



NANTUCKET SUSTAINABLE DEVELOPMENT CORPORATION

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PREFACE

March 2003

Dear Islanders –

We need you!

This Public Review Draft of *Sustainable Nantucket – A Compass for the Future* is not yet complete. While it does reflect the efforts of hundreds of people and thousands of hours of work, it is, and always will be, an ongoing endeavor.

The Nantucket Comprehensive Community Plan put forth a challenge: “to create a healthy community – a community whose environment, economy and society function as an integrated system.” To do this we need to know where we as a community have come from, where we are, and where we want to go. The following indicators – measures of key, interrelated trends that tell us where we are doing well, where we need improvement and what progress we are making towards our goals – will help us continue this important community-wide discussion.

We would like to thank the many supporters and participants who helped make this report possible – without them, we would know far less about our community. We would also like to thank the volunteer organizations, private businesses and town agencies that provided co-sponsorship/support, technical review and/or funding throughout the process.

And finally we would like to thank all of you who *will* be participating. This report is a beginning, a springboard. Through the community discussions that it launches, the meetings that will take place, and the understandings that will be created, we will face our challenges and see new opportunities.

Since this report will be regularly updated, starting with the revision to this Public Review Draft, and the publication of our “first official” report, in Summer of 2003, we want your feedback. What was left out? What should be emphasized? What information or data can you contribute?

There are two ways for you to participate. Please use this website www.sustainablenantucket.org/indicators to review the indicators online and send us your input by e-mail. Or mark up this printed copy and mail it or drop it by our office (147 Orange Street). You can also submit your own reports or studies about trends on the Island, or reports about projects designed to help move these trends in the right direction. But please get your comments to us soon, so that we may incorporate them into the final public version. Make your voice heard.

Nantucket Sustainable Development Corporation

and

The Indicators Project Steering Committee

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Nantucket Community Association
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EXECUTIVE SUMMARY

This report presents the preliminary results of a three-year effort to define a set of sustainability indicators for Nantucket – measures of key long-term trends that shape our future. Sustainability indicators help us see things differently so that we can *do* things differently. And since Indicators can help frame debates, steer planning, affect budgets and motivate action, the search for the best possible measures will be a continuous one.

These indicators were selected after an intensive citizen dialogue process, combined with extensive technical research. First, citizens were convened in many different locations around the Island to discuss our community's "Assets and Concerns." Assets are the strengths we wish to preserve for the future; Concerns are those issues and problems that cause us worry.

The results of this dialogue process generated a list of possible measures, and the final list was shaped and refined with the help of local experts and leaders. Then data was gathered (or in some cases generated through survey research), a process which also affected indicator selection.

This report presents the indicators not as a final list but as a work in progress. We seek one more round of public input before re-releasing a final report.

The indicators are grouped into four categories, using a system called the "Sustainability Compass": N = Nature (environment and resources), E = Economy (business, jobs, infrastructure), S = Society (collective social issues), and W = Well-Being (the health of individuals and families). Grouping the indicators this way will allow the development of an overall index of progress in each "direction," as well as an "Overall Sustainability Index" for Nantucket, which will be incorporated in the next version.

On the following page you will find our "Ten Key Findings," a summary of what our research seems to be telling us about the state of our Island and our challenges for the future. Some of the news is good, but some of it is troubling, and will require a collective response from our community to help set things on a better course.

In order to make this report a true "Compass" for Nantucket, a useful way to navigate our way into the future, we need your feedback.

TEN KEY FINDINGS

1. The Nantucket Community Is Growing ... but the Island Is Not

Our population is increasing sharply – the numbers of permanent residents, seasonal residents, overnight visitors, and day-trippers are all growing. We have more cars on the Island than ever before, as well as more transit riders; and while most people think we have a growing number of off-island commuters, we don't have data to tell us how many. All this growth is happening against the backdrop of an Island – and Islands, by their very nature, have clear limits to growth.

2. Economically, We Are Generally Wealthy ... and Getting Wealthier

Our incomes are generally high, jobs have been growing, and the numbers of tourists and residents who generate the jobs are growing. Our houses are getting bigger, and their value has recently gone through the roof, making some of us wealthier than we ever expected to be.

3. But Our Natural Heritage May Be Disappearing

As our Economy grows, Nature seems to be declining. Several key bird species – a measure of our ecology's stability and resilience – have declined sharply in the last decade. Complaints about noise are up; the number (and the economic value) of scallops fished from our waters is way down. The amount of land we're setting aside for conservation has flattened out, but the land we're developing with new buildings has grown steadily, making the competition for the island's remaining open land high.

4. Our Performance as Stewards of our Resources Is in Question

Unlike many other US communities, our recycling rates have actually declined in recent years – and it can't all be blamed on changes in recycling fees or the increase in what gets fed to our composting system, since we're sending more to the landfill. Meanwhile, our consumption of energy and water has increased, and the growing number of cars and larger houses translates to growing consumption, and an increasing output of waste.



5. It Is Increasingly Difficult to Live Here If You Are Not Wealthy

On average, it costs about 15% more to live here than in Hyannis, the nearest mainland city. And the rising cost of homeownership means that first-time buyers have an increasingly small chance of settling down here. While many of us enjoy relatively high incomes, there is a hidden class of poor among year-round residents, collecting food stamps and cash assistance in the midst of extreme plenty.

6. Our Community Is Showing Clear Signs of Stress

Family violence is up. More children who are born on Nantucket have low birth weight. Drug-related offenses are slowly rising, as is violent crime. Fewer of us, in percentage terms, are voting in elections and town meetings. Quite a number of us express serious worry about the state of our "Sense of Community."

7. The Turnover in our Population Is Increasing

More people are moving in ... and more people are leaving. The total turnover, which we call the "churn rate" in our population, has arched up sharply in recent years, indicating that our community is likely becoming less stable in composition.

8. Despite the Rapid Change, We Retain the Core of our Culture

Our research – and our experience as residents here – suggests that Nantucketers continue to be dedicated to the well-being of their community, as volunteers and engaged citizens. Residents are relatively confident in their government overall. And both full-time and seasonal residents, when surveyed, expressed concern about the issues facing our community. Despite our mounting challenges, the core of the Nantucket culture, which has seen us through crises in the past, is still with us, and is still strong.

9. Our Young Are Doing Better Than Before

Recent improvements in the status of our young people are also an encouraging cause for hope. They are performing better on the standardized tests used by the State to gauge educational attainment; and our teens are getting cited less often for abuse of alcohol.

10. But We Know Far Too Little about Some of the Things that Matter Most

We know that our sense of history is what makes us unique ... but we have no trend data to tell us how that historical legacy is being preserved and passed on. We know that water quality is critical to an Island ... but our data on water quality is confusing at best. We believe that more and more Island jobs are being held by off-Islanders ... but we have no numbers to tell us how many, why they are commuting, or what the trend is. These are just a few of the holes in our knowledge – and this lack of critical information is itself an indicator that we must roll up our sleeves and get to work.

INTRODUCTION

Nantucket is an incredible place, but it is more than just a place. Nantucket is about us as Islanders, about community character, and about our sense of connectedness. It's that intangible quality of Island life that makes us who we are. And Nantucket isn't just about the present — it's about how we fit into our past, how we live now, and where we'll be in the future.

“to create a healthy community, one whose residents have stability and security, whose resources are safely protected for future generations and whose civic life is free of bitterness, frustration and disillusionment”

Nantucket Comprehensive Community Plan

In a world of so much change, we on Nantucket live in a place of extraordinary history. Much of our rich history has been preserved in our museum archives, our literature, our buildings and exquisite landscape. Reminders of our economic history and self-sufficiency live on in our remaining farms and fisheries.

Our legacy of small town intimacy lives on in our community gatherings, our volunteerism, our public places and our safe surroundings. Impressively, in the wake of rapid change, we have managed to hold on to not just the look of the place, but to many of the intangibles that we value.

And there is more we can do. During the years we spent developing a Comprehensive Community Plan, hundreds of citizens contemplated our future and concluded that Nantucket is the sum of all its parts. “There is no single philosophy that will guide our future,” but one overriding goal of the Community Plan was articulated: “to create a healthy community, one whose residents have stability and security, whose resources are safely protected for future generations and whose civic life is free of bitterness, frustration and disillusionment.”

This Indicators Report grows out of that goal. It attempts to reflect a synthesis of all our parts, to reveal the linkages among them, and to measure our progress toward — or away from — a vision of a healthy community.

Objective 7.6.2 in the Healthy Communities Chapter of the Community Plan asks that a diagnostic tool, a set of indicators, be developed to help us understand in words and numbers the status of our quality of life.

During the community workshops citizens from all walks of life came together from the business, civic, faith, government and at-large community to share their thoughts and concerns. This report attempts to reflect their contributions. We know that the measures that were chosen only scratch the surface. But we hope that this report will begin to show us what trends might be threatening our quality of life, where we have held steady and what potential we have for building a stronger and healthier community by continuing the collaboration and cooperation that have gone into this initiative.

WHAT IS SUSTAINABLE DEVELOPMENT?

The framework we have chosen for this evaluation is “sustainability” — a comprehensive approach to thinking about our long-term health and vitality.

While a common definition speaks to meeting the needs of the present without compromising the future, another way to look at the concept is from a business perspective. Sustainable development can be defined in terms of a “triple bottom line” involving the simultaneous pursuit of economic prosperity, environmental quality and social equity (*World Business Council on Sustainable Development*).

“Sustainable Development meets the needs of the present without compromising the ability of future generations to meet their own ”

United Nations World Commission on Environment and Development (the Brundtland Commission, 1987)

It is also beneficial to look at what sustainable development is not. As Alan AtKisson writes in *Believing Cassandra: An Optimist Looks at a Pessimist's World*, sustainability does not mean environmentalism, and sustainability is not automatically anti-growth. What sustainability means is the full integration of our

environment, economy, social systems, and individual health and fulfillment – over the long term. As an ideal, it means living completely within nature's limits, with a prosperous economy, in a healthy community, marked by a high quality of life for all its citizens. In practice, it means preserving some things ... and changing others.

The question then becomes, what does sustainability mean for Nantucket, and what is the connection between sustainability and indicators? For

Nantucket, sustainability means using new tools to keep our future generations on Island, to keep our natural resources intact, to keep our historic places historic, and to keep prosperity in the hands of Islanders. It means making our decisions in thoughtful ways that integrate all our values. It means an open dialogue and consensus building. And the connection between sustainability and indicators is that indicators give us tools and measurements to assess our sustainability and to guide our choices.

The challenge is whether we can keep what is good and pass it on to our children.



INDICATORS – NANTUCKET’S COMPASS OF SUSTAINABILITY



The Compass

Through sustainability, we focus on the future, and consider the status of trends in four interconnected categories: Nature, our Economy, our Society, and our individual Well-Being. These categories are displayed in the form of a Compass: N, S, E, W, referred to as the "Compass of Sustainability".

In the Compass, "Nature" refers to environmental quality, ecosystem health, natural resources, and natural beauty. For Nantucket, it relates to issues such as ground water and land use.

"Economy" refers to the production of goods and services that make our livelihoods possible and our lives comfortable, and systems that support economic activity (like transportation and infrastructure), as well as industries such as tourism and scalloping. This Compass Point also includes the employment and the economic security of our residents.

"Society" refers to the collective dimension of community life: government, schools, public safety, and the stability of the population residing in our community.

"Well-Being" is what we all hope for in our individual lives, for ourselves and our families: physical and emotional health, a sense of satisfaction and optimism.

What is an "indicator"?

The presentation of data about our lives, our economy, our well-being, social issues, nature, and other topics – usually in the form of a chart or graph that shows the trend over time – is called an "indicator." These indicators are divided by Compass Point, but it should be remembered that sometimes the delineation may be somewhat arbitrary. For example, Stability of Professional Services is a huge part of our Society, but also has profound effects on our Well-Being and is closely intertwined with our Economy. It is important to keep in mind that these data points, these indicators, connect and overlap, oftentimes in a fluid way. A change in one indicator may have many ripple effects; causal connections can go in all directions.

Indicators give us tools and measurements to assess our sustainability and to guide our choices.

We also realize that some of these indicators represent quite complex issues. When we are selecting an indicator, we are of necessity simplifying and, in some cases, barely

We have to combine this resource with our own experiences and perspectives — and with focused, effective, long-term strategy and action.

scratching the surface. But the intent of an indicator is not to gain an in-depth mastery of any one particular element. The intent is to help us understand the big picture, the interrelations and dependencies among the elements so that we can gain a clearer understanding of the whole.

So in looking to affect sustainable change within our community, we must look at the whole, and we must remember the interrelations. If we take one Compass Point in isolation from the others, our efforts may have unanticipated and even counterproductive consequences in other areas. But if we approach the interrelated elements as a connected whole, we have a better chance of success. Imagine a compass with only three directions — or with only one. It simply wouldn't be a functional tool. It is the sum of the parts, the "four directions," that makes a community. Understanding these parts and their interrelations can help us as Islanders chart Nantucket's future course.

While Nantucket is unique, and the course Nantucket chooses will be our own, we can learn from initiatives taken by other communities. The U.S. Army, Royal Dutch Shell, the State of New Jersey, the New Orleans region, the European Union, the City of Seattle — and Martha's Vineyard — are just a few of the hundreds of cities, companies, agencies, and regional initiatives that have made impressive strides toward making sustainability a reality.

This report provides some of the raw materials for charting our own way into Nantucket's sustainable future. It lays out the trends, statistics, and sources of information that we can use to shape our decisions about the long-term. It attempts to measure our progress toward or away from a vision of a healthy community; a vision articulated in the Nantucket Comprehensive Community Plan. Now we have to combine this resource with our own experiences and perspectives — and with focused, effective, long-term strategy and action.

By themselves, indicators don't change anything. Only people do.

THE PROCESS

This report is the product of years of work — several community workshops, an Island-wide telephone survey of hundreds of residents, scores of individual conversations, intensive data gathering, research and reflection. The process has been a gratifying example of how willing our citizens are to share their concerns and ideas about our Island.

The journey began in 1999, during the final drafting days of the Comprehensive Community Plan. The process of examining everything from zoning to health care showed us that our community is a complex mixture of natural and human assets that interrelate in obvious and subtle ways. In other words, we began to understand that the phrase "community fabric" truly describes the diverse threads as they have been woven together over time to make Nantucket what it is today.

At the same time, during the launch of Nantucket Sustainable Development Corporation (NSDC), its founding board of directors met with experts in the field of sustainability to learn about a unique tool for measuring a community's progress and health — *indicators of sustainability*. This kind of tool could help reveal information about the condition of our community's "fabric." It could also help us to understand the synthesis and

linkages between and among areas of community life that impact each other. More importantly, it could engage the community in a continuing dialogue about itself that could lead to collaboration and creative solutions for making our “fabric” stronger and our community healthy. So, *Sustainable Nantucket – A Compass for the Future* was launched with the guidance and help of AtKisson Inc. and the support of foundation grant funding.

Community workshops were held in which citizens offered hours of input and brainstorming to develop long lists of what was important to them, what they valued in their lives and their community, and what concerned them about the future. The lists ran the gamut from parents concerned about substance abuse and quality education to business owners concerned about housing and a commuting workforce, from fisherman concerned about water quality to town employees looking at budgets and policy making.

With these lists we began the job of distilling

“Assets and Concerns” that had the potential to serve as meaningful indicators of the status of our community. More conversations, group prioritizing, searching for data sources and consulting with community experts took the better part of another year.

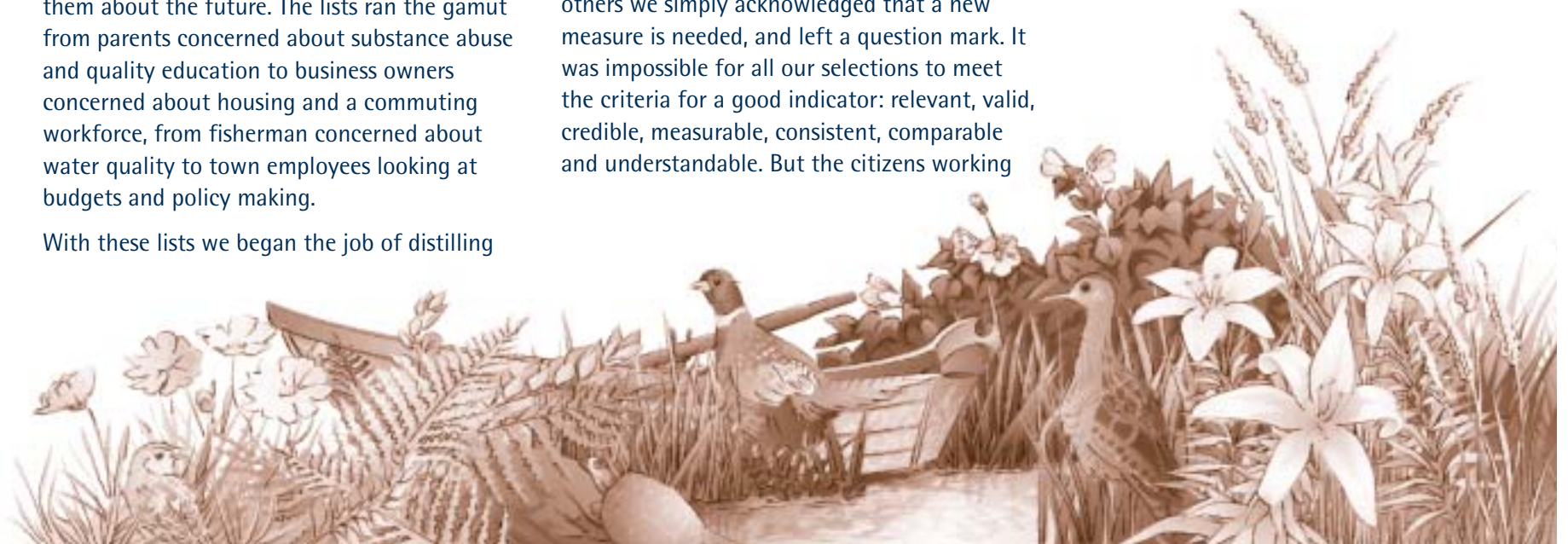
We made several discoveries in this process. Some indicators that reflected a high degree of community concern were intangible and had no associated data at all. For example, sense of community, volunteerism and size of off-island commuting workforce were considered to be critical concerns, and yet we had no way to measure them. In some cases we chose proxies – a different but related measure – and in others we simply acknowledged that a new measure is needed, and left a question mark. It was impossible for all our selections to meet the criteria for a good indicator: relevant, valid, credible, measurable, consistent, comparable and understandable. But the citizens working

on this project felt strongly that some of our most intangible community qualities require a better level of scrutiny and understanding.

