



A Challenge

The following challenge is addressed to the citizens of Dukes County.

Can you be the exception and protect the rural environment of your county from the ravages of the despoilers, or will you fall by the wayside with all the others who have been attacked? You and Nantucket are the last bastions of hope for warm water islands lying off the Eastern coastline of the United States.

The next two years are critical. If by June 1973 the recommendations made in this report for this date are not implemented, in our opinion, Martha's Vineyard will have contracted environmental cancer and by September 1975 will have not only been fully "raped" by the despoilers but also have contracted environmental terminal cancer.

Metcalf & Eddy

Table 18. Forecast of Population on Peak Day

	Residents and Their Guests		Weekly	Seasonal Visitors	
	Year-Round	Summer seasonal	Overnight & weekend	Day Trippers	Total
1970	7,000-7,500	19,000-21,000	6,500-7,500	6,500-7,500	39,000-43,500
1980	8,000-9,000	25,000-28,000	20,000-25,000	15,000-18,000	68,000-80,000
1990	9,000-9,500	28,000-30,000	35,000-40,000	25,000-30,000	97,000-109,500

Table 19. Forecast of Passengers by All External Transportation Modes

	Off-Seasonal		Seasonal	
	Water	Air	Water	Air
1970	..... 100,000-105,000	3,000-3,500	400,000- 425,000	30,000-35,000
1980	..... 200,000-225,000	6,000-7,000	750,000- 800,000	50,000-60,000
1990	..... 250,000-275,000	8,000-9,000	900,000-1,000,000	60,000-70,000

Table 20. Forecast of Vehicles by All External Transportation Modes

		Off-Seasonal		Seasonal	
		Automobiles	Trucks	Automobiles	Trucks
1970	.....	21,000	3,000	40,000	3,500
1980	.....	40,000-45,000	5,000-5,500	75,000- 40,000	8,000- 9,500
1990	.....	55,000-60,000	6,500-7,000	100,000-110,000	9,000-10,000
		Airplanes	Boats	Airplanes	Boats
1970	.....	1,500- 2,000	2,000-3,000	5,000- 6,000	15,000-17,000
1980	.....	1,500- 2,000	3,000-4,000	8,000- 9,000	22,000-25,000
1990	.....	1,500- 2,000	3,500-4,500	9,000- 10,000	28,000-35,000

Table 21. Forecast of Housing Units

		Total	Year-round	Seasonal
1970	.....	6,010	2,492	3,518
1980	.....	6,700-7,400	2,800-3,000	3,900-4,400
1990	.....	7,700-8,100	3,200-3,400	4,500-4,700

Table 22. Forecast of Other Sleeping Accommodations in Persons on Peak Day

	1970	1980	1990
Motels, hotels, inns, etc., for tourists	4,000	6,000	7,000
Boarding and lodging houses for seasonal employees	1,000	1,500	1,500
Private boats	3,000	5,000	5,500
Campers, trailers, tent sites, etc	100	1,000	2,000
	Totals	8,100	13,500
		16,000	

Table 23. Forecast of Economic Indicators

	1970		1980		1990	
	Feb.	July	Feb.	July	Feb.	July
Employment	1,950	3,850	2,000	4,500	2,200	6,000
% Agriculture and Fishing.....	3.8	0.2	2.0	0.1	1.0	0.1
% Construction and Manufacturing.....	19.2	11.7	20.0	10.0	20.0	5.0
% Retail and all other services.....	77.0	88.1	78.0	89.9	79.0	94.9

Judge for Yourself

Dear Mr. Hough:

This is in belated response to your letter dated Dec. 9, 1973. The reasons I have not answered your letter before this date and chose to at this time are entirely personal in nature. However, one major reason is after the intervening three years, I believe I have professionally discharged any and all ethical considerations whatsoever to the Dukes County Planning and Economic Development Commission and the Massachusetts Department of Community Affairs which resulted in the commission's and the state's oral agreement to fulfill their financial contractual obligations to Metcalf and Eddy for its preparation of the county comprehensive plan.

I, therefore, directly and openly give you personal permission on behalf of myself and as an agent for Metcalf and Eddy, Inc. to print the attached material from the suppressed portion of the comprehensive plan summary report for Dukes County, which draft was unanimously rejected by the commission at its meeting held on July 13, 1971. This permission is granted provided this letter is printed as part of the publication of the draft and unattached from the draft.

The copy of Parts III, IV and V of the summary draft is submitted to you in its unedited and unchecked grammatical form as it was submitted in draft form even with the original page numbers to the Dukes County Planning and Economic Development Commission in June 1971.

