate	0.2 (flushes/year)



APPENDIX D

NORTH AND EAST PONDS

TECHNICAL DATA

North Pond (Smithfield) #5344

	1970-72	1978-80	1981	1983	1984
Mean Secchi (m)	4.2	4.5+	4.5*(4)	4.4+	3.8*(3)
Min. Secchi (m)	2.9	3.5	4.0	4.0	3.0
TSI	58	54+	NA	55	NA
Color (SPU)		15	15	20	
pH		7.0mean	6.4	7.1	
Chla (ug/1)		2.7(1s)	2.8(1s)	2.2(s)	
TP (ppb)		11(suf)(1s)	17(c)(1s)		
		12(b)(1s)			

+ Some Secchi disk readings hit bottom
* Inadequate sampling season
(1s) late summer, (s) surface, (c) core, (b) bottom

An algal bloom was documented in 1970 but none have been documented since. North Pond was studied from 1970 through 1972 by Davis and Scott and the data is discussed in Descriptive and Comparative Studies of Maine Lakes, Davis et al, 1978.

In 1980, all Secchi disk readings greater than 5.0m hit bottom thus TSI underestimates water quality because if the lake were deeper, the readings would have been deeper and the TSI would be better. In 1980, 1981, and 1983 only one reading hit bottom. In 1984 many readings hit bottom because the monitor was not sampling in the deepest part of the pond. Care should be taken to always be at the deep hole in shallow ponds.

TP values for 1981 were high, but Chla was moderate. Continued monitoring with adequate sampling seasons will be necessary in order to determine any trends in water quality.

Water quality is considered good. Transparencies all the way to the low transparencies because sediments are easily resuspended by wind and wave action, but this does not appear to be the case for this pond. North Pond is best suited for warm water fish.

East Pond #5349

	1975-80	1981-82	1983	1984	1985
Mean Secchi (m)	4.8	4.9	4.8	5.2	4.1
Min. Secchi (m)	4.1	3.0	3.4	3.5	3.7
TSI	50		50	46	59
Color (SPU)	10		15		
pH	6.7mean		7.2(c)		
Chla (ug/1)	3.1(1s)(c)		3.3(1s)(c)		
TP (ppb)	12(1s)(c)		12(1s)(c)		

* Inadequate sampling season
(1s) late summer, (c) core

The pond is shallow and does not stratify; it is managed for warm water fish and also stocked with brown trout.

Transparency readings are stable and about average for Maine lakes. Chlorophyll levels are moderate and phosphorus is moderate to high. The values show little change. Generally, 15 ppb total phosphorus is considered sufficient to support algal blooms; however, the transparency readings do not reflect any problems. Care should be exercised by lake shore residents and other residents of the watershed to avoid adding any additional phosphorus to the lake, and attempts should be made by individuals to reduce their input. See the section on Protection in the Introduction.

The monitor is doing an excellent job of monitoring the pond. Any changes in water quality will be quickly noted.

Transparency was lower in 1985 than previous years. Apparently the climatic conditions that occurred in 1985 were not good for East Pond.

East Pond is currently facing intensive pressure to develop the lake's watershed into condominimums and other residential housing units. Hopefully, this development will occur with a minimum impact to the lake.

APPENDIX E

APPENDIX E

Maine Department of Environmental Protection

Sanitary Survey Field Data Sheet

Date:_____

Lake_____ Surveyor_____

Town_____ Map and Lot #_____

House Description_____Distance to Lake_____

Name of Owner_____Telephone #_____

Permanent Mailing Address:_____

Name of Person _____

(relationship to owner)

Months of use:

Jan Feb Mar Apr May Jun Jul Aug Sept Oct Nov Dec

Year-round

Average number of occupants_____Lot size_____

Slope to lake: 0-3, 3-8, 8-15, 15-25, 25+%

General type of lot_____

Runoff potential_____

Buffer strip_____

Water use:

Source of drinking water: Dug well, Drilled well, Other_____

Source of other water:_____

Plumbing fixtures:

Sinks_____ Washing Machine_____

Toilets_____ Dishwasher_____

Shower_____ Garbage Disposal_____

Bathtub_____ Other_____

Sewage Disposal:

Septic System_____ Chemical Toilet_____ Date of disposal __

Cesspool/drywell_____ Composting Toilet___ installation_____

Outhouse_____ Holding tank_____ Distance of

Incinerating Toilet_____ leachfield from

the lake_____

Date of last pump-out_____Frequency of pump-out_____

Gray water system: Drywell, on the ground, other_____

Any history of problems (Backup, breakouts,etc.)_____

Do you use non-phosphate detergents yes no

Do you fertilize you lawn or garden yes no

How often_____