While we are pleased with the initial results, the journey was humbling. We know how hard it is to find good data and to make sense of it and we know that these indicators – to be useful – will need continuous work.

This is where you, the reader, come in. Since this is a Public Review Draft, we need your reaction, input and collaboration to make it better. Please join us in taking the next important steps in this process.

OPPORTUNITIES FOR



ACTION AND NEXT STEPS: HOW TO USE THIS REPORT

What can we do with these indicators? And what are we asking you to do with them?

We see *Sustainable Nantucket – A Compass for the Future* as a catalyst for positive change. We need everyone engaged in the process, and we need improvement in every sector of the “Compass” to succeed overall.

In the coming months we will be developing a section of this report that will help us move from measuring trends to taking action. Based on feedback from the community, we will compile suggestions for actions that can be taken by individuals, policy makers, volunteer groups, businesses, social service providers and so on.

As part of this initiative we have acted, with others, as a convenor – a place where people from all over the community, from every different sector, can gather to learn about our challenges and discuss opportunities for advancing our success. And we will continue to play that role in the following ways:

1. Educate. We will work to educate the

community on indicators, linkages, opportunities, issues, the benefits of cooperation, and on sustainable development principles and practices.

2. Convene. We will continue to bring together community leaders and stakeholders for dialogue around data, indicators, issues, and the challenges and opportunities we face as a community.

3. Connect. We will constantly seek to make connections – connections among the Island's leadership and existing initiatives, and connections to objective data, across the whole Sustainability Compass (Nature, Economy, Society, Well-Being).

4. Advocate. We will be advocates for sustainable development generally, by calling attention to the data on important target issues, indicators, and opportunities.

We encourage other people and groups in the community to take these indicators as a starting point for both personal and strategic action – and as a final yardstick of success. We would like these indicators to generate a growing sense of care and responsibility for the future of our Island, both as reflected in the whole indicator set, and as measures of specific priority areas for action.

We encourage other people and groups in the community to take these indicators as a starting point for both personal and strategic action — and as a final yardstick of success.

And mostly, we hope that these indicators – which give us a mixture of inspiring good news and alarms about urgent challenges requiring redoubled efforts – will inspire all of us to think more creatively, more systemically, and longer-term about what is best for our community... for today, and for the generations coming after us. We look forward to hearing from you, and to working with you.



NATURE INDICATORS

Land Preservation

Ecosystem Health

Bay Scallop Harvest

Harbor Water Quality

Ground Water Sustainability

Air Quality

Energy Use

Noise & Light Pollution

Beach Driving

Waste & Recycling

Home Size



INDICATOR: LAND PRESERVATION

STATUS: AMOUNT OF LAND PRESERVED STATIC; DEVELOPMENT SURGES

TREND

Percent of developed land rising dramatically; conservation land nearly static.

WHAT WE MEASURE

Tracking the percentage of land developed, land conserved and land potentially developable provides us with a rough measure of how general land use has altered on Nantucket over the past 15 years.

WHAT IT MEANS

A dramatic shift in general land use has occurred between 1987 and 2002. The amount of developed land increased more than three times the amount of land put into conservation. This has brought these two types of land uses into approximately equal acreage. Land that is still open, but potentially developable, has gone from 53% to 17%. Developable open land was the single largest category of land in 1987; in 2002, it is the smallest.

Though some development has occurred within already dense areas serviced by sewer and water, other development has consumed areas of land that were taken for granted as open vistas, wildlife habitat, recreational and hunting

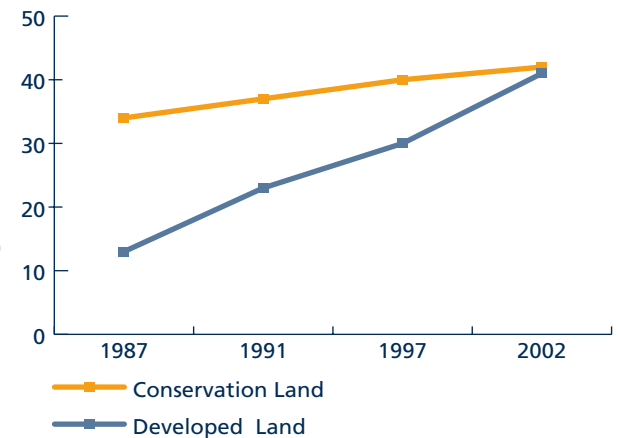
As we come to terms with reduced areas where we are able to walk without trespassing and enjoy vistas from traveled ways, we need to be sure the choices we make regarding the remaining open land is consistent with our long term needs to function within the Island's limited resources in an economically, socially and environmentally sustainable way.

land. As we come to terms with reduced areas where we are able to walk without trespassing and enjoy vistas from traveled ways, both on the land and water, we need to be sure the choices we make regarding the remaining open land are consistent with our long term needs to function within the Island's limited resources in an economically, socially and environmentally sustainable way.



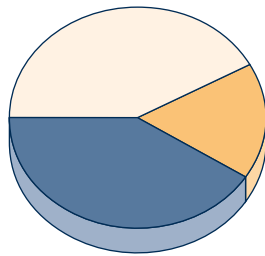
LAND CONSERVATION

Percent of Land Developed and Conserved on Nantucket



LAND TYPES ON NANTUCKET, 2002

How much of the smallest piece of pie will be developed, and how much conserved?



- Potentially Developable (17%)
- Conservation Land (42%)
- Developed Land (41%)

Our choice will either increase the incrementally lengthening bar chart line depicting development, or move the line depicting conservation beyond its point of relative equilibrium. The choice is imminent.

WHAT IT CONNECTS TO

Open land allows unpolluted passage of groundwater recharge to our ponds and harbors. It is critical to maintaining unbroken, unlit tracts for wildlife habitat as well as for a full variety of land management practices that promote a diversity of native plant species. Harbor water quality, ecosystem health, our sense of history and our tourist economy are all largely dependant on Nantucket's open and natural land and water resource areas.

WHAT WE STILL NEED TO KNOW

We need to know how to live and do business in a sustainable way, given the Island's limited natural resource base, the level of development and associated land use activities.

While keeping in mind the distinction between vacant lots within densely developed areas and parcels of land in the countryside, we also need a comprehensive measure of what the impacts would be of putting our remaining tracts of environmentally sensitive open land into development or into conservation. Is there a critical threshold at which Nantucket would risk sacrificing either its economic or environmental vitality?

INFORMATION SOURCE

- Nantucket Planning & Economic Development Commission, 1998, Long Range Transportation Plan
- Town of Nantucket Assessors Office, 2002
- Town of Nantucket GIS Office, 2002

INDICATOR: ECOSYSTEM HEALTH

STATUS: DECLINES IN KEY BIRD SPECIES MAY MEAN TROUBLE, BUT MAY ALSO BE “NATURAL”

TREND

Decreasing

WHAT WE MEASURE

We look at certain well-known birds: the red-tailed hawk, the ring-necked pheasant, the great blue heron, and the several different kinds of owls found on Nantucket. The bird types we've graphed are dependent on different habitats within the ecosystem for feeding, nesting, and breeding. Their health signals something of the health of the whole ecosystem.

The data comes from the Audubon Society Christmas Count, using volunteer bird-watchers. It is important to note that such bird-count data can be variable, because both weather conditions on the day of the count, and the number and skill of the bird-watchers can vary. However, by looking at larger birds, we make the measure more reliable, as they are easier to spot and less likely to be double counted.

WHAT IT MEANS

This graph shows much variation in the bird count over time, which is typical of bird counts. However, it also shows a recent downward

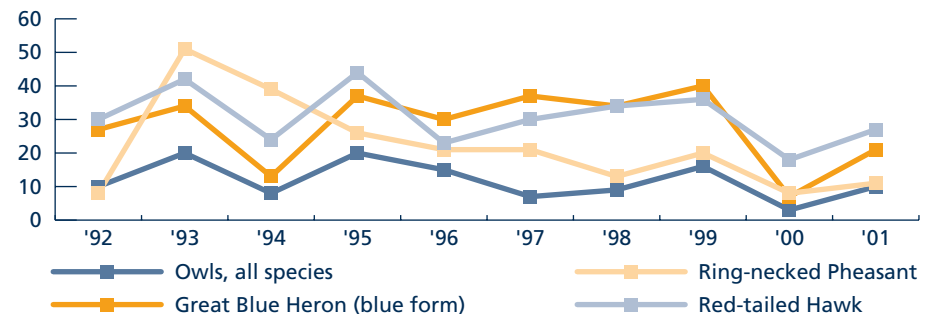
The presence of these birds can be part of the intangible Nantucket character and uniqueness that we as Islanders and tourists value — which in turn can affect our Economy.

trend overall for three of these birds: hawks, herons, and especially pheasants. Pheasants are a ground-based bird, which peaked with 51 counted in 1993. Only 11 were counted in 2001. But it's difficult to say whether the trend is signaling a long-term problem, since only eight pheasants were counted in 1992.



FOUR KEY BIRD VARIETIES, NANTUCKET ISLAND

Audubon Society Christmas Bird Count



WHAT IT CONNECTS TO

This downward trend may be a signal of the effect that we are having on the habitat as we build new and larger homes and commercial buildings in environmentally sensitive areas, and as development-related traffic increases. The trend also connects to our efforts at land preservation, at reducing pollution, and at protecting Nature. Finally, it connects to our sense of natural history. The presence of these birds can be part of the intangible Nantucket character and uniqueness that we as Islanders and tourists value – which in turn can affect our Economy.

WHAT WE STILL NEED TO KNOW

We need to know more about what causes a population swing in these birds, and how to interpret these numbers. Are we looking at normal variability, or a slow disappearance? We also need to know more about Nantucket's ecosystems in general.

Measuring these indicators over the long term will help us determine whether this is a normal trough in bird populations, or a signal that we're losing ecosystem health. And we cannot wait until we have a count of "0" to decide that we have a problem.

INFORMATION SOURCE

National Audubon Society

We need to know more about what causes a population swing in these birds, and how to interpret these numbers.

INDICATOR: BAY SCALLOP HARVEST

STATUS: OUR BAY SCALLOP HARVEST HAS DECLINED SUBSTANTIALLY

TREND

Decreasing

WHAT WE MEASURE

We track the population of bay scallops. Because we do not have an exact count of the total scallop population, we use a substitute indicator: the number of commercial bay scallops harvested. Note that the trend of the number of scallops harvested is entirely different from the trend of their economic value in dollars, as we show in the Economy section.

WHAT IT MEANS

Scallops are sensitive to harbor water oxygen content, salinity levels, nutrient concentrations and phytoplankton availability. This makes scallops an important "indicator species." They are the canary in the proverbial coal mine, whose health or decline points to the health of the marine ecosystem.

Since 1980, the bay scallop harvest has decreased dramatically, despite upswings around 1990 and 1995. In 1998 the scallop harvest hit a 20-year low and has increased only slightly since that time. The Marine Department has documented frequent episodes

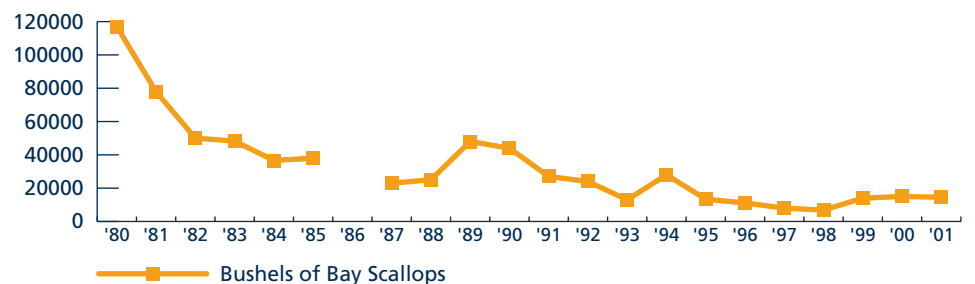
of elevated nutrient concentrations that have triggered phytoplankton blooms, decreased dissolved oxygen and reduced water clarity.

There are some other external factors that have likely affected the scallop harvest. In 1993 the Marine Department stopped purchasing seed from off-Island to replenish the scallop beds. Instead, they collect local scallop spat and grow it out in the harbor or at Brant Point Boathouse. Additionally, between 1999 and November 2002, regulations prohibiting the harvest of nub scallops were enforced.



Scallops are the canary in the proverbial coal mine, whose health or decline points to the health of the marine ecosystem.

COMMERCIAL BAY SCALLOPS HARVESTED, NANTUCKET



Note: Data for 1986 not available.

WHAT IT CONNECTS TO

The scallop population is affected by overall ecosystem health and is connected directly to the quality of water in the harbor. The reduction in the scallop population has an economic and social impact, as scallop fishing historically has provided economic support for many Islanders during the winter months. Additionally, it connects to the economic value of fisheries and to economic diversity. The decline of scallop harvesting can ultimately impact some cultural and social attributes of the Island, as well as an historic way of life.

WHAT WE STILL NEED TO KNOW

Water quality monitoring to track cycles and define trends of the scallop population and habitat needs to be continuous. We need to determine what constitutes a sustainable yield – how many scallops can be harvested and still have a viable yield for future generations. Additionally, the effectiveness of current propagation practices must be evaluated over time and compared to previous seeding practices, in terms of supporting long term harvests.

INFORMATION SOURCE

Marine and Coastal Resources Department,
Town of Nantucket

The reduction in the scallop population has an economic and social impact, as scallop fishing historically has provided economic support for many Islanders during the winter months.

INDICATOR: HARBOR WATER QUALITY

STATUS: DATA DIFFICULT TO INTERPRET

TREND

Trend unclear

WHAT WE MEASURE

We measure the concentration of nutrients in Nantucket harbor. When in excess, these nutrients diminish water quality and degrade the marine habitat for shellfish and finfish.

Nutrients occur naturally in the water. But when additional nutrients from the watershed enter the harbor via ground water, streams or storm drains, that nutrient excess stimulates a decline in water quality. Consequences include a decline in dissolved oxygen and light penetration, as well as changes in species of phytoplankton, seagrass, and algae. Together these conditions stress marine organisms, fish and shellfish by affecting food availability and habitat suitability.

WHAT IT MEANS

This data is difficult to interpret, even for local professionals with an interest in water quality. The sharp differences between different months, and the lack of any discernable trend, suggest that we need to know much more about both these measures, as well as any other possible measures of harbor water quality. We are actively looking into this issue.

Harbor water quality is directly connected to ecosystem health, and is affected by things as seemingly remote as storm water run-off of road pollutants and fertilizers.

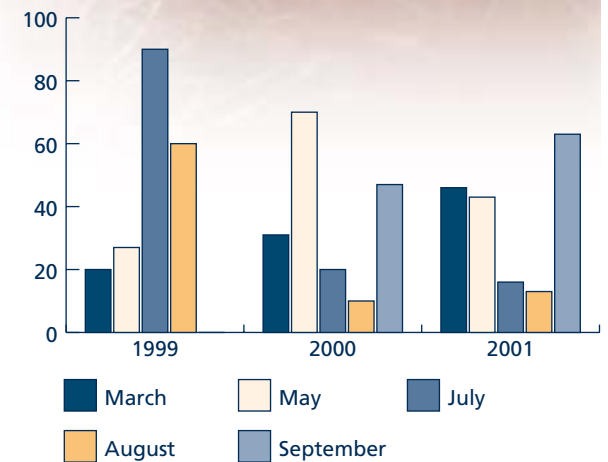
WHAT IT CONNECTS TO

Harbor water quality is directly connected to ecosystem health, and is affected by things as seemingly remote as storm water run-off of road pollutants and fertilizers. Water quality is closely connected to the viability and sustainability of a productive commercial bay scallop industry. It is key to continuation of traditional recreational shellfish harvests, and it is strongly linked to our sense of cultural maritime history. For many Nantucketers, the harbor is a piece of who we are. Additionally, the clean, safe recreational waters of our harbors are a strong draw for a sustainable tourist economy.