I take full and personal responsibility for these attached three parts of the summary draft attached hereto. Portions of the future land use plan sections in particular were based upon the work done by H. Calvin Cook as part of his preliminary study reports

for the plan. This statement is made only to acknowledge proper credit to H. Calvin Cook for any work done by him and in no way to convey any responsibility to him for the conveyed ideas, words and intent of the above three parts.

I make no further comment regarding any of the above or the attached drafts. For your information, I have not been on the Vineyard since August 1971. I simply restate that I personally examined and diagnosed the situation, needs, trends and future of the Vineyard as I personally saw them during the summer of 1949 and again both summer and winter almost each year during the period of 1964 through 1971, and based upon my personal, professional training and experience gained variously as a planner, engineer, economist, political scientist, land surveyor and environmentalist during my 25-year career, wrote it as I saw it and to this day fully believe it was as I saw it in 1971.

J. R. WOGLOM,
Division Vice President,
Metcalf and Eddy Inc.

PART III FORECASTS AND THEIR POTENTIAL IMPACTS

Forecasts are made of off-seasonal and seasonal population, transportation aspects, housing and other sleeping accommodation, economic indicators, public utilities and land use.

These forecasts are evaluated in terms of their potential impacts upon the rural environment of the county.

Forecasts

ASSUMPTIONS

Based upon the following assumptions, forecasts were prepared:

1. Present statistical trends will continue in the county, except as affected by predicted shifts in national trends and the previous experience of similar areas such as Cape Cod, the New Jersey Shore, etc.
2. No effective restrictions will be placed upon accessibility and travel to and within the county by persons and vehicles, except as a result from competition in the free market place.
3. Demands for increasing the number and size of facilities, the service areas of public utilities, the widening of streets and the enlargement of parking facilities will be at least partially met.
4. No highly restrictive environmental controls involving zoning, land subdivision, building, housing, sanitary, air pollution, water pollution, etc. will be placed upon and enforced in sufficient time to maintain the existing rural environment.
5. No public and/or private land acquisition program for creation of open space either will take place in time, be of sufficient amount or be in the proper place to protect the existing rural environment of the county.
6. No economic development program will take place which will create a viable year-round shell-fishing industry and related oceanography.
7. No housing program will be carried out to meet the needs of the low-income and elderly families of the county.
8. No strong county or regional governmental organization with sufficient jurisdiction, powers and competent professional staff to cope with the problem and adequate financing to initiate and sustain the required effort will be created.

POPULATION

A forecast of population on peak day is shown in Table 18.

However, more importantly, the average population during both the peak and summer day in 1980 should be twice that of 1970 and in 1990 three times that of 1970.

Most of the increase in both year-round and seasonal resident population will take place up-Island on the Vineyard.

Whereas, in 1970, on the seasonal peak day residents and their guests represented 67 per cent of the total peak day population, these estimated percentages for 1980 and 1990, are only 53 and 47, respectively. The county during the summer will be tourist oriented.

Between 1970 and 1980, the number of day-trippers on peak day should at least double.

Through 1980, persons 60 years and over, principally females will represent an increasing percentage of the population and then will decline in percentage through 1990.

Between 1980 and 1990, the rate of increase in the number of both year-round and seasonal residents will decrease.

By 1980, almost all property owners of large tracts (100 acres or over) and the more valuable property will be out-of-county residents.

TRANSPORTATION

A forecast of passengers by all external transportation modes to the Vineyard is shown in Table 19 and similarly for vehicles in Table 20.

The number of passengers, automobiles, trucks, airplanes and boats brought to the Vineyard during the summer season by 1980 should be twice those of 1970 and by 1990 two and one-half to three times of 1970. During seasonal peak periods in 1980,

traffic on primary roads on the Vineyard should be two and one-half to three times the 1970 traffic. During this same period, demand for parking in the congested urbanized areas of Edgartown, Oak Bluffs, and Vineyard Haven probably will be two to three times the 1970 demand, and in the Menemsha Basin and at Gay Head Cliffs four to five times the 1970 demand. Similarly, the 1980 demand for boat mooring probably will be at least twice the 1970 demand. By 1980, during peak periods pedestrians on the streets of Vineyard Haven, Oak Bluffs, and Edgartown also will be twice to three times those in 1970.

HOUSING

A forecast of year-round seasonal and total housing units is shown in Table 21.

The increase in the number of all housing units built in the county between 1980 and 1990 should be nominal.

In contrast to 1970, where less than five per cent of the total housing was multiple-family, by 1980, approximately 10 per cent of the total housing should consist of apartments including sales, rental, and condominium housing. Another 10 per cent probably will be located in mobile homes. In the absence of public housing, the low-income family will be virtually unable to find adequate housing it can afford, other than possibly . . .

A forecast of other sleeping accommodations in persons on peak day in the county is shown in Table 22.

A 50 per cent increase in the number of motels, hotels, inns, etc. for tourists is forecast for the 1970-80 period.