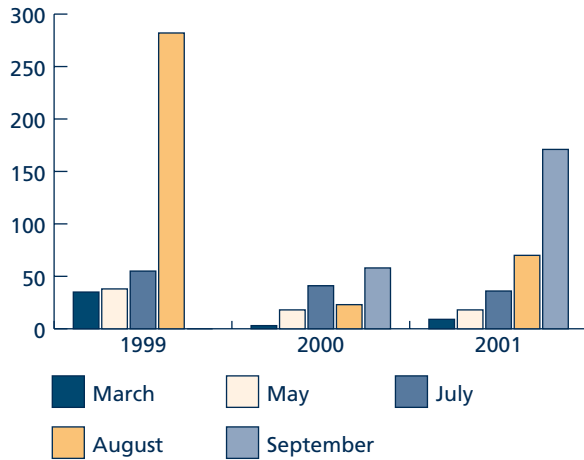
NITRATE MEASUREMENTS

Nantucket Harbor – parts per billion



PHOSPHORUS MEASUREMENTS

Nantucket Harbor – parts per billion



WHAT WE STILL NEED TO KNOW

We need to know what additional data can be generated as a gauge for our harbor water quality. We know that nutrient levels are important, however, and that a significant time lapse occurs between the time when nutrients enter the watershed and when they reach the harbor. We need to determine what amount of buildout, types of land use practices and other pollutants would cause a long-term demise to our fisheries and recreational waters. Tracking the timing and locations of when the harbors are closed for shellfish harvesting may provide an additional useful correlation to water quality among all the above factors.

We need to determine what amount of buildout, types of land use practices and other pollutants would cause a long-term demise to our fisheries and recreational waters.

INFORMATION SOURCE

Marine & Coastal Resources Department, Town of Nantucket

INDICATOR: GROUND WATER SUSTAINABILITY

STATUS: WE HAVE PLENTY OF WATER ... SO FAR

TREND

Unchanged

WHAT WE MEASURE

We depend on rainfall to recharge our water supply, which we draw from the groundwater. To assess our water sustainability, we look at three things: how much water we pump out of the ground to use; how much rainfall we get each year; and groundwater level.

We have not measured the quality of groundwater for this indicator, but we acknowledge that it is a critical concern and will seek to address it in future reports.

WHAT IT MEANS

Balance between each of the above three indicators is critical to sustainability of the Island's drinking water and general water use. If we use water at a rate greater than the rate at which rainfall can recharge our aquifer, or if we aren't getting our average 43" per year rainfall, then it's time to reassess whether we are living within our groundwater limits.

So far, only one of these three measures has changed dramatically over the past ten years. We are using more water. We're still getting

We're still getting roughly the same average annual rainfall; and the groundwater has been recharging to a safe pumping level.

roughly the same average annual rainfall; and the groundwater has been recharging to a safe pumping level.

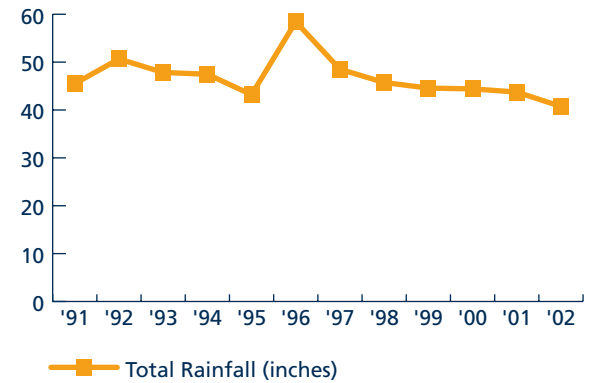
Ground water levels lower than a depth of 13.8' below surface, at monitoring Well C, would require Wannacomet Water Company to temporarily stop pumping until the groundwater at that wellfield could recover. Groundwater depths tend to drop lowest July through September when heavy pumping occurs to accommodate Nantucket's peak population, the weather is hot and dry, and there's very little recharge.

But the water usage levels are within our control. All three trends need to be watched in the future, so that we can change our use patterns and methods of collection and distribution if we need to.



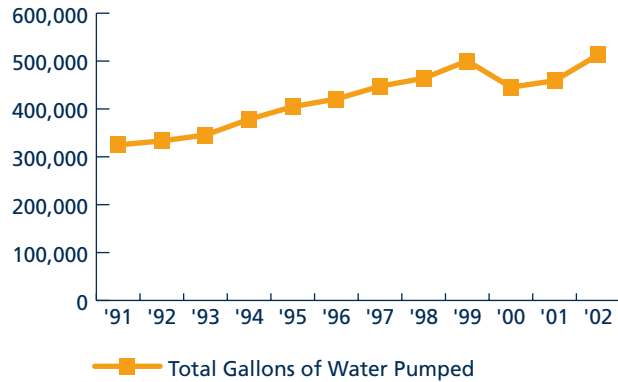
TOTAL RAINFALL ON NANTUCKET

(inches)



TOTAL GALLONS OF WATER PUMPED

Wannacomet Water Co. Service Area



WHAT IT CONNECTS TO

Water connects to everything. An adequate supply of water is fundamental to the Island's health, ecology, and economy. Water quality (together with quantity) is essential to the sustainability of our environment and to our health and economic vitality. Future water issues depend on our current awareness and behavior patterns.

WHAT WE STILL NEED TO KNOW

A per capita measure for water consumption would help us identify trends in personal, irrigation and other uses.

We do not know what the real limit is on our water consumption, given our groundwater levels, average annual precipitation, and shallow well recovery time. How much additional pumping can be made if average air temperature were to increase and precipitation decrease?

We should consider the rainfall for our region in the computer-based climate models that are being used to assess the impacts of global warming and climate change.

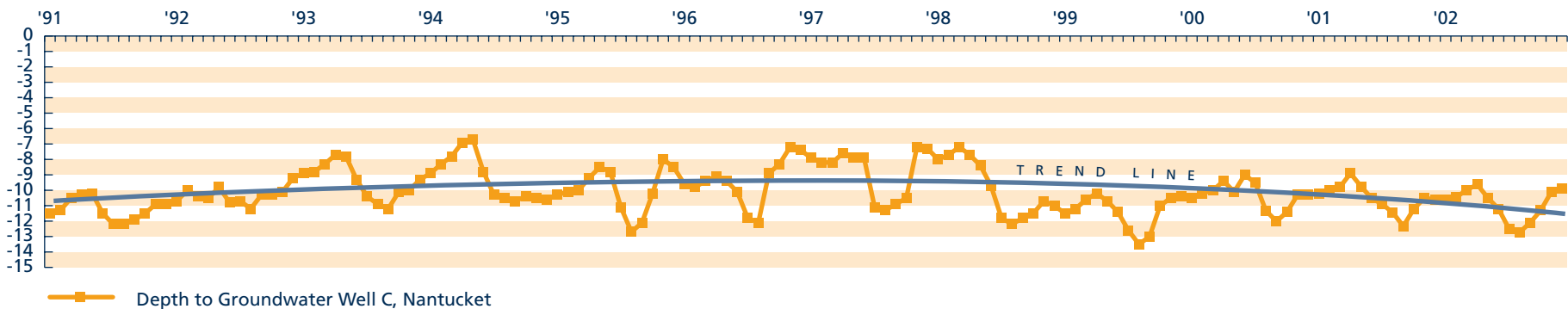
We also need to develop an island-wide measure for the quality of our drinking water for future reports.

INFORMATION SOURCE

Wannacomet Water Company

DEPTH TO GROUNDWATER ON NANTUCKET

Groundwater Well C, Wannacomet Water Co.



INDICATOR: AIR QUALITY

STATUS: ANNUAL HIGHS & LOWS OF OZONE CONCENTRATION OSCILLATE

TREND

Oscillating

WHAT WE MEASURE

We monitor the number of “bad air quality” days in Truro, Cape Cod, the nearest data station. Those are days between May and September when ground-level ozone exceeds the national 8-hour health standard beyond which prolonged and strenuous outdoor activity is ill advised.

WHAT IT MEANS

Air moves. Industrial and vehicle emissions generated close to home are a contributing source of ozone pollution, but also winds carry pollutants long distances. So pollutants generated in the industrialized Midwest and heavily populated New York area are carried to New England by both eastward and southwest winds.

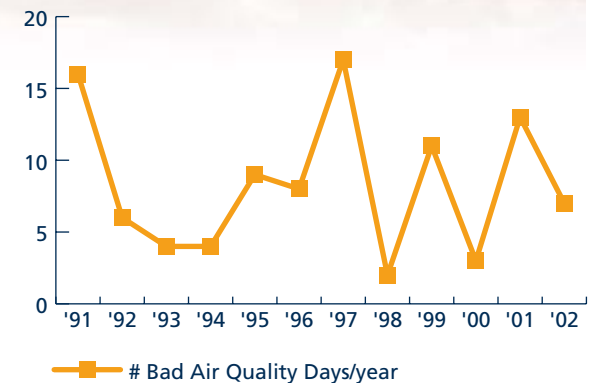
The Truro measurement shows air quality that fluctuates considerably from year to year. Years with the greatest number of bad air days coincide with very sunny, hot summers. We

Bad air days during the spring and summer, when our outdoor activity is at peak, cause a risk to our health.

enjoyed a run of good years in the mid '90s when we had good air for all but about one week during the five-month ozone season. We saw spikes in the number of bad air days in 1997 and 1999, and especially low rates in 1998 and 2000. But to have any bad air days during the spring and summer, when our outdoor activity is at peak, runs a risk to our health. We will need to keep watch of the frequency of unhealthy ozone levels and consider how we can affect a reduction of ozone pollution, as necessary.

NUMBER OF BAD AIR QUALITY DAYS

In the Cape & Islands as measured at Truro Monitoring Station



Air quality connects to environmental indicators such as ecosystem health, and to economic indicators such as traffic and energy use.

WHAT IT CONNECTS TO

Air quality connects to environmental indicators such as ecosystem health, and to economic indicators such as traffic and energy use. It also connects with physical well being, because air pollution can become a health issue.

WHAT WE STILL NEED TO KNOW

This measure comes from Truro, and monitors the ozone level of the lower Cape and Islands. We do not know to what extent Nantucket experiences its own air quality levels, different from Truro's, based on microclimate conditions.

INFORMATION SOURCES

Massachusetts Department of Environmental Protection

INDICATOR: ENERGY USE

STATUS: ELECTRICITY USAGE UP; AVIATION FUEL CONSUMPTION WAY UP

TREND

Increasing

WHAT WE MEASURE

We look at two available measures: electrical energy used on Nantucket, along with the amount of airport fuel sold in recent years. Among the major missing ingredients here are automobile gasoline sales, propane and heating oil, for which figures have not been released. We are trying to collect this data for future publication.

WHAT IT MEANS

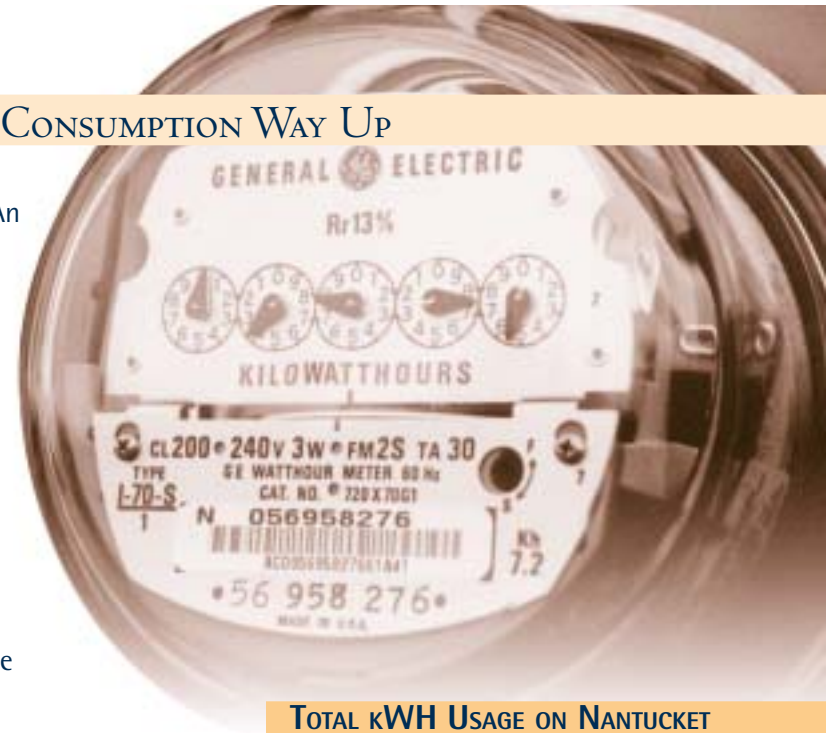
Our energy use appears to be rising at an alarming rate, based on these two selected figures. Electricity use rose 25% between 1996 and 2001 – a rate that is probably accounted

Our energy use appears to be rising at an alarming rate, based on two selected figures: Electricity use rose 25% between 1996 and 2001, and the sale of airport fuel more than doubled.

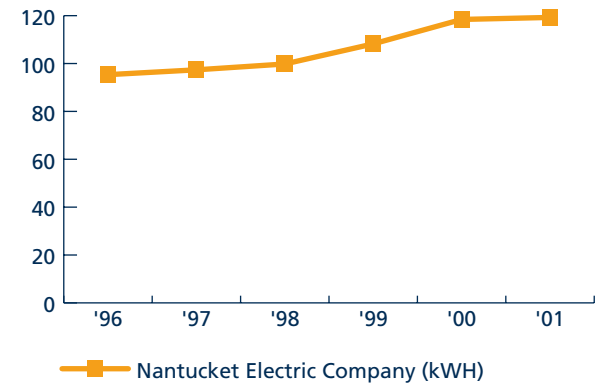
for by population increases. An increase in installations of central air-conditioning systems may also account for part of this increase. However, the sale of airport fuel more than doubled during that same time, an increase that far outstrips population growth. This data reflects both the fact that there are more of us on Nantucket, and also that more planes are coming here and purchasing fuel.

WHAT IT CONNECTS TO

Energy use connects directly to environmental indicators, including air quality, water quality, and ecosystem health. Energy use is also connected, although perhaps less directly, to economic indicators such as cost of living, traffic, public transportation, and size of off-island commuting workforce. Finally, our consumption of fossil fuel has been strongly linked to an increase in global temperatures and resulting climate change.



TOTAL KWH USAGE ON NANTUCKET



We need to know how to make alternative energy sources practical and viable.

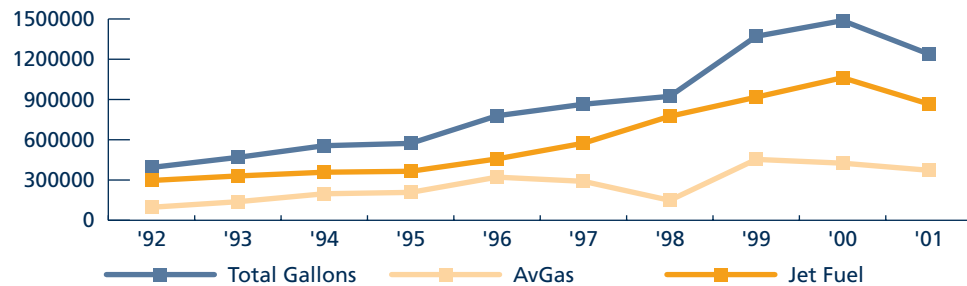
WHAT WE STILL NEED TO KNOW

We need to know more about the long-range impacts on our environment, society, cost of living, and quality of life. We need to know how to make alternative energy sources practical and viable. And we need information about energy-efficient technologies that we can use to reduce our consumption of electricity while still staying warm or cool.

INFORMATION SOURCES

- Nantucket Electric Company
- Nantucket Memorial Airport Commission

AIRPORT FUEL SALES ON NANTUCKET



INDICATOR: NOISE AND LIGHT POLLUTION

STATUS: NOISE COMPLAINTS GROWING; LIGHT POLLUTION TREND UNKNOWN

TREND

Increasing noise complaints since 1998; no trend data available on light pollution

WHAT WE MEASURE

Noise and light pollution are both about excesses: excess sound, excess photons. We have no data telling us how much noise is actually being generated on Nantucket, or what the trend is, apart from what people sense with their own ears. We have no way to measure “light pollution” — excess artificial light that dims our perception of the stars and makes night on Nantucket feel less night-like — except for the eyes of our residents, and their memory of how things used to be.

What we do know is how many people *complain* about noise, which, although subjective, is a good proxy for measuring noise pollution. So we look at noise complaints to both the airport and the Police Department. Complaints to the Police are classified as “Founded” after the Police have responded and indeed discovered a noise problem, from either a loud party, a loud person, or some other source.

We have no way to measure “light pollution” — excess artificial light that dims our perception of the stars and makes night on Nantucket feel less night-like — except for the eyes of our residents, and their memory of how things used to be.