By 1980, the total of housing and other sleeping accommodations on the Vineyard will be principally tourist oriented.

The demand and also facilities for camping accommodations such as by trailers, campers, and tent sites probably will increase tenfold between 1970 and 1980.

ECONOMY

A forecast of key economic indicators is shown in Table 23.

It is expected that the principal growth economic sectors will be in motels and hotels, eating and drinking places, entertainment establishments, food stores, real estate and health and medical services. The county will become more and more tourist oriented and dependent upon capital invested outside the county and, therefore, more and more dependent upon the desires of large off-Island investors, changes in the national economy and the dictates of other outside economic forces. The amount of gross dollars generated by the tourist trade will continue rising, but the percentage obtained by year-round residents of the county will continue dropping.

The county will continue its place as the highest percentage of low-income households of any county in the state and welfare costs will skyrocket. The reported median household income for the county will continue to be the lowest of any county in the state.

Because of the increased demand and need for the construction of public improvements such as street widening, parking lots, harbors, bridges, sewers, and water mains, and improved police, fire and recreation services, the cost of which will be much greater than that derived from the increased tax base, by 1975 to 1980, the county and town tax rates will increase rapidly.

PUBLIC UTILITIES

The maximum peak day use of public water by the existing four piped systems should increase from

approximately 4 million gallons per day in 1970 to 8 to 10 million gallons per day in 1980, dependent upon a dry or wet cycle. By 1990, all towns probably will need public water systems including possibly filtration plants. Similarly by 1980, public water pollution control plants probably will be needed in Edgartown, Oak Bluffs, Tisbury, and Gay Head. By 1990, such control plants also will be needed in Chilmark and West Tisbury.

Similarly, the present 500 and 75 tons of solid wastes produced per week, respectively, during the summer and the other months will increase by 1990 to 3,500 and 170 tons, respectively. By 1990, some means of county-wide solid waste disposal other than by sanitary landfill — probably an incinerator — will be needed.

LAND USE

By 1980, the 5,850 acres of developed land (residential, commercial, industrial, and public and semi-public facilities) should increase to 7,000 acres and by 1990 to 8,500 acres. The expected principal growth areas will be adjacent to the present Vineyard down-Island urbanized centers and adjacent to up-Island improved roads. In the absence of comprehensive, effective and enforced environmental controls urban sprawl or indiscriminate land use will be the order of the day.

Potential Impacts

EVALUATION OF IMPACTS

Even though it is difficult and far from being a finite science, the determination of impacts upon the urban environment is far easier to define than the determination of impacts upon the rural environment. The urban environment is concerned with man and his products and improvements. In addition the rural

environment is also concerned with man and his relationship with nature and forms of animal, bird, and fish life.

As an example, in an urban environment an enclosed water pipe has a definite hydraulic capacity and even a street has a traffic capacity, if not finite at least in reasonable terms of human tolerability. On the other hand in a rural environment, how do you place a finite value upon the loss of animal, bird, and fish life, the destroying of heath grass, the elimination of natural habitat, the music generated by the relentless ebb and flow of the tide, the smell of clean air, the taste of untreated water, and the total quiet afforded by the almost total absence of automobiles and other vehicles.

It is in these latter terms principally of the rural environment that the previous forecasts will have their greatest impact.

POTENTIAL IMPACTS

The potential impacts of the forecasts upon the rural environment of the county are:

Roads and Parking Facilities

Roads and parking facilities in the centers of Edgartown, Vineyard Haven, and Oak Bluffs by 1980 will be jammed and by 1990 will be beyond the level of tolerability. Attempts to widen streets and develop new parking facilities will be ineffective and will literally destroy the past environment. Then the only effective measure will be a banning of all automobiles from the congested areas. The density of people at peak times will resemble the core of a city. As in any city a percentage will be undesirable such as drug addicts and other social outcasts.

Even the up-Island roads will be beyond their operating traffic capacities at peak hours. Automobile and bus noise will be the rule. Bicyclists and pedestrians will take their lives into

their hands attempting to ride or walk along the roadside. Roaming bands of youngsters with and without blankets and guitars will be the order of the day. Litter will be distributed in a high density pattern within 100 feet of the roads. Signs, placards, gates, fences, and dogs will not keep out the interested or innocent intruders, photographers, sightseers, etc.

Gay Head Cliffs and Menemsha Basin can be listed as disaster areas.

Harbors and Beaches

By 1975 the Steamship Authority will have to build new piers in Vineyard Haven outside the urbanized area wherever they can buy the land. The same will be true in Oak Bluffs and even possibly Edgartown. The danger for private and smaller ferries in using Oak Bluffs Harbor will be increased immeasurably, unless the proposed new hospital site beyond the present hospital is relocated to the center of the Island and Lagoon Pond can be made available for new pier facilities. The cost of needed new pier facilities will be tremendous and also increase the operating costs of the Steamship Authority.