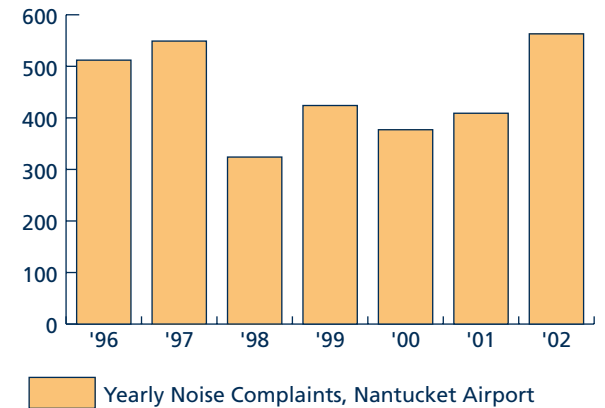
For light pollution, we have only the survey data collected in December, 2001, by Edge Research. The survey asked Nantucket residents, both full- and part-time, what issues they believed to be problems on the Island. We will not have trend data until and unless the survey is repeated.

WHAT IT MEANS

Noise complaints have risen sharply in recent years. Complaints to the airport are up 73% from their most recent low in 1998; complaints to the Police have risen 20% since 1997. While the variation in Police data is not readily explained, the airport data variations reflect

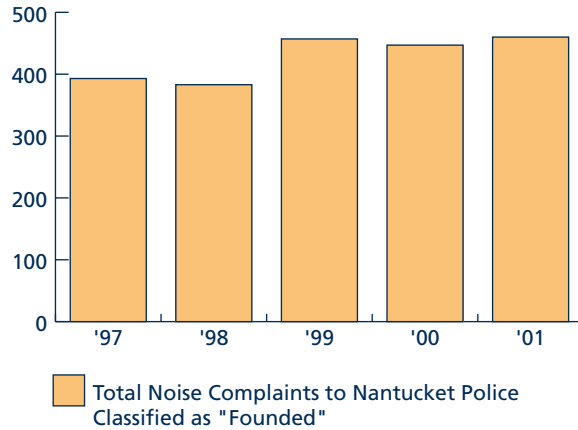
YEARLY NOISE COMPLAINTS

Nantucket Airport



TOTAL NOISE COMPLAINTS

Nantucket Police Classified as "Founded"



the installation of voluntary noise abatement routes in 1998 and the gradual increase in non-compliance with those routes.

When surveyed in 2001, about one-quarter of Nantucket residents believed noise to be a problem on the Island. About one in seven thought there had been a troubling increase in "ambient light," the amount of artificial glow in the sky after dark. We will have to repeat the survey to find out if people's perception of this as being a problem becomes more pronounced.

WHAT IT CONNECTS TO

These indicators connect directly to our quality of life. Quiet, starry nights are also an important element of our appeal. So preserving a peaceful atmosphere here, and the chance to escape from the ever-present glow of city lights, are an economic necessity, not a luxury.

Preserving a peaceful atmosphere here, and the chance to escape from the ever-present glow of city lights, are an economic necessity, not a luxury.

WHAT WE STILL NEED TO KNOW

It would help to get more specific, objective, measured data of noise and ambient light levels (both are measurable) to correlate with the complaint data and public survey data, especially over time. We also need to find out what the major sources of annoyance are, and what can be done to address their causes.

INFORMATION SOURCE

Nantucket Police Department

Nantucket Memorial Airport

Edge Research, Dec. 2001, "Analysis of a Survey of Full-Time and Seasonal Residents of Nantucket"

INDICATOR: BEACH DRIVING

STATUS: A STEADY STREAM OF CARS ON OUR BEACHES

TREND

Steadily high

WHAT WE MEASURE

We would like to measure the actual number of cars on beaches and the time these cars spend on the beach, but there is no such data – so instead we measure beach driving permits as a proxy. In recent years, Nantucket has sought to regulate four-wheel beach driving by issuing permits. We follow the number of permits issued since 1997, the first year the Town issued permits.

WHAT IT MEANS

Beach driving is an increasingly popular activity with residents and tourists – one that allows them to enjoy the natural beauty of the Island, and to reach prime fishing locations. However, the high, steady number of vehicles on our beaches is visually unappealing and potentially harmful to our coastal wildlife and to people enjoying our beaches.

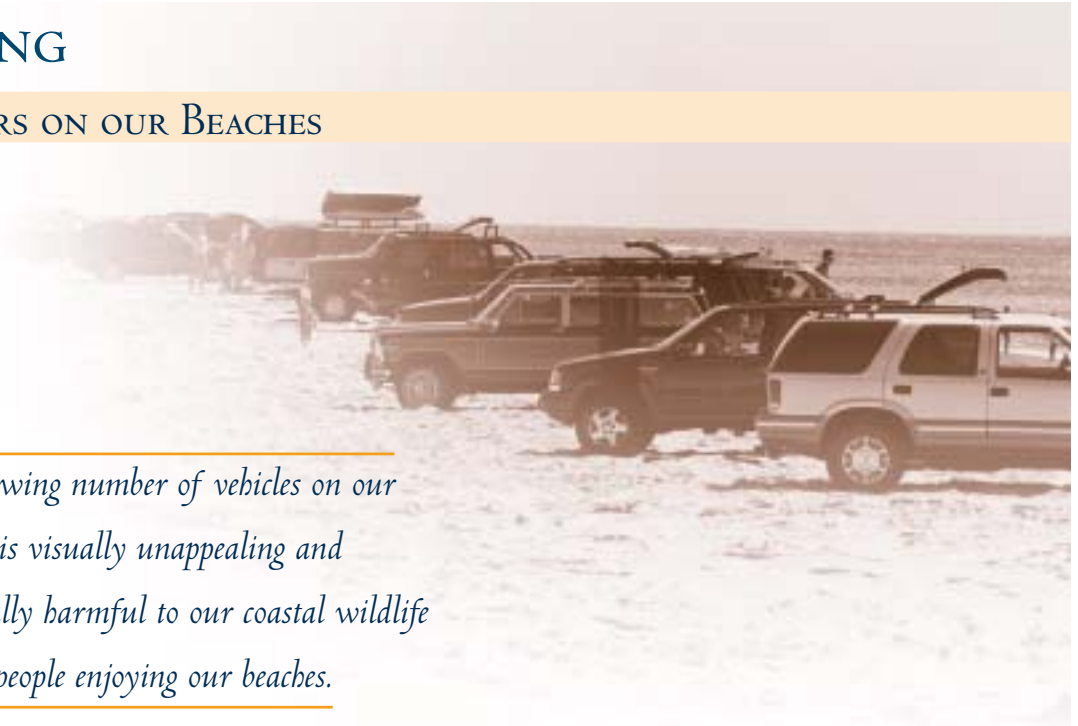
Trend data is limited to the past six years, during which we have seen some fluctuation that makes it difficult to generalize about

The growing number of vehicles on our beaches is visually unappealing and potentially harmful to our coastal wildlife and to people enjoying our beaches.

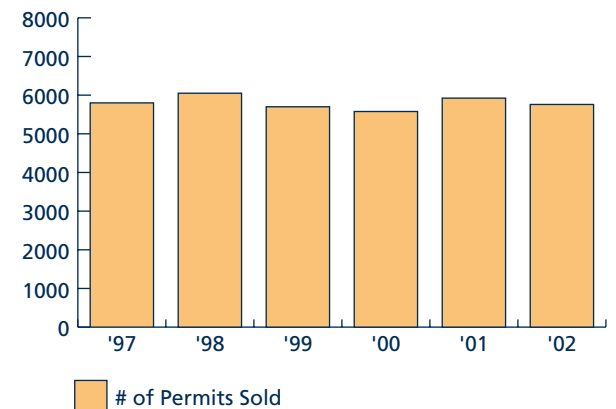
trends. We saw an upswing between 1997 and 1998, from 5800 to 6000 permits, followed by two years of falling permits, with another rise in 2001.

WHAT IT CONNECTS TO

Beach driving connects directly to environmental concerns such as ecological health, shorebird nesting habitat and dune protection. It also connects to our sense of history and to the sustainability of our tourist economy – and to our quality of life.



NANTUCKET BEACH DRIVING PERMITS SOLD



We would like to measure the actual amount of beach driving, and we need to know the precise impact of beach driving on the environment.

WHAT WE STILL NEED TO KNOW

In addition to tracking the number of Town permits sold, we would like to track the permits issued for Great Point and identify any duplication. More importantly, we would like to measure the actual amount of beach driving, and we need to know the precise impact of beach driving on the environment. Ecological studies can give us more information, if we conduct such research.

INFORMATION SOURCE

Nantucket Police Department

INDICATOR: WASTE AND RECYCLING

STATUS: RECYCLING RATES DROPPING SIGNIFICANTLY

TREND

Decreasing

WHAT WE MEASURE

We would like to measure the disposal of all waste in our community. But the best we can do for now is to measure landfill and recycling use through Waste Options data as provided to the Department of Public Works for the Town of Nantucket. We know, however, that this figure does not account for all waste disposal on the Island.

WHAT IT MEANS

Ideally, we would like to see landfill use decreasing and recycling increasing. However, between 1998 and 2002, we saw the reverse: a steady rise in garbage going to the landfill, with no increase in the amount of garbage being recycled (resulting in a decline in the recycling rate).

This increasingly inefficient use of resources means we produce more goods than are truly necessary, spending more of our income than we need to and using up additional fuel and other resources. Solid waste deposited in landfills represents resources whose useful life

Our increasingly inefficient use of resources means we produce more goods than are truly necessary, spending more of our income than we need to and using up additional fuel and other resources.

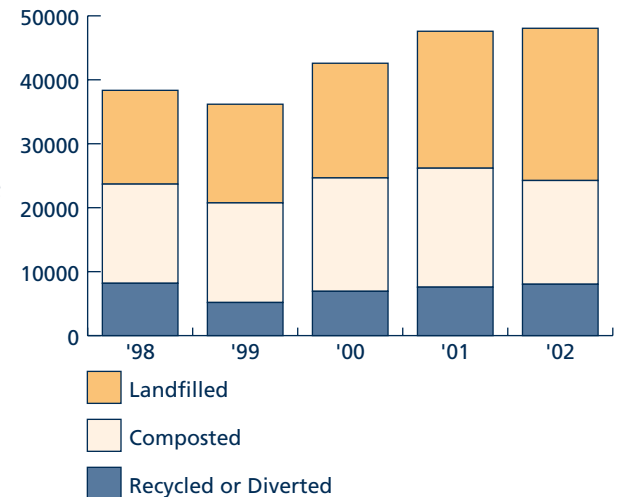
is thought to be finished. Through recycling, composting, reuse, and waste reduction we can use our resources more efficiently, reducing the need to consume new natural resources to manufacture new products.

Recycling rates are strongly affected by the market. Currently, paper, newspaper and magazines are being composted rather than recycled, due to a slump in the market for those materials.

Prior to 1998 there was virtually no composting mechanism in place. Now with a digester and composter in full operation, we are able to compost sludge, animal manure, food waste,



WASTE & RECYCLING ON NANTUCKET



Note: Dirt & Fill Subtracted to Show Relevant Trend

leaf and yard waste and a considerable amount of household trash. At the same time, we are seeing an increase in the amount of mixed waste, wood, brush, baled plastic bags and other items that cannot go through the digester/composter system. Therefore, this material ends up in our landfill.

WHAT IT CONNECTS TO

Environmental indicators such as air quality, water quality, and energy usage are connected to recycling. So are economic factors, like economic diversity or activity — because recycling and efficient resource management can reduce production costs in the long run, stimulating business.

Recycling and related waste issues connect to the overall quality of our lives and the lives of future generations.

WHAT WE STILL NEED TO KNOW

We need to analyze the ratio of waste production to population growth — do we have more garbage because we have many more people, or because people are throwing away more stuff per person?

We also need to know more about the economics of waste. For example, is more construction waste than necessary going into the landfill because it costs more to pay a crew to sort than it does to pay the landfill fee?

And we need to understand how to better encourage recycling practices. How can we influence waste policy so the focus stays on longer-term practices and sustainability?

INFORMATION SOURCE

Department of Public Works, Town of Nantucket

Environmental indicators such as air quality, water quality, and energy usage are connected to recycling. So are economic factors, like economic diversity or activity — because recycling and efficient resource management can reduce production costs in the long run, stimulating business.

INDICATOR: HOME SIZE

STATUS: HOMES SIZE INCREASING ... IN MORE WAYS THAN ONE

TREND

Increasing

WHAT WE MEASURE

We look at the average size of newly constructed homes on Nantucket to get a sense of our resource consumption.

WHAT IT MEANS

Homes size is an issue not only because larger homes take up more land, but also because larger homes use more resources for construction, waste management, and upkeep. This looks good for the local economy in the short term, but it is not a sustainable trend because our resources are limited.

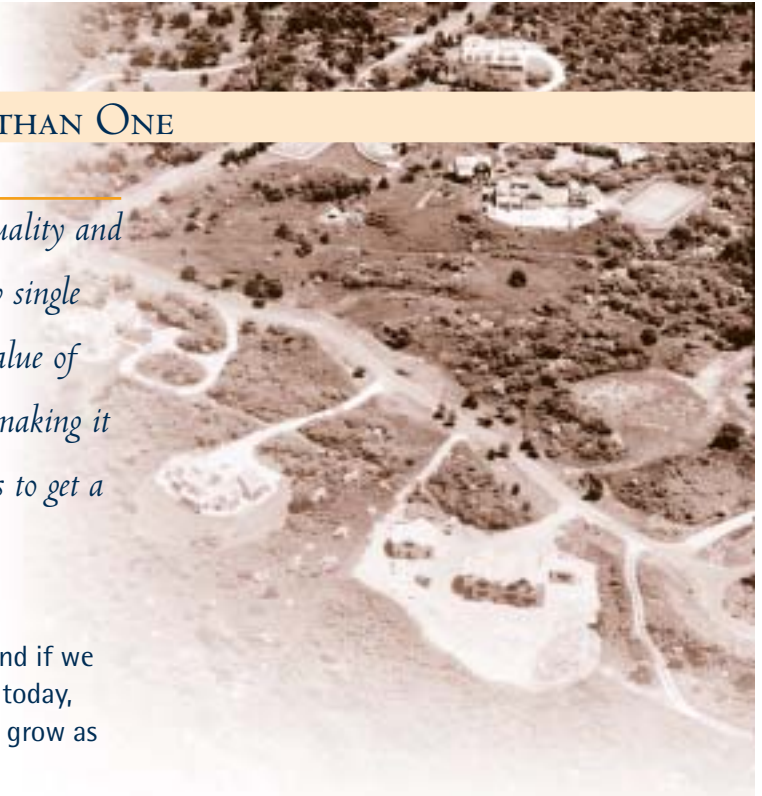
WHAT IT CONNECTS TO

The distinct rise in the size of Nantucket homes parallels other increases – in population, traffic, environmental impacts, and feelings of economic disparity. This is an area where the perceived health of our Economy, and what we believe to be good for Nature, seem to be at

Depending on the construction quality and marketplace conditions, large new single family homes may increase the value of surrounding lots and dwellings, making it harder for first-time home buyers to get a foothold in the real estate market.

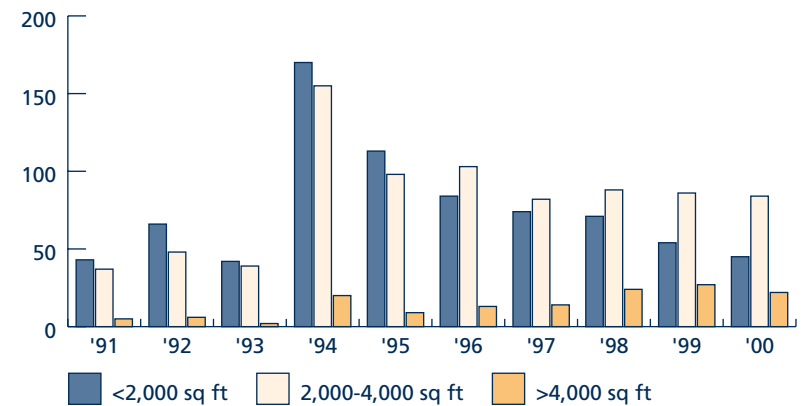
odds. If home size keeps growing, and if we keep using land resources as we do today, pressure on Nature will continue to grow as well.

Home size also connects to real estate values: depending on the construction quality and marketplace conditions, large new single family homes may increase the value of surrounding lots and dwellings, making it harder for first-time home buyers to get a foothold in the real estate market.



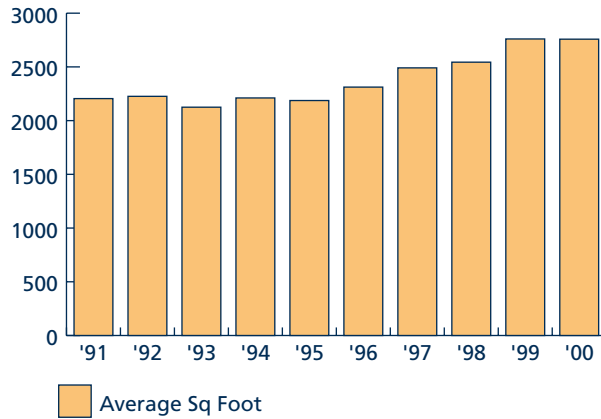
NUMBER OF BUILDINGS CONSTRUCTED

by Square Foot on Nantucket



AVERAGE SQUARE FOOTAGE

of Buildings Constructed on Nantucket



WHAT WE STILL NEED TO KNOW

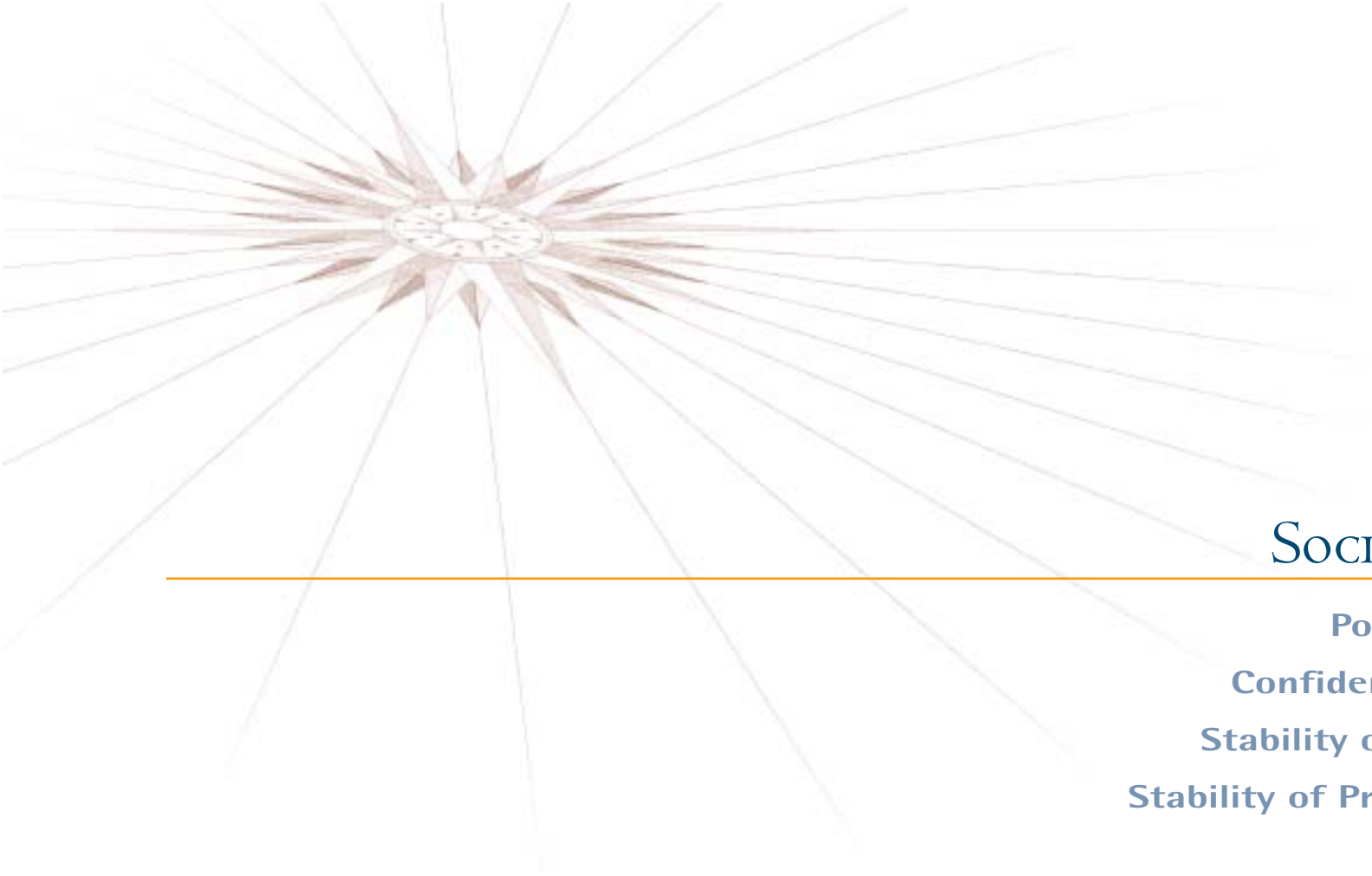
If larger homes are becoming the norm, we need to know how to build them in such a way that they don't use up a disproportionate amount of resources, and in such a way that they mesh with the character of Nantucket.

A measure of the occupancy rate and level of use of larger homes could be correlated with other social and economic trends, but we have not yet done that analysis.

INFORMATION SOURCE

Assessor's Office, Town of Nantucket

If larger homes are becoming the norm, we need to know how to build them in such a way that they don't use up a disproportionate amount of resources, and in such a way that they mesh with the character of Nantucket.



SOCIAL INDICATORS

- Political Engagement**
- Confidence in Government**
- Stability of Local Population**
- Stability of Professional Services**
- Cultural Diversity**
- Public Safety**
- Perception of Public Safety**
- Volunteerism**
- Preservation of Sense of History**



INDICATOR: POLITICAL ENGAGEMENT

STATUS: LESS THAN HALF OF US GET INVOLVED IN LOCAL DECISION-MAKING

TREND

Little change in the raw numbers, but a decline in terms of the percentage of registered voters.

WHAT WE MEASURE

Nantucket's political engagement includes not only standard voting in town, state, and national elections, but also the traditional New England town meeting form of government. For an indicator of how politically active our citizens are, we look at two measurements: voters at local elections, and participation in annual town meetings.

WHAT IT MEANS

These numbers indicate a relatively low level of political engagement. Although our community has seen the number of registered voters rise along with the population as a whole, the number of people voting in town elections has not grown – at least, not much. This means that a smaller and smaller percentage of voters are actually casting votes in local elections. At the same time, participation in the annual town meeting has remained low, even dropping slightly since 1999. In percentage terms, this also means that fewer of us are getting involved.

Low levels of engagement mean that political decisions regarding the economy, the environment, social issues, and other topics are less likely to reflect the values held by a majority of the population.

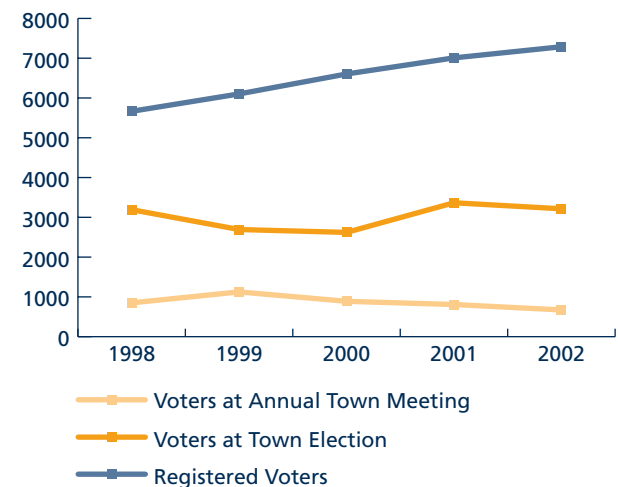
WHAT IT CONNECTS TO

Low levels of engagement mean that political decisions regarding the economy, the environment, social issues, and other topics are less likely to reflect the values held by a majority of the population. It is also impossible for our choices to benefit from our full collective wisdom if we are not more engaged. And it could be a sign of disenfranchisement, divisiveness within our community, and a feeling that a small group makes decisions for our community. This indicator is also linked to education, especially to education about government and civic life.



REGISTERED VOTER PARTICIPATION

Voters participating in Town Elections and Annual Town Meetings



Our local trend reflects a national tendency to disengage from politics, and we need to understand what precipitates this — both at a local and national level.

WHAT WE STILL NEED TO KNOW

We need to better understand why the majority of our population is not participating in politics and elections. Our local trend reflects a national tendency to disengage from politics, and we need to understand what precipitates this – both at a local and national level. We also need to consider what this trend means for our Town Meeting form of government.

INFORMATION SOURCE

Town Clerk's Office, Nantucket

INDICATOR: CONFIDENCE IN GOVERNMENT

STATUS: OUR CONFIDENCE IS MIXED

TREND

Unknown

WHAT WE MEASURE

How effective is our system of government on Nantucket? We look at approval ratings for governing groups on the Island, based on a fall 2001 survey. We also look at the difference in perspective between full-time and seasonal residents. This is the first such survey, so no trend assessment can be made.

WHAT IT MEANS

All the groups covered in this survey rate positively. But while the Land Bank and Conservation Commission enjoyed high approval, feelings were more mixed about the Historic District Commission and local Selectmen at the time of survey. The Airport suffered the lowest approval rating in percentage terms, with only 58% of full-time residents approving the commission's job, and 21% disapproving. Seasonal residents seemed more satisfied with the performance of government than did full-time residents, with the exception of their assessment of local Selectmen.

Satisfaction with government connects closely to voting rates and political engagement. And because government officials make decisions affecting almost every indicator in all categories, satisfaction with government gives us some indication of how we feel about the quality of our lives as a whole.

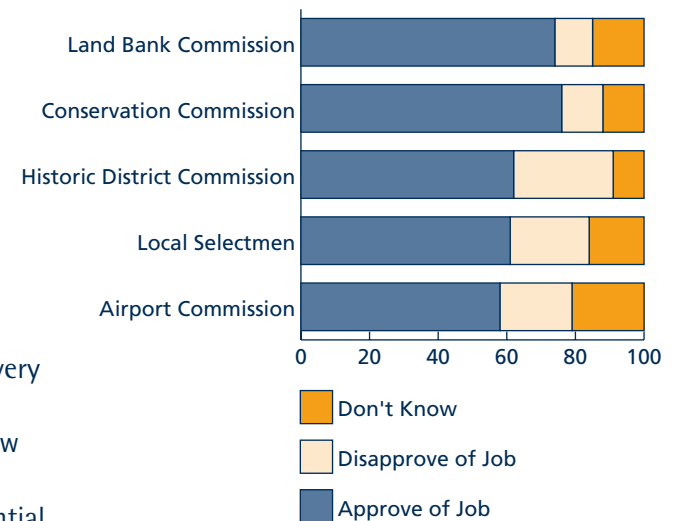
WHAT IT CONNECTS TO

Satisfaction with government connects closely to voting rates and political engagement. And because government officials make decisions affecting almost every indicator in all categories, satisfaction with government gives us some indication of how we feel about the quality of our lives as a whole. This indicator also illustrates a potential



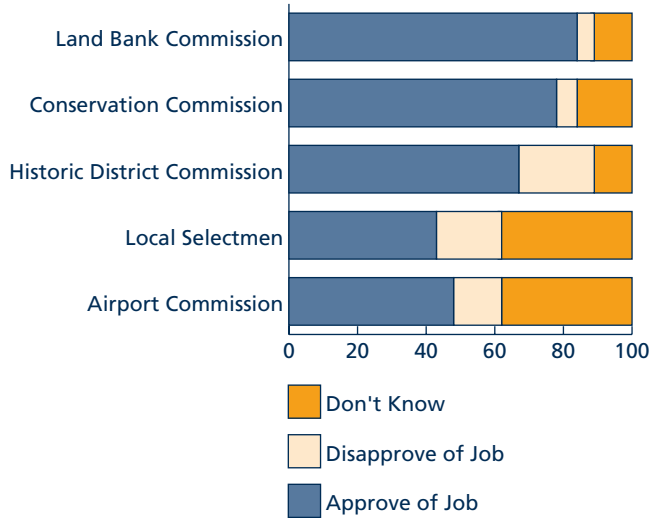
FULL-TIME RESIDENTS

Satisfaction with Governance on Nantucket (300 surveyed)



SEASONAL RESIDENTS

Satisfaction with Governance on Nantucket (158 surveyed)



difference in the sense of community connectedness between full-time and seasonal residents.

WHAT WE STILL NEED TO KNOW

It will be important to develop a data series over time in order to determine trends. Future surveys could also be enhanced by asking people specifically why they approve or disapprove of a governmental body's performance.

INFORMATION SOURCE

Edge Research, "Survey of Full-Time and Seasonal Residents of Nantucket," December, 2001

INDICATOR: STABILITY OF LOCAL POPULATION

STATUS: HIGH RATE OF POPULATION MOVEMENT (“CHURN”) IS INCREASING

TREND

Churn is increasing, so stability is declining

WHAT WE MEASURE

To get a sense of the stability of our population, we look at the number of us who move to Nantucket each year, and the number of us who move away. We compare the total of those two figures to the population level, because that tells us the total rate of change in the people living here. We call the total percentage of people moving either in or out “population churn.”

Note: The data here is based on IRS tax returns and exemptions claimed, and when compared to US Census data, it appears to under-represent total Nantucket population by a significant percentage. In effect, this indicator measures only a large sample of our permanent population.

WHAT IT MEANS

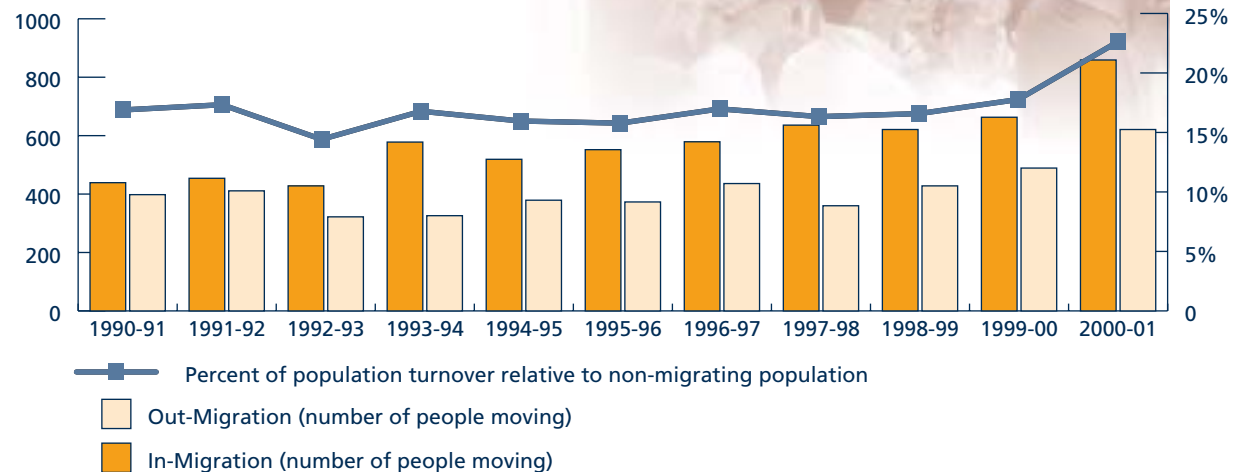
We have a high churn rate, and it has been rising higher. In the year 2000-01, nearly a quarter of us moved. We live in a country of rapid motion, but the rate at which we move to

and from Nantucket is outpacing the rest of the nation. Back in the mid-nineties, our churn rate was closer to 15%, which is typical for the United States.

Even with this increasing mobility, however, according to a survey conducted in 2001, we still have much stability: most full-time residents of Nantucket have lived here for more than 10 years, and 28% of us have lived here for 20 years or more.



POPULATION “CHURN” ON NANTUCKET



Among full-time residents, 19% have lived here less than five years, and 18% have lived here 5-10 years. About 67% of full-time residents are homeowners – a figure almost identical to national home ownership rates.

But the trend in recent years shows an increasing number of people leaving. The number of people leaving every year went up about 60% between 1997-98 and 2000-2001, reaching its highest levels of the decade. This should give us cause for concern if the trend continues.

WHAT IT CONNECTS TO

A stable population is more likely to develop a strong sense of community. When neighbors know each other well, they are more likely to come together for a common cause, to be politically engaged, to generally enhance the well-being of the community. Stability is

connected to volunteerism, public safety, and cultural understanding, and can also enhance physical health and mental well-being. On the other hand, a naturally occurring turnover of the population can reenergize a politically stagnant climate and bring enriching new ideas and experiences into the community.

WHAT WE STILL NEED TO KNOW

We need to explore the impact of our many newcomers on our community's stability. Are these newcomers likely to become long-timers? Are they more or less likely to engage in the political process? How can we welcome the flow of so many new residents while maintaining and even strengthening our sense of community stability?

INFORMATION SOURCE

Internal Revenue Service

Edge Research, "Survey of Full-Time and Seasonal Residents of Nantucket," December, 2001

A stable population is more likely to develop a strong sense of community. When neighbors know each other well, they are more likely to come together for a common cause, to be politically engaged, to generally enhance the well-being of the community.

INDICATOR: STABILITY OF PROFESSIONAL SERVICES

STATUS: WE HAVE NO DATA ... BUT ANECDOTAL EVIDENCE CAUSES CONCERN

TREND

Unknown

WHAT WE MEASURE

Most Islanders have heard about the exodus of our essential community workers – hospital staff, school employees, police, and other workers who have been “forced” to leave Nantucket because of issues such as housing affordability and the high cost of living. Unfortunately, while the problem of maintaining a stable group of people to provide our community with key professional services exists, we have no hard data to tell its true extent, or to help us better understand solutions.

WHAT IT MEANS

Our lack of data does not mean the problem does not exist. This indicator was selected because of the enormous importance placed on the issue by participants in our community dialogue process. We need to find a measure so we can track the status of this difficult situation.