Edgartown, Vineyard Haven, and Oak Bluffs harbors will be overflowing with boats. By 1980 oil and gasoline spills and the discharge of toilet wastes will pollute all three harbors.

The total inadequacy of public beaches will increase pressures for use of private property by the public. State Beach will look like Coney Island on Labor Day.

Land Use

By 1980 night clubs, drive-in movies, and other entertainment spots will change the four former quiet towns of Edgartown, Vineyard Haven, Oak Bluffs, and Gay Head into "swinging places". Commercial motels will dot the waterfronts completely changing the

atmosphere of the three down-Island Vineyard towns. Because of downtown congestion shopping centers owned by off-Islanders will slowly force out of business Island-owned businesses located in the center of the three towns.

The impact upon the land use of a former rural environment by too many people and cars is easily observable by examining what has occurred on Cape Cod during the past 10 years. The existing land use pattern of the Vineyard is now about where the land use pattern of Cape Cod was in 1960. The impact upon Cuttyhunk probably will lag about 10 years behind the similar impacts upon the Vineyard.

Natural Resources

In the absence of detailed ecological studies based on a predicted rate, location, and density of urbanized development and use of vehicles and numbers of people, it is virtually impossible to determine when physical features, natural resources, and animal, bird, and fish life will be destroyed. For Dukes County it can only be said that based on the forecasts of population, vehicles, and land use development the result is absolutely predictable. Of course, the when will also vary by location and type. Based on past experiences throughout the United States in the transition of a rural environment into an urban environment, once physical resources, natural features, and animal, fish, and bird life are destroyed or leave, they rarely return. Also man rarely, if ever, practices preventative medicine in terms of air, water, land, noise, and thermal pollution.

The following potential dangers are clearly present:

- Increased pollution of ground water and harbors will occur. Increased development, more people, and more boats in the absence of public sewerage systems, special boat toilets, and the

elimination of oil and gas spills will increase with danger. Eventually fish life will die and/or shellfish will require decontamination. Salt water intrusion of drinking supplies probably will occur.

- A real opportunity for the development of the shellfish industry will be gone.

- Development of up-Island in predictable water areas will require the piping of public water from down-Island systems followed by the construction of up-Island public sewerage systems.

- The combination of low-lying morning fog and airplane and other vehicular exhaust fumes will create smog as well as increase the noise levels on the Vineyard.

- Continued development in wrong places and too close to shorelines and in coastal flood areas, particularly along the southern and eastern shores of the Vineyard, will increase property damage and possibly cause loss of life at the time of the next hurricane.

- Continued construction on unstable areas and steep slopes adjacent to the shorelines of the sea and ponds will increase erosion.

- Loss of the grass lands on Katama Bay and near Chilmark Pond will kill bird feeding areas and result in their elimination.

- Heathland at Gay Head, especially between the high sand dunes and the more inland scrubland, Chappaquiddick Island, especially at Wasque Point and areas behind the South Beach dunes will be destroyed.

- Dune vegetation will be essentially destroyed.

- The filling of wetlands and salt marshes will eventually eliminate feeding areas for fish and birds.

- Continued developments of Gay Head and South Beach area will kill the rare plants in the areas.

- Migratory waterfowl and shore-birds will no longer visit South Beach.

- The egret nesting areas of Little Neck area of Cape Poge and West Basin Beach probably will be gone.

- Fallow deer, bobwhite quail, and other upland game will be gone.

In summary, by 1990 the county, particularly the Vineyard, will have destroyed its rural environment at economic disadvantage to itself and the off-Island despoilers and opportunists will move on to the next unspoiled area.

When the Island contracts environmental terminal cancer is unknown—it has not yet. However, the next five years are critical. If a definite and well-ordered program of preventive and prescriptive medicine is not undertaken almost immediately or within the next two years, by 1975 the Vineyard undoubtedly will have contracted environmental terminal cancer.

PART IV GOALS

The selected overall goals for the future of the county are expressed in terms of rural environment and economic development.

Selected Goals

ONE GOAL

For the county, there can and should be only one clairvoyant and overriding goal:

To protect the county's rural environment and capacity of its existing open space and developed facilities from: (1) contamination and loss by overpopulation and overuse; (2) vehicular congestion and noise and air pollution; (3) indiscriminate misuse and overuse of land and buildings; and (4) loss and destruction of its animal, fish, and bird life and danger to human life by people, vehicles, water pollution, and salt water intrusion, while at the

same time creating an economically viable and balanced year-round society dependent for its livelihood upon the same environment and facilities it seeks to protect.