Most Islanders have heard about the exodus of our essential community workers – hospital staff, school employees, police, and other workers who have been “forced” to leave Nantucket because of issues such as housing affordability and the high cost of living. Unfortunately, while the problem of maintaining a stable group of people to provide our community with key professional services exists, we have no hard data to tell its true extent, or to help us better understand solutions.

WHAT IT CONNECTS TO

Having key professionals in stable and secure positions is essential to continuity, expertise, and understanding in areas such as health care, education, economic development and planning, and the study and care of our environment. Stability of professional services also connects to cost of living, home ownership affordability, learning, economic diversity, and ecosystem health. This is one indicator that touches each of us in our everyday life as we go about providing and using essential services.

STABILITY OF PROFESSIONAL SERVICES



We need to know how many people are leaving and what services they provide. Importantly, we also need to know why they are leaving — is it because of changes in the community, changes in employment, because of high costs, or by personal choice?

WHAT WE STILL NEED TO KNOW

We need to know how many people are leaving and what services they provide. Importantly, we also need to know why they are leaving – is it because of changes in the community, changes in employment, because of high costs, or by personal choice? And we also need to know what can be done to encourage them to stay.

And at the same time, the talents and skills of our long-time residential population can and should be supplemented with newcomers. But when newcomers do take up these positions, we'd like to know what they need in order to feel both socially integrated to Island living and economically secure.

INFORMATION SOURCE

Indicators Community Dialogue Process

INDICATOR: CULTURAL DIVERSITY

STATUS: ISLAND POPULATION GROWING, BECOMING MORE DIVERSE

TREND

Both population and racial diversity are increasing; age diversity has declined

WHAT WE MEASURE

We look to US Census data to chart population growth and demographic shifts.

WHAT IT MEANS

Our full-time population nearly doubled between 1990 and 2001, from 6,000 to 11,700. The bulk of that growth happened in the 20-59 age group, which grew from 57% of the population to 65.2% ten years later.

During that time, our community became more racially diverse. In 1990, less than 3% of the population was from a minority group. By 2000, 12% of the population identified themselves as being from a minority group.

While Census methods changed regarding how race and ethnicity were identified in the Year 2000 census – making it more possible to identify oneself as being of mixed ethnic background, for example – this sharp jump in diversity is still highly significant.

Diversity in our population connects to the deeper concepts of cultural, intellectual and philosophical variety, which lend richness to our work, our art, our music, our food, our lives as individuals, and our community overall.

At the same time, age diversity declined a bit. We had 2% fewer children and teenagers in 2000 compared to 1990, and nearly 5% fewer folks who were 60 or older.

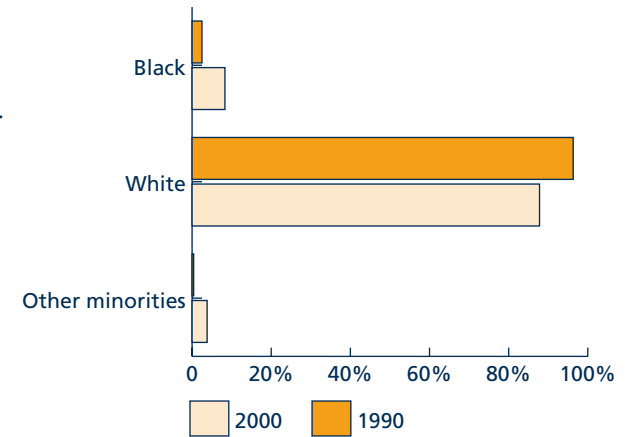
WHAT IT CONNECTS TO

Diversity in our population connects to the deeper concepts of cultural, intellectual and philosophical variety, which lend richness to our work, our art, our music, our food, our lives as individuals, and our community overall.

Diversity also connects to learning, because with a diverse population there is more around us on a daily level to learn from. And diversity in our population connects to economic diversity, as different groups bring with them different business perspectives and different employment abilities.

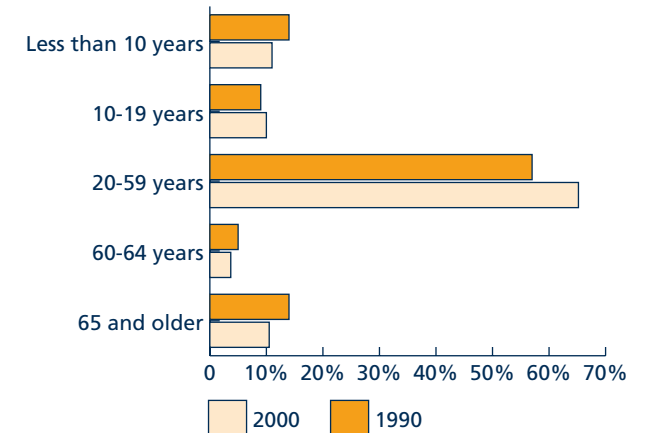
CHANGE IN RACIAL DIVERSITY

as percentage of Nantucket population



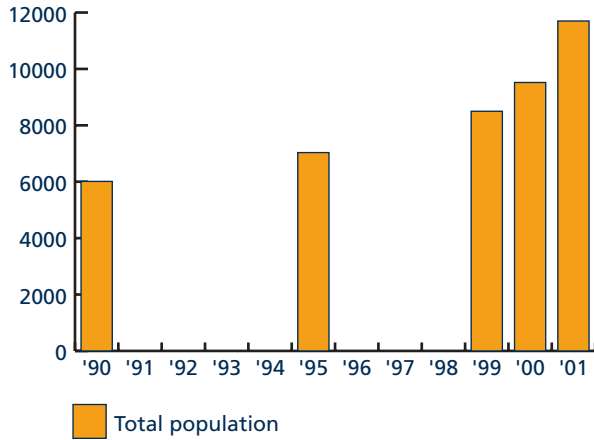
CHANGE IN AGE GROUP DIVERSITY

as percentage of Nantucket population



TOTAL PERMANENT POPULATION

Nantucket 1990 - 2001



WHAT WE STILL NEED TO KNOW

Census data does not break down whether residents are seasonal or full-time – it would be interesting to see how our demographic changes over the past ten years divide up between seasonal and year- round residents.

Additionally, Census data speaks to presence of minority groups, not necessarily to community acceptance. It would be helpful to measure feelings of community integration as well as population diversity.

INFORMATION SOURCE

U.S. Census Bureau

INDICATOR: PUBLIC SAFETY

STATUS: CRIME RATE LOW, BUT ON THE RISE SINCE 1997

TREND

Increasing

WHAT WE MEASURE

We look at the Island’s crime statistics in order to measure our overall public safety. We look at numbers of crimes, rather than crime as a percentage of our growing population, because of our small size as a community: an increase in the *number* of violent crimes affects all of us, even if the *crime rate*, in percentage terms, is not growing.

WHAT IT MEANS

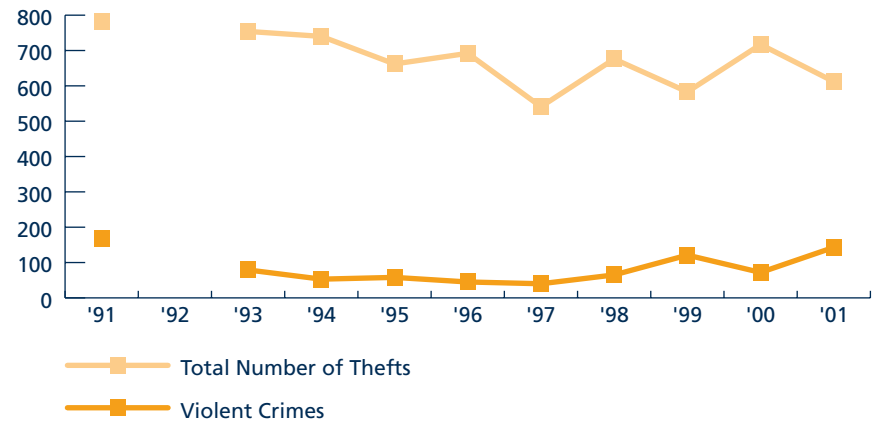
Our community is fortunate to have relatively little crime. But violent crime (rape, robbery and assault) did rise sharply between 1997 and 2001, from 40 violent crimes to 143. Total crime in recent years is back up to where it was in the middle 1990s, but still not as high as the peak year of 1991. Although we have little crime compared to most communities, it’s worth noting that the recent upward trend in violent crime took place at a time when most of the country was seeing a decline in violent crime.

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Theft (including larceny, breaking and entering, and motor vehicle theft) is far more common than violent crime, and it has been trending upward, with oscillations, since 1997. However, theft statistics include even very minor crimes, such as stolen beach towels, which can give a misleading picture of the seriousness of the crime rates.

CRIME ON NANTUCKET

Reporting Years Correspond to Town Fiscal Year, which runs July 1 - June 30



Note: Data for 1992 not available

Crime undermines the economic, social, and individual well-being of our community by causing injury and property damage while diverting public resources from social services.

WHAT IT CONNECTS TO

Crime links to a number of indicators in the Well-Being, Society, and Economy sectors. The causal relationships can run both ways, with social and economic problems "causing" more crime, and crime "causing" more social and economic negative effects.

Crime undermines the economic, social, and individual well-being of our community by causing injury and property damage while diverting public resources from social services. Crime has clear connections to substance abuse, income distribution, family stability, poverty, and the size and stability of the population. Crime also links to our feelings of community connectedness and to the sustainability of our tourism economy.

WHAT WE STILL NEED TO KNOW

We need to know the factors behind the recent rise in crime, especially violent crime. We need to know what is contributing to the increase, and, importantly, how we as a community can reverse this trend.

INFORMATION SOURCE

Annual Report, Town of Nantucket

INDICATOR: PERCEPTION OF PUBLIC SAFETY

STATUS: WHILE CRIME IS ON THE RISE, CONCERN IS LOW

TREND

Unknown

WHAT WE MEASURE

As in most communities, Nantucket's feeling of safety is just as important as the hard data on crime. Changes in that feeling often lag behind the facts, but they influence other community behaviors (such as locking homes and cars). So with this indicator, we use a survey question to measure whether crime is a major concern of most full-time and seasonal residents. Because we are relying on a survey, which was recently performed for the first time, we have only one year's data, and cannot yet determine a trend.

WHAT IT MEANS

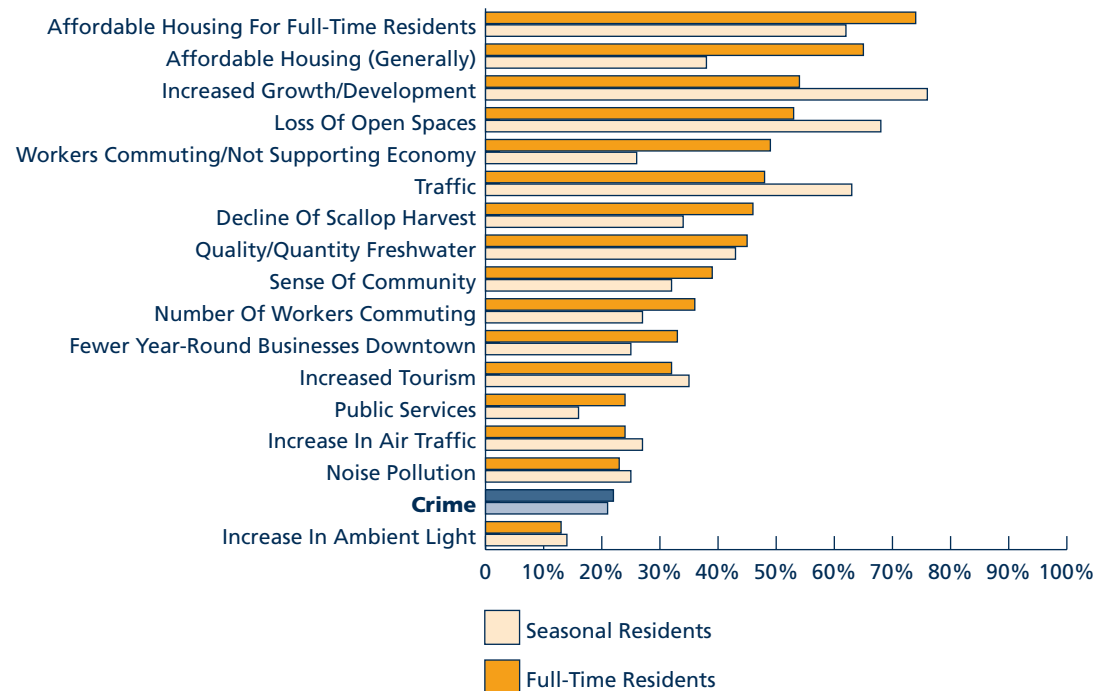
On a list of 17 issues of concern, including affordable housing, traffic, pollution, and others, crime ranked very low for most of our citizens. It came in 16th out of 17 issues cited by residents. Full-time residents were more concerned about noise pollution, the number of workers commuting to jobs, and other issues. The only issue residents were less concerned about was the increase in ambient light. For seasonal residents, crime was ranked 15 of 17, ranking slightly above noise pollution and an increase in ambient light.

Perception of public safety connects to the same indicators as public safety, but also relates directly to our community connectedness.



PERCEPTION OF PUBLIC SAFETY

Nantucketers Surveyed Who Say This Issue "concerns me the most or a great deal" (458 Surveyed)



It is interesting to note that residents have little concern over crime, even though crime rates have risen in the past five years.

WHAT IT CONNECTS TO

Crime is perceived – in our view, accurately – as a good general indicator of social health. Perception of public safety connects to the same indicators as public safety, but also relates directly to our community connectedness.

It is interesting to note that residents have little concern over crime, even though crime rates have risen in the past five years. This follows the pattern observed elsewhere of “perception lagging behind reality.” (It happens in reverse, too: when communities become safer statistically, it takes a while before residents *feel* safer.) We note, however, that the perception that crime isn’t a top priority on Nantucket does accurately reflect our low rate of crime compared to most areas of the country.

WHAT WE STILL NEED TO KNOW

We do not know how perceptions of public safety have changed over the past several years. It would be interesting to see whether the recent rising incidence of crime has created a change in public attitudes and behaviors.

INFORMATION SOURCE

Edge Research, “Survey of Full-Time and Seasonal Residents of Nantucket,” December, 2001

INDICATOR: VOLUNTEERISM

STATUS: WE HAVE NO TREND DATA ... BUT WE'RE LOOKING

TREND

Unknown

WHAT WE MEASURE

It is difficult to measure the concept of volunteerism because there are so many ways to volunteer in our community, from year-round operational support to event-specific help. Volunteerism is staffing the hotline at A Safe Place and supporting programs at the Salt Marsh Senior Center; and it is also staffing the Cottage Hospital's Boston Pops event or the Nantucket Film Festival screenings.

Volunteerism can and should include the countless hours concerned citizens spend on town boards and commissions, and it should also include the effort we expend advocating our causes.

And then there is the group that pioneered recycling on the Island simply by taking their own time to go out to the dump on the weekends and sort everyone's trash. This is all part of what we feel should be included in volunteerism – but there is no concrete measure of all these hours. So instead we look for a proxy. The proxy we have chosen here is

Volunteerism connects closely with our sense of community, because volunteering leads to engaged citizens, raises our awareness of issues affecting our surroundings, and in general makes us feel a part of a positive force.

the number of member and non-member non-profits listed by the Nantucket Chamber of Commerce. Our assumption is that because non-profits historically tend to rely on volunteers, the more non-profits, the more volunteerism. But we do acknowledge this is a less-than-perfect proxy and catches only one small piece of the broader concept of volunteerism.

WHAT IT MEANS

The number of non-profits stands at 96 (54 Chamber members and 42 non-members). We will watch this and see if it rises or falls in the future. One caveat: we also need to note that



NON-PROFITS ON NANTUCKET, 2002

Non-Profits that are	
Members of the Chamber of Commerce	54
Non-Profits that are Not	
Members of the Chamber of Commerce	42
Total Non-profits on Nantucket	96

Higher volunteer rates indicate better services for the needy and can contribute to a better quality of life in the community, while low rates can lead to greater demands on local government.

more non-profits do not necessarily mean more volunteerism. An increase in numbers of non-profits could be a result of external forces - - typically, when federal, state and town funding diminishes, non-profits proliferate, trying to fill needed gaps in services.

WHAT IT CONNECTS TO

Volunteerism connects closely with our sense of community, because volunteering leads to engaged citizens, raises our awareness of issues affecting our surroundings, and in general makes us feel a part of a positive force.

Additionally, volunteerism affects other Well-Being indicators. Many organizations that benefit the public depend heavily on volunteers to accomplish goals. Higher volunteer rates indicate better services for the needy and can contribute to a better quality of life in the community, while low rates can lead to greater demands on local government.

WHAT WE STILL NEED TO KNOW

We need an effective measure that captures not just one facet of volunteerism but all volunteerism, because it is the entirety of our unpaid work that benefits our community. You could even say that volunteerism is one of the elements that combines to create our sense of community, and what makes Nantucket the unique place it is.

This will be an important indicator to track in the future, because a decline in volunteerism could signal a general decline in community health.