PART V

STRATEGY AND PLAN

A future land use plan is recommended together with a strategy involving restrictions, environmental controls, organization, and financing for both carrying out the plans and fulfilling the established goal.

Program

INGREDIENTS

The essential ingredients of a program for obtaining the selected overall community goal consist of: (1) immediate problem recognition, understanding, and support by the public and officials, (2) agreement on policies in concert with the goal dealing with a particular aspect, which could be implemented immediately by existing governmental organizations, (3) means or program including assignment of responsibility for implementing the policy, (4) creation, where needed, of a new governmental organization with adequate jurisdiction, powers, financing, and staff to undertake tasks either not taken in time by existing governmental organizations or not within the powers of existing governmental organizations, and (5) a definite plan for future land use.

IMMEDIATE PROBLEM RECOGNITION, UNDERSTANDING, AND SUPPORT BY THE PUBLIC AND OFFICIALS

The forecasts and impacts presented in this report should be presented both graphically and in text form to all types of groups on the Vineyard and through the news media.

The responsibility for this step should be shared by the Dukes County Planning and Economic Development Commission and private groups. Of particular importance is a means of establishing communication with the native Islander. This latter task should be undertaken by the members of the county planning and economic commission and the county commissioners in concert with the All-Island Selectmen's Association. The new county planner should play a principal role in this endeavor.

The objective of this public relations-oriented program should be to achieve immediate problem recognition, understanding, and support by the public for the institution of the immediate policies listed in the next section and for subsequent steps outlined in this chapter.

POLICIES AND MEANS

The following policies and means for implementing them by existing governmental organizations are listed below. Each policy is proposed for the purpose of either overcoming an existing or potential future deleterious impact upon the rural environment of the county or to enhance its year-round economy.

(1) Overpopulation and Overuse

POLICY

Restrict the number and type of persons gaining entrance to the county.

MEANS

(a) Obtain during the 1972-73 session of the state legislature a franchise from the Massachusetts state legislature for the Steamship Authority to operate all boats over 25 tons or 100 passengers, discharging passengers, goods, or vehicles in the Vineyard.

(b) By the same state act permit the Authority to operate on the mainland from only its present

terminal point in the town of Falmouth.

(c) Through scheduling and size of boats operated by the Steamship Authority limit the number of passengers per any one day brought to the Vineyard to 2,500. In this regard immediately prevail upon the Steamship Authority, through concerted private action, to reduce the capacity of its new proposed boat from 1,280 passengers to the capacity of the Uncatena—200 passengers.

(d) Eliminate all summer seasonal or tourist-oriented promotion and advertising presently being done by any public or private body or agency in the county.

(2) Vehicular Congestion and Noise and Air Pollution

POLICY

(a) Restrict the number and type of vehicles gaining entrance to the county.

(b) Reduce the potential levels of noise and air pollution.

MEANS

(a) Through scheduling and size of boats operated by the Steamship Authority limit the number of vehicles per any one day brought to the Vineyard to 250 passenger cars and 50 other vehicles.

(b) Restrict through the county commissioners and All-Island Selectmen's Association by application to the state Department of Public Utilities all buses operating in the Vineyard to not over 20 persons per bus and restrict the frequency of their trips to not over four per day.

(c) Restrict through the county commissioners and All-Island Selectmen's Association by application to the state Department of Public Utilities the rental of cars and other vehicles to not over 50 vehicles per day in total.

(d) Until such time as the noise level of jet aircraft is reduced to that of propeller-driven aircraft, permit through the application by the county commissioners to the federal Civil Aeronautics Board no aircraft except totally propeller-driven craft to land in the county.

(e) Through application by the county commissioners to the federal Civil Aeronautics Board limit the number of commercial airline flights in the county to five per day into and five per day out of the Martha's Vineyard Airport.

(f) Through town meeting action and in concert with the county commissioners restrict the mooring of boats in the waters of or adjacent to the county to either those owned and licensed by residents of the county, operated by the Steamship Authority, or subject to a permit fee of \$25 per day.

(g) Through town meeting action permit no open burning at town dumps or on other property in any form.

(3) Indiscriminate Misuse and Overuse of Land and Buildings

POLICY

(a) Regulate the use of land and buildings in accordance with a future land use plan.

(b) Base the preparation of this Future Land Use Plan upon ultimate residential densities and holding capacity (see later section in this Chapter titled "Plan").

(c) Emphasize the location of new urbanized development in new towns or communities separate from and not as an extension of existing down-Island towns.

MEANS

(a) The Dukes County Planning and Economic Development Commission and the county commissioners of Dukes County should adopt as an official policy plan of the county the

future land use plan shown in Figure 8 and discussed in a later section of this chapter titled "Plan."

(b) By act of the 1972-73 session of the state legislature grant each town in the county two years or until June 1973 to prepare and adopt a zoning by-law, land subdivision regulations, building code, housing code, and sanitary code in accordance with the future land use plan shown in Figure 8. Such regulations should be based on models prepared by Sept. 1, 1972, by the county planning and economic development commission.

(c) Have the county commissioners sponsor during 1972 the preparation of a detailed operational soils survey by the U. S. Department of Agriculture—Soil Conservation Service—for use in establishing lot size in the proposed zoning by-laws.

(d) By request of the county planning and economic development commission have the county commissioners request the Massachusetts Department of Natural Resources under the Coastal Wetlands Act of 1965 and the Inland Wetlands Act of 1968 to prepare plans for and by Nov. 1, 1972, impose regulations on the use of coastal and inland wetlands in the county.

(e) By action of the town meetings prohibit camping, tenting, parking of any vehicle in any form for sleeping or living purposes on any land public or private in the county.

(f) Create an open space system (permanent conservation and recreation land and water system containing the important natural resources of the county) and also separating existing urbanized down Island centers from each other and from the proposed new towns and communities (see Figures 6 and 8).

(4) Loss [sic] and Destruction of Vegetation and Wildlife and Endangerment of Human Life from Water Pollution

POLICY

(a) Prevent the loss and destruction of the most important vegetation and wildlife areas in the county and eliminate pollution from principal waters in and adjacent to the county.

(b) Coordinate the prevention of the loss and destruction of vegetation and wildlife with a future open space plan.

MEANS

(a) The Dukes County Planning and Economic Development Commission and the county commissioners of Dukes County should adopt as the official policy plan of the county the future open space plan shown in Figure 9 and discussed in a later section of this chapter titled "Plan."

(b) Private conservation groups on the Vineyard should finance and have carried out during 1971-72 by a nationally-renowned firm of ecologists and planners a detailed ecological-environmental study and conservation-open space plan of the Vineyard to be coordinated with this comprehensive plan and the detailed operational soils survey recommended to be sponsored by the U. S. Department of Agriculture.

(c) Private conservation-oriented groups in the Vineyard should sponsor action by the U. S. Department of Interior for the establishment of the South Beach area from Squibnocket Pond to Edgartown Great Pond as a national wildlife refuge area and extensions to Gay Head Cliffs and Menemsha Basin areas and Katama Bay as a national park (see Figure 9).

(d) Private conservation groups and the recommended Dukes County environmental protection and

economic development agency (see later section titled "Organization and Financing" of this chapter) should carry out the recommended responsibilities for other acquisition shown on this figure.

(e) The county commissioners should sponsor legislation for action by the state legislature requiring holding tanks for all boat toilets operating in waters in or adjacent to the county and operation of treatment plant dumping stations in the county.

(f) Carry out recommendations of Metcalf & Eddy regarding water pollution control including governmental organization made as part of plan due in March 1972.

(5) Creation of a Year-Round Economy

POLICY

Improve the year-round economy of the county and make it less dependent upon the summer season for its capital.

MEANS

(a) During fall of 1971 towns on the Vineyard should approve use of their Great Ponds for appropriate initial funds for carrying out during 1972 the recommendations of Matthiessen and Toner for improving the shellfish industry.

(b) The county commissioners through its congressional representatives should "plump" for the location of an oceanographic institute in the county, including the possible shift of the Woods Hole Oceanographic Institute to the Vineyard.

(c) Private interests should finance and prepare a report proposing and promote the location on the Vineyard of an institute of higher learning, possibly specializing in oceanography.

(d) The Dukes County environmental protection and

economic development agency, as recommended in a later section titled "Organization and Financing" of this chapter, should acquire land for an airport industrial park adjacent to the Martha's Vineyard Airport, construct buildings thereon, and lease them for restricted industrial uses.

(e) The Regional High School district should improve and enlarge both the facilities for and training in vocational and technical education offered at the Regional High School.

(f) The county commissioners and the Chamber of Commerce should shift the emphasis of their promotion and advertising of the economic development of the county from a seasonal to a year-round only basis.

(6) Fulfillment of Social Housing Needs

POLICY

Recognize and meet social needs of housing for low-income and elderly groups.

MEANS

The Dukes County environmental protection and economic development agency, as recommended in a later section titled "Organization and Financing," should acquire land for, construct buildings thereon, and rent them to low-income and elderly families.

Organization and Financing

PRINCIPAL RECOMMENDATION

A principal recommendation of this report and the agency, if created, which will bear the principal responsibility for fulfilling the selected goal of this plan is the Dukes County environmental protection and economic development agency.