INFORMATION SOURCE

Nantucket Island Chamber of Commerce

INDICATOR: PRESERVING OUR SENSE OF HISTORY

STATUS: NO DATA AVAILABLE FOR THIS IMPORTANT SOCIAL INDICATOR

TREND

Unknown

WHAT WE MEASURE

Because Nantucket's history is so central to our community and economic life, we were keenly interested in the status of historic preservation on Nantucket. However, because we were unable to find, or develop, a suitable indicator to measure our status or identify a trend, we must acknowledge that "history" casts a broad net over many aspects of the Island.

The community dialogue process focused often on the question of historic buildings being torn down, renovated, or added to, and what this might mean for community character and identity. Since the preservation of history goes beyond buildings, we must also consider our landscape, economic activities, and patterns of development as possible indicators of our preservation efforts. Since history is a continuum of human life, social and political events and natural and man-made places, we acknowledge that what we are today reflects how much of the past we have retained and in what form. Conversely, we know that the

decisions we make today will contribute to what we will be in 2103. Finding ways to measure our sense of history will be an integral part of that decision making process.

WHAT IT MEANS

Our sense of history on any given day depends on the current "preservation mix" in our community's entire pattern of life, which evolves all the time. Let's take an example: As recently as the early 1900's, there were numerous food and dairy farms. Islanders provided for themselves as much as possible.



Since history is a continuum of human life, social and political events and natural and man-made places, we acknowledge that what we are today reflects how much of the past we have retained and in what form.

Transportation around the Island was by horse and buggy. Livery and blacksmiths were an important part of the workforce. The working waterfront was bustling with fishermen and trade coming in by sail and steam, the sole transport to and from the Island. Labor-intensive professions kept people busy making and repairing sails and rigging, and hauling goods.

A hundred years later we have preserved two working farms and a bog, several cobbled streets and lanes, a small but functioning fishery, hundreds of buildings, acres of landscape and an extensive archive of the distant past. From whaling to tourism, our historic past has always been linked to the viability of our economy. That means that the types of economic activities we pursue, the mix of structures we preserve, the development patterns we encourage and the lifestyles we maintain could determine how our economy will fare over the next hundred years.

WHAT IT CONNECTS TO

Our sense of history and our historic fabric correlate strongly to our sense of community connectedness. History also connects directly to our economic livelihood, because the feeling and presence of Nantucket history is a definite draw for our seasonal visitors.

Our sense of history can also, however, strongly impact both our economic and environmental indicators. If we simply “forget” that scallops have long been a part of our culture, we may cease caring about them ... and about the water quality on which they depend. If we lose our sense of the value of our older buildings and allow them to become degraded, that could reduce the viability of our tourist economy, and so on.

WHAT WE STILL NEED TO KNOW

We need to more fully understand what it is that creates our feelings of connection with our history, and how to define and carry these connections forward.

INFORMATION SOURCE

Indicators Community Dialogue Process

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ECONOMIC INDICATORS

Economic Diversity
Sustainability of Tourist Economy
Economic Value of Bay Scallop Industry
Income Distribution
Cost of Living
Home Ownership Affordability
Housing Usage Patterns
Traffic
Public Transportation
Size of Off Island Commuting Workforce



INDICATOR: ECONOMIC DIVERSITY

STATUS: ECONOMIC MIX REMAINING STABLE AS WE GROW

TREND

Employment leveling off after years of steady growth; mix of jobs remains relatively stable.

WHAT WE MEASURE

To get a sense of the diversity of the economy on Nantucket Island, we look at where jobs are concentrated, using data compiled by the Commonwealth of Massachusetts Division of Employment and Training.

WHAT IT MEANS

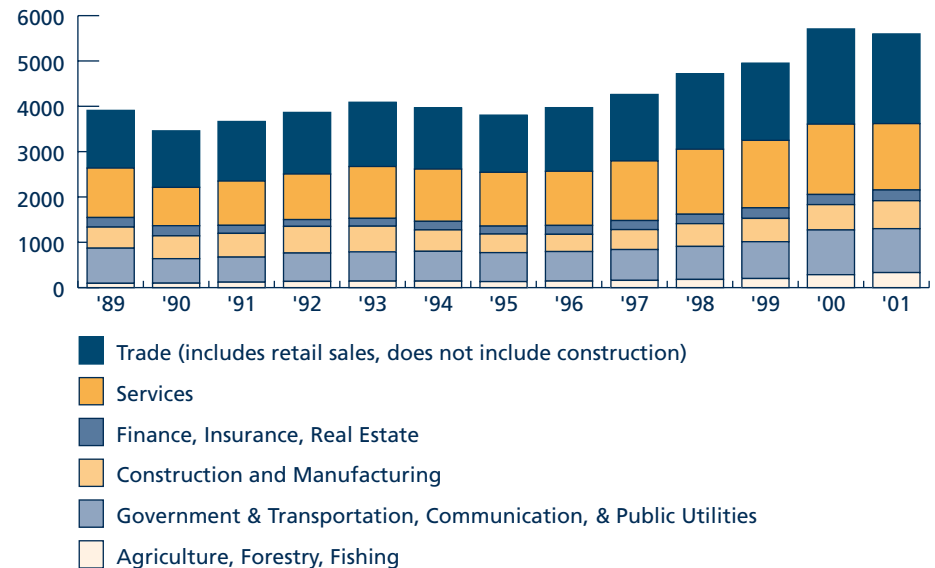
A diverse economy is a *resilient* economy – one that can ride out the national economic ups and downs more steadily. This employment graph shows that employment levels have been rising overall, with a concentration of jobs in retail sales ("Trade") and services – the kinds of jobs that serve a growing, tourism-based economy. Just over two-thirds (68%) of our jobs are concentrated in those two sectors. And while overall numbers have generally increased since 1991 (with a very slight decline in 2001), the percentage of jobs within the various sectors has not changed markedly, which means that our economic mix is relatively stable.

While tourism is a major component of the Island economy, questions remain about developing a year-round economy that is less dependent on that sector. But we are at least holding our ground in this crucial measure.

HOW IT CONNECTS

The diversity of our economy affects our security—how vulnerable we are, or are not, to changes that affect any one sector of

EMPLOYMENT ON NANTUCKET, BY SECTOR



*A diverse economy is a resilient economy
— one that can ride out the national
economic ups and downs more steadily.*

our economy. Hence it is tied to the size of our on- and off-Island workforces, to the stability of our population, to the stability of our careers, and to our overall well-being. Also, the extreme seasonal nature of the tourism economy has impacts throughout the entire fabric of Nantucket life, from the cost of living to our ability to retain stability in our professional services.

WHAT WE STILL NEED TO KNOW

Ideally, it would be helpful to find forecasting tools based on trend data to show us what economic changes are in store for the Island. This kind of information would help us know whether our current mix of jobs will be able to ride out these changes, and thrive under them. It may be possible to use indicators to make projections of this, or at least to understand our history, which may be our best guide to our future.

We would also like to be able to forecast the concrete impacts, both pro and con, that would result from efforts to further diversify our Island economy.

INFORMATION SOURCES

“Employment and Wages in Nantucket (ES-202 Series),” Comm. of Mass. Division of Employment and Training, <http://www.detma.org/>

INDICATOR: SUSTAINABILITY OF TOURIST ECONOMY

STATUS: PEAK SEASON POPULATION INCREASES

TREND

Increasing

WHAT WE MEASURE

While many of us do other things to make a living, our economy is fundamentally based on tourism. To maintain our standard of living, we depend on visitors coming here and spending freely in our shops, restaurants, inns and other attractions. Our appeal to visitors is thus one of our most important economic assets.

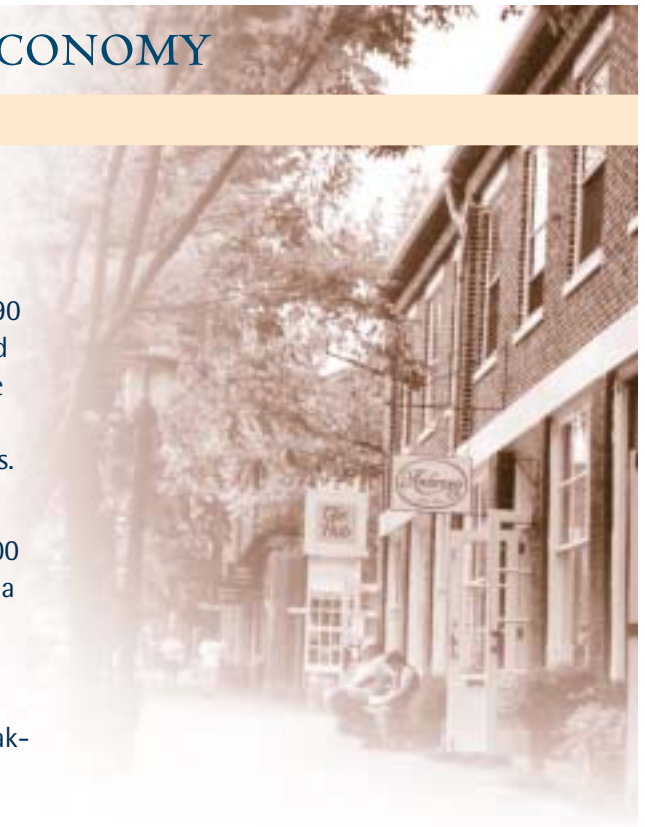
To get a sense of the sustainability of our tourism economy, we track the peak season population. To do this we count the "overnight population" and "day trippers." Overnight population includes anybody sleeping over on Nantucket in July, including year-round residents and their guests; seasonal owners and renters; people staying in boats on the harbors; and lodging guests. Day trippers are visitors who arrive and leave on the same day.

We look at these discrete segments of population because each segment has a different set of needs and impacts, and each experiences Nantucket in a slightly different way.

WHAT IT MEANS

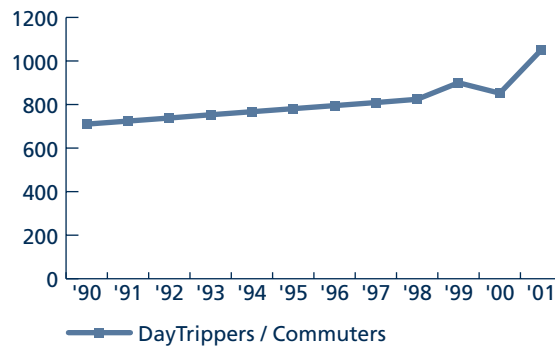
The peak season population has increased by 33% since 1990. Growth was steady from 1990 to 1999, and it accelerated between 1999 and 2001. But note that most of the growth came from an increase in overnight residents and their guests, not from day trippers/commuters.

The parallel growth in full-time, permanent residents (from 6,000 in 1990 to almost 12,000 in 2001) means that permanent residents are a growing percentage of the peak-season population, relative to overnight residents. In 1990, permanent year-round residents represented just under 18% of the Island's peak-season population; by 2001, they made up 26%.



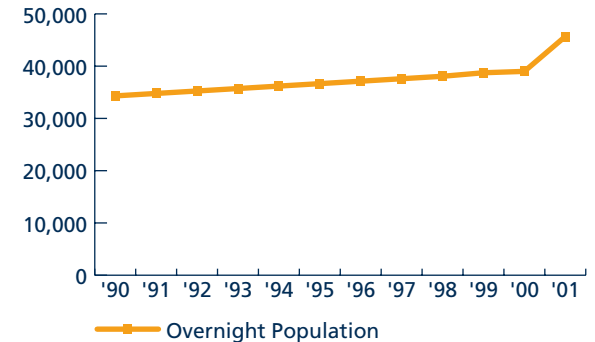
DAYTRIPPERS / COMMUTERS

on Nantucket in July (Peak Season)



OVERNIGHT RESIDENTS

on Nantucket in July (Peak Season)



WHAT IT CONNECTS TO

The peak population indicator connects directly to many aspects of our economy, including home ownership affordability, housing usage, size of off-Island commuting workforce, and economic diversity. It also connects with societal indicators such as the stability of the local population, as well as the Island's sense of community and identity.

Peak population also connects to Nature indicators such as harbor water quality, waste and recycling, beach driving and energy use. And of course, what this indicator is attempting to measure – our stable attractiveness as a tourist destination – is

dependant on our remaining attractive.

WHAT WE STILL NEED TO KNOW

We need to understand better how much of our peak-season population comes directly from tourism; how much of it comes from visitors who do not have friends or relatives who live on the Island; and how much of it comes from our own extended families and circles of friends and colleagues.

INFORMATION SOURCE:

Howard/Stein-Hudson Association, Inc. / RKG Associates, Inc.

Nantucket Airport Commission

Woods Hole, Martha's Vineyard and Nantucket Steamship Authority.

The peak population indicator connects directly to many aspects of our economy, including housing affordability, housing usage, off-Island commuting, and economic diversity.

INDICATOR: ECONOMIC VALUE OF BAY SCALLOP INDUSTRY

STATUS: AFTER YEARS OF GENERAL DECLINE, RECENT SIGNS OF RECOVERY

TREND

Oscillating over the decade; lower overall

WHAT WE MEASURE

Historically, Nantucket's economy has been based on harvesting resources from the sea. Bay scallop harvests have been a consistent part of that economy. Here, we track the annual value of the scallop harvest, to assess the sustainability of this historic way of life and source of sustenance.

WHAT IT MEANS

The annual value of the bay scallop harvest depends on several factors, including the size of the harvest, the price per pound, and the market demand. The scallop harvest fluctuated in value throughout the 1990s, but declined overall. After declines in the early 90s, the harvest peaked to a ten-year high in 1994, then dropped again. In 1999, the harvest's value began rising, returning to slightly higher levels than at the beginning of the decade before dropping again in the most recent data year. The oscillation pattern over the decade appears to be cyclical, and recent years show signs of a possible upswing.

This indicator is also linked to economic diversity, since the fishery provides income independent of the tourist trade. And the fishery adds to our sense of Island history and continuity.

It is interesting to consider that the value of the harvest in 1981 was \$7.95 million (in 2001 dollar equivalents), and that twenty years later, the value was less than \$1 million.

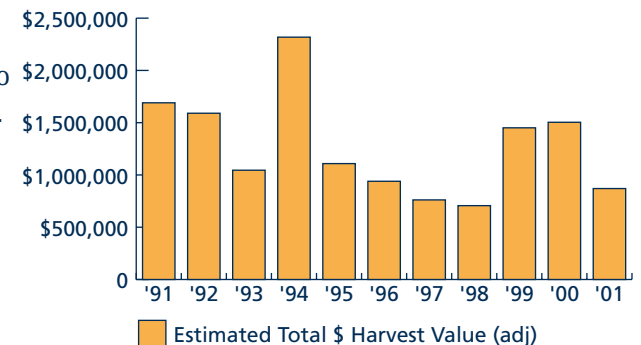
WHAT IT CONNECTS TO

Harvest value is directly connected to harbor water quality – see the Scallop Harvest indicator in "Nature" for more details on the tight connection between what's happening to our waters, and what happens to our shellfish.

This indicator is also linked to economic diversity, since the fishery provides income independent of the tourist trade. And the fishery adds to our sense of Island history and continuity.

ESTIMATED TOTAL \$ HARVEST VALUE

Commercial Bay Scallops, Nantucket Island
Constant 2001 Dollars



Note: in 1980 the harvest value adjusted to year 2001 was \$7.95 million

It is not clear what factors drove the sharp increase between 1998 and 2000: prices were stable while catch increased, but we can't be sure why catch was up.

WHAT WE STILL NEED TO KNOW

Like all agriculture, the scallop fishery is cyclical in nature. A certain amount of variation in harvest is to be expected. It is not clear what factors drove the sharp increase between 1998 and 2000: prices were stable while catch increased, but we can't be sure why catch was up. In 2001, the price dropped significantly (from \$13 to \$8 dollars a bushel, in current year prices not adjusted for inflation), but again, we need more information to know why that happened.

INFORMATION SOURCE:

Marine and Coastal Resources Department
Town of Nantucket

INDICATOR: INCOME DISTRIBUTION

STATUS: OUR SEASONAL RESIDENTS HAVE HIGHER INCOMES

TREND

Unknown (only one year of data)

WHAT WE MEASURE

We compare the household incomes of year-round and seasonal Islanders. We group the results into four categories: below \$50,000 per year, from \$50,000 to \$100,000, from \$100,000 to \$200,000, and above \$200,000.

WHAT IT MEANS

On the whole, those of us who live here seasonally are a relatively wealthy group, with more than a quarter of us enjoying incomes of over \$200,000 a year. We can see that those of us who are here year-round are also comparatively wealthy – though not nearly as wealthy as seasonal residents. Nearly half of our year-round residents earn over \$50,000 per year. The gap in income between those of us who are seasonal and those of us who stay through the year is one of the more fundamental factors shaping contemporary Nantucket society.