POLICY

Create a public organization with the power and finances to both protect the environment and create economic opportunity

MEANS

(1) Create through state enabling legislation a Dukes County environmental protection and economic development agency with the following powers: (a) those of the Dukes County Planning and Economic Development Commission, (b) right of eminent domain for the purchase of both land and land use easements for the protection of the environment, (c) right of eminent domain to acquire land for and build and lease facilities for economic development, including, if needed, for other purposes of the act the power to finance, build, sell, lease, and otherwise operate housing facilities and new towns or communities.

(2) Upon the failure of any town by June 1973 to adopt and enforce adequate and comprehensive zoning, land subdivision, building, housing, and sanitary regulations in accordance with the county land use and conservation plans, grant the power to the county environmental protection and economic development agency to adopt and enforce such regulations in the town.

(3) Provide the agency with \$1,000,000 for initial operations to be returned to the state during the next 15 years and grant the agency the power to float bonds backed by the full faith and credit of the state of Massachusetts.

(4) Have the members of the agency elected or appointed in the following manner: (a) one elected per town, (b) the three incumbent county commissioners, and (c) three appointed by the governor.

(5) If the above recommended act is not adopted by the state legislature during its 1972-73 session, have the county commissioners and Dukes County Planning and Economic Development Commission recommend to the U. S. Department of Interior the designation of Martha's Vineyard as an Island Trust and the creation of a National Island Trust Commission. This Commission would consist of an equal number of members appointed by the towns and the county commissioners and one each appointed by the governor and the secretary of the U. S. Department of the Interior. In addition to preparing a comprehensive land use plan, the commission, after a reasonable length of time was given to the towns to adopt zoning by-laws and acquire land consistent with town plans, would have the power to implement its own land use plan through land acquisition and Island-wide zoning.

(6) Establish a privately-organized and financed organization representing the power structure of the county with sufficient fund (at least \$500,000) to hire the talent and take other means to create the recommended Dukes County environmental protection and economic development agency, prepare the detailed ecological-environmental study previously recommended to be carried out by private interests, and to support and promote the recommendations in this report.

Plan

KEY DESIGN ELEMENTS

The future land use plan contains three key design elements. The first and most important is the proposed open space plan, which, if implemented, will protect the most fragile natural

environments and conserve the most important natural resources of the Vineyard and the Elizabeths. The second, in terms of overall importance, but the first with respect to actual land acquisition and assembly, is the development of a new town or community with a containment or greenbelt on the Vineyard. The third is the planning for ultimate residential densities which both respect the natural physiography and ecology, and allow for a livable and flexible man-made landscape. Separated for reasons of verbal and visual clarity, these three key elements are closely related conceptually. Figure 8 is a cartographic representation of these design concepts. It should be referred to as each of these planning concepts and strategies is summarized in the next three sections.

ISLAND OPEN SPACE

The future open space plan as shown on Figure 9 consists of both existing and proposed major conservation and outdoor recreation areas and the proposed containment greenbelt, the basic purpose of all of which is to protect and maintain a wide variety of land forms, vegetation, habitat, and wildlife on the Vineyard and the Elizabeths.

The proposed open space including greenbelt system shown on Figure 9 is summarized in Table 24 with the approximate acreages listed in both the existing and proposed categories.

NEW TOWN OR COMMUNITY

Essentially, the idea of establishing a new town or community on the Vineyard is an old concept in modern idiom; it follows the historical New England settlement pattern within the context of contemporary growth pressures. The great desirability of the present Island landscape in which town and village centers are the major man-made elements in an otherwise richly diversified natural environment has

already been discussed. Establishment of a new town or community of approximately the same size and density of the existing centers would be in keeping with this Island tradition. Usable open space would be preserved because development would be clustered at a higher density and in a smaller area than would be the case under current subdivision building trends.

There are three principal reasons for locating the proposed new community down-Island. First and most important is the intention to keep such large-scale developers away from the more vulnerable ecology and physiography of up-Island. Secondly, it makes sense to take advantage of pressures for growth already being felt along the recently reconstructed Edgartown-Vineyard Haven Road, where the new Regional High School has already been built. Thirdly, the proposed location between Lagoon Pond and where the Barnes and County roads intersect with the above-mentioned road is strategically removed from the existing down-Island towns.

Secondary reasons for the selection of this particular site are the naturally deep basin at the head of Lagoon Pond and naturally deep channel to Vineyard Haven harbor, thus providing ample opportunity for the development of new boating facilities and other water-oriented recreation. In addition, the State Forest acts as a natural buffer along the southern boundary of the site to prevent development from spreading.

In order to protect the integrity of the existing down-Island town centers and to prevent the development of inevitable sprawl, a containment greenbelt is proposed around the northern perimeter of the new community. The new town or community should be designed for a maximum population of 5,000 to 7,500 persons.

General and special commercial services, including a planned shop-ping mall, should be developed to serve the expected new population. The recommended educational campus for some kind of higher education and the recommended new oceanographic institute, combined with environmental research labs and associated offices, would be highly desirable for location in this area. Recreational facilities should be developed for new boating activity along Lagoon Pond. Facilities for other kinds of outdoor recreation such as golfing, swimming, riding, hiking, and camping should be developed in the surrounding containment greenbelt.

If a future need by the Steamship Authority for a larger pier and parking facilities in Vineyard Haven cannot be met along the present waterfront area in Vineyard Haven harbor, then a logical place to expand would be into Lagoon Pond. The existing bridge at the entrance to Lagoon Pond would admittedly be a problem. However, as long as the new Martha's Vineyard Hospital is not located adjacent to the present site but along the Edgartown-Vineyard Haven Road as part of the new community, there is no need for keeping the Vineyard Haven-Oak Bluffs Road open and the bridge can be eliminated. An eventual re-location of the Authority's terminal facilities to the head of Lagoon Pond would be an important event towards making the proposed new community a reality. Historically, it generally takes an occurrence of this magnitude to enable potential settlements to develop into real towns. Residential ultimate development is classified according to average gross residential densities (including highways and streets), which can be expressed as average minimum lot sizes, such as are found in zoning bylaws.

Town and village development (1/8 to 1/4 acre lots or four to eight housing

units) is located in the existing town and village centers. Suburban development (3/4 to 1-acre lots or one to two housing units per acre) is restricted to the interior of the Vineyard, where the possibility of salt water intrusion of the groundwater table is thought to be most remote. Exurban development (two-acre lots) is proposed for the remainder of the Outwash Plain not already included in the open space system; these larger lots are also proposed in the Eastern Moraine, where they can serve to restrain future development of the three down-Island towns. Rural development (five-acre lots) is reserved for the Western Moraine and Cuttyhunk, where the underlying geological structure is very complex and the soils contain impermeable clays, thus making it quite difficult to site a septic tank and well on the same lot without assurance that the former will not contaminate the latter. Until an overall study of the ground water supply and a detailed operational soils survey of the county are undertaken, these general land use proposals are considered reasonable and proper.

The amounts and intensities of future land use (ultimate) are shown in Table 24. These densities result in an estimated residential holding capacity or capacity on peak day of approximately 75,000 persons.

Advantages

There are many advantages to all concerned but most importantly to the native-Islanders in taking the more difficult or longer route and following the recommendations of this report. These would:

1. Based on the exception rule, in contrast to Cape Cod and other similar areas, where the rural environment has not been protected, it would increase land values to a far greater extent than would otherwise occur.

2. Save the present environment of the county for the enjoyment of future generations as has been enjoyed by present and past generations.

3. Improve considerably the average annual income of the year-round residents.

4. Maintain a reasonable level of town tax rates in the county.

5. Provide year-round employment opportunity.

6. Retain control in the hands of county residents.

7. Render the county not dependent for its income upon the off-Island despoilers.

8. Make the Steamship Authority less dependent upon the summer season for its income.

Table 24. Future Open Space

	Approximate Acreage (1)		
	Proposed	Existing	Total
Shore and Pond Open Space	13,900	2,050	18,450
South Beach Great Ponds (2)	8,000	582	8,582
Gay Head Squibnocket (2)	4,000	285	4,285
Cape Poge Wasque	1,000	500	1,500
Northeast Ponds	500	542	1,042
Lake Tashmoo	250	140	390
Lamberts Cove	150	1	151
Morainal Streambelts	2,200	300	2,500
New Town Greenbelt	2,100	0	2,100
Other Elements (3)	6,000	4,800	10,800
	24,200	7,150	31,350

1. Excludes water bodies (ocean, bays, ponds, and streams).
2. Recommended for National Wildlife Refuge Area and National Park.
3. Includes the State Forest, Cedar Tree Neck, and "bottomlands".

Table 25. Future Land Use

Use (1)	Existing 1970 Acres	Ultimate Acres
	5,850	36,350
DEVELOPED		
Residential		
Town and Village (2)	1,500	3,500
Suburban (3)	1,550	6,500
Exurban (4)	500	12,000
Rural (5).....	1,500	13,000
Major Commercial	80	200
Major Industrial	20	150
Major Public and Semi-Public Facilities and Transportation	700	1,000
	7,150	31,350
OPEN SPACE		
Major Recreational	550	1,500
Major Public and Semi-Public Conservational	6,600	29,850
VACANT	54,700	0
TOTAL LAND AREA	67,700	67,700

- (1) Highways and streets are included within each use they serve, Water areas are excluded.
- (2) Average density of 4 to 8 housing units per acre.
- (3) Average density of 1 to 2 housing units per gross acre.
- (4) Average density of 1 housing unit per 2 gross acres.
- (5) Average density of 1 housing unit per 5 acres.