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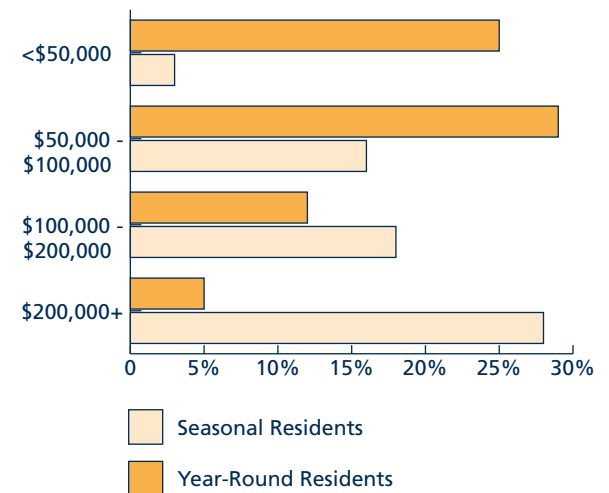
WHAT IT CONNECTS TO

Income distribution connects to economic well-being and to many social issues. It is also intertwined with community connectedness, volunteerism (those who don't depend on employment for living expenses might have more time to volunteer), home ownership affordability, and even to stability of local population and stability of professional services (if incomes are low, Islanders may be forced to leave). This indicator has quite a bit of meaning for how we perceive ourselves and how we see ourselves in relation to our neighbors.



DISTRIBUTION OF HOUSEHOLD INCOME

Year-Round and Seasonal Residents, Nantucket, 2001



Edge Research Survey Data, "No Response" Not Graphed

We need to understand how the distribution of income and wealth shapes our social relationships, our work, and our community.

WHAT WE STILL NEED TO KNOW

We need to understand how the distribution of income and wealth shapes our social relationships, our work, and our community. Knowing income is meaningful, but to understand our wealth we also need to understand asset accumulation. Some of us don't live off of each year's income, but rather off of income from past years and from inheritances.

INFORMATION SOURCE:

Edge Research, "Survey of Full-Time and Seasonal Residents of Nantucket" (Dec. 2001)

INDICATOR: COST OF LIVING

STATUS: LIVING HERE COSTS ABOUT 15% MORE THAN LIVING IN HYANNIS

TREND

Unknown

WHAT WE MEASURE

We use the data we have: a study of comparative living costs between Nantucket and Hyannis, performed by RKG Associates in June of 2002. This study compared prices for groceries, propane, heating oil, mid-grade gasoline, electricity, and estimates of retail rent costs. We subtracted out retail rents, since these do not affect the average family living on the Island as directly.

WHAT IT MEANS

It will come as no surprise that Nantucket is more expensive than Hyannis, our nearest neighbor. The 15% difference in this index is driven by two factors: gasoline (about 37% more expensive), and heating oil (48% more expensive). The other factors, including groceries, were nearly equivalent in price; and it may come as a big surprise that electricity (per kwh) was a little cheaper here.

High prices increase our vulnerability should our tourism-based economy falter, and they add stress to families as well.

When combined with the fast-rising cost of housing – and noting that median incomes on Nantucket are only about 17% higher than in Barnstable County – it is no wonder that low and middle-income families are finding it increasingly difficult to make ends meet here.

WHAT IT CONNECTS TO

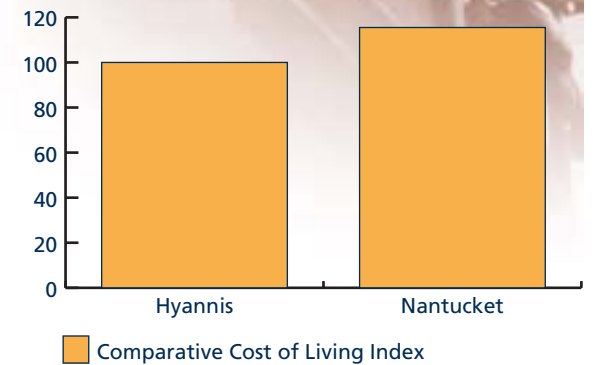
Our high cost of living is a product of what we are *not* connected to, of course: the mainland. This price differential contributes to the challenges we face in maintaining stability in our community, and in maintaining a stable set of professional service providers. High prices increase our vulnerability should our tourism-based economy falter, and they add stress to families as well.

Note that the factors contributing to this cost-of-living difference can be grouped into two categories: transportation, and energy. Some of our costs are driven by our geography and the



COMPARATIVE COST OF LIVING INDEX

Nantucket Compared to Hyannis, 2002



Hyannis Cost of Living Figures Normalized to 100 for Comparison Purposes

Comparison based on comparative cost of groceries, propane, heating oil, mid-grade gasoline, and electricity

Nantucket should also compare a market basket of necessary goods and services with incomes over time, so we can quantify the breaking point that leads to a family's decision to relocate based on cost of living realities.

fact that additional transportation costs to an island must be absorbed by the consumer. Our energy costs, however, are not as dependent on price: we can choose to consume less energy, by driving less or riding transit more, by building smaller homes or turning our thermostats or air-conditioners down.

WHAT WE STILL NEED TO KNOW

This was a one-time study, and we need trend data. While knowing the difference between Nantucket and Hyannis is instructive, a comprehensive cost-of-living study for Nantucket should also compare a market basket of necessary goods and services with incomes over time, so we can quantify the breaking point that leads to a family's decision to relocate based on cost of living realities.

INFORMATION SOURCES:

RKG Associates, Inc., *Monitoring the Nantucket Economy: An Update to the 1993 Nantucket Economic Base Study*, June 2002

INDICATOR: HOME OWNERSHIP AFFORDABILITY

STATUS: REAL ESTATE VALUES SKYROCKETING; AFFORDABLE HOUSING FOR ISLANDERS DISAPPEARING

TREND

Home and Lot Values Increasing; Affordability Decreasing

WHAT WE MEASURE

We track housing affordability by looking at an indicator that everyone can relate to: the change in housing prices over the last decade. We look at both the average and median home prices, as well as the average and median prices for a vacant land. We use both the average and the median price – adjusted for inflation – to underscore a point: the “average price” is not the *typical* price. The median is the literal midpoint on the list of houses sold in a given year, and so is more reflective of a “typical” house price for that year. The average, meanwhile, is tugged quite a bit higher, in our case, because the price of our most expensive homes is so high.

While many other factors influence affordability – especially the income of the family attempting to purchase the home – the change in prices here is so dramatic that it tells the story quite adequately, and much more simply.

The huge “affordability gap” is pushing home ownership out of the reach of most middle-income Nantucket households.

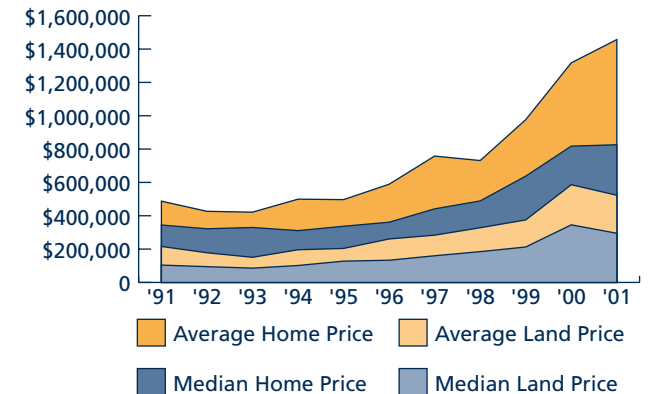
WHAT IT MEANS

These measures point to homeownership as a disappearing opportunity. Hovering around \$800,000, Nantucket’s median home price has nearly tripled over the past ten years. In order to afford the monthly payments on a median-priced home, the median-income Nantucket household, who might only qualify for the debt service on a \$200,000 mortgage, would need to come up with a down payment of about \$600,000. This is a huge “affordability gap” and it is pushing home ownership out of the reach of most middle-income Nantucket households.

We are at serious risk of losing many Islanders who, in the past, could hope to earn their way into homeownership via the conventional route of savings and hard work. On the plus side,

HOME & LAND PRICES ON NANTUCKET

Prices in constant 2001 dollars



A lack of affordable housing contributes to off-Island commuting, because many workers in the Island's service and retail jobs cannot afford to live in the community where they work. This undermines the Island's sense of community and detracts from the stability of the local population.

Nantucket is so coveted a location that returns on investment in real estate are second to none in Massachusetts, and surpassed by only a few other places in the USA. These extraordinary circumstances have made many Island residents wealthy beyond expectations and have helped our tourism and home building industries soar.

WHAT IT CONNECTS TO

This is a trend that affects everybody, and everything, on Nantucket. Nantucket's unique appeal has drawn so many, with so much. It's supply and demand economics. There's a high demand, and a limited supply. Solving the dilemma of the great success/great challenge nature of our real estate market is crucial to our overall sustainability as a community.

A lack of affordable housing contributes to size of off-Island commuting workforce, because many workers in the Island's service and retail jobs cannot afford to live in the community where they work. This undermines the Island's sense of community and detracts from the stability of the local population, and from the stability of professional services.

Real estate values also connect to overall Well-Being via indicators such as income distribution, cost of living, family stability, hidden poverty, learning, and even Nature indicators such as land preservation and home size.

WHAT WE STILL NEED TO KNOW

Recently, an in-depth study was completed, quantifying this crisis. Now we need to learn how to implement the recommendations effectively. We need to know what tactics and paths to take to best achieve solutions that work for all of Nantucket.

INFORMATION SOURCE:

"Housing Our Community: A Year-round Housing Needs Assessment", John Ryan for Nantucket Sustainable Development Corporation and the Nantucket Resident Housing Partnership, July 2002

INDICATOR: HOUSING USAGE PATTERNS

STATUS: RATIO BETWEEN OCCUPIED AND VACANT HOMES REMAINS RELATIVELY STABLE WHILE THE OVERALL NUMBER OF HOUSES IS INCREASING

TREND

Number of houses increasing; ratio of occupied to vacant remains stable

WHAT WE MEASURE

To get a feeling for how the houses are being used on Nantucket, we look at data on the number of housing units available, and we look at which ones are "occupied." This measure gives us an idea of how many homes are year-round homes, and how many homes are seasonal. We also look at how the "vacant" housing stock is used.

WHAT IT MEANS

Our total housing stock increased by over 30% between 1990 and 2000 – a jump of 2,189 houses. This is one of the elements that has made Nantucket County one of the fastest growing counties in Massachusetts.

However, housing stock alone doesn't tell the whole story. Looking deeper into the data we see that the 30% growth is fairly equally balanced – it comes from houses classified as

occupied as well as those classified vacant. In 1990, 37% of homes were occupied and 63% were vacant; in 2000 40% of homes were occupied and 60% were vacant. And it's a fairly safe assumption to correlate vacant homes with what we think of as seasonal homes; in 2000, 94% of the vacant housing stock was for seasonal, recreational or occasional use.

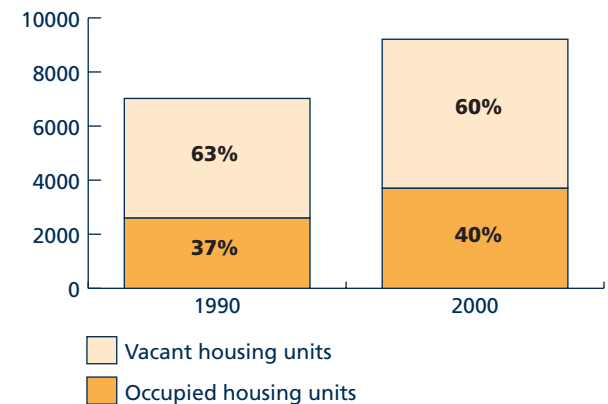
This data quantifies something we all know – Nantucket's population has significant portions of both seasonal and year-round residents.

WHAT IT CONNECTS TO

House usage has direct connections to many Economic indicators, because housing is fundamental to both our tourism economy and our non-tourist based economy. Seasonal visitors need places to stay which relates to sustainability of tourist economy, and this need in turn creates a demand for housing that affects home ownership affordability for all Islanders, seasonal and year-round alike. House usage patterns also link to Society indicators; a dual population has ripple effects in many areas, including political engagement, volunteerism and preserving our sense of

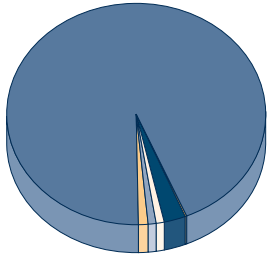
Seasonal visitors need places to stay which relates to sustainability of tourist economy, and this need in turn creates a demand for housing that affects home ownership affordability for all Islanders, seasonal and year-round alike.

HOUSING STOCK AND USAGE ON NANTUCKET



STATUS OF VACANT HOUSING ON NANTUCKET

2000



- Other vacant
- For migratory workers
- For seasonal, recreational, or occasional use
- Rented or sold, not occupied
- For sale only
- For rent

history. And house usage patterns have many ramifications in our Nature sector. Year-round and seasonal homes may put different burdens on our land, use resources differently, and the overall increase in home numbers directly affects our preservation of land.

WHAT WE STILL NEED TO KNOW

It would be valuable to know not just the number of houses that are vacant versus the number that are occupied, but also details about actual houses within these categories. Are their different usage patterns for the different categories? If we can look into these usage patterns (land use patterns, energy use,

traffic patterns, etc.) we may be better able to understand the needs of our various segments of populations and, as a whole community, may be able to address issues of serving these needs in a sustainable manner.

INFORMATION SOURCE:

US Census Bureau

INDICATOR: TRAFFIC

STATUS: TRAFFIC IS INCREASING VERY RAPIDLY ... AND SO IS CONCERN

TREND

Increasing

WHAT WE MEASURE

As our overall indicator of traffic conditions on Nantucket, we track the number of vehicles registered on Island. We also measure the level of concern about traffic proliferation through a survey question.

WHAT IT MEANS

This indicator has been rising extremely rapidly: the number of registered vehicles on the Island has grown by 80% since 1990.

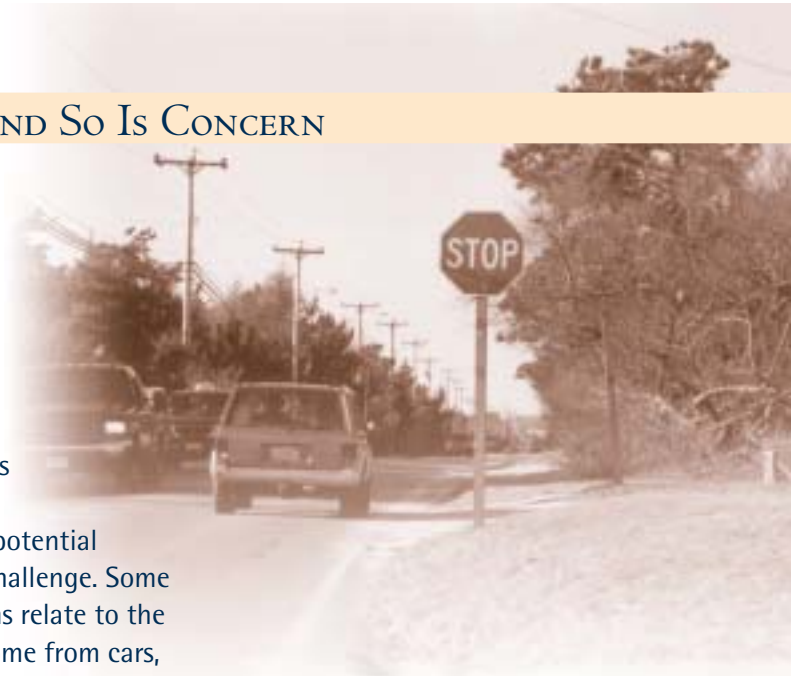
The rapid rise in traffic is a serious concern to Island residents, according to a 2001 survey. Nearly half of all full-time residents said traffic was either of great concern or one of their top concerns. Seasonal residents were even more alarmed – 63% mentioned traffic as a great or top concern.

WHAT IT CONNECTS TO

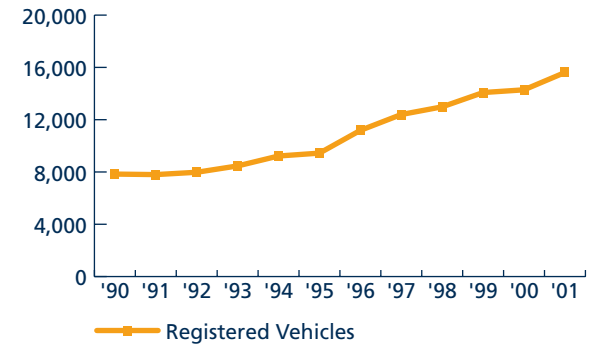
We feel our connections to traffic almost every day. While vehicles provide us with convenient personal mobility and move our goods and services efficiently, striking a balance between their benefits and the potential costs to our quality of life is a challenge. Some of these quality of life reductions relate to the noise and light pollution that come from cars, and also to the impacts to our sense of history as our Island changes to a more congested place.

Traffic also places a major burden on nature because our harbor water quality is directly affected by road run-off. More generally, the energy consumption involved with traffic is at the center of much harm to the environment.

And, more visibly, traffic congestion hurts our economy. It makes the Island less appealing to visitors, and it uses up time that we could spend working – and time we could spend enjoying ourselves.



TOTAL REGISTERED VEHICLES ON NANTUCKET



While vehicles provide us with convenient personal mobility and move our goods and services efficiently, striking a balance between their benefits and the potential costs to our quality of life is a challenge.

There is an inescapable connection between increasing traffic congestion and the need for and use of public transport, as well as the need for infrastructure that creates more biking and pedestrian opportunities.

WHAT WE STILL NEED TO KNOW

We need to know how to reduce demand for automobile transportation, both for residents and visitors. We need to know how to effectively work within our community to alter land use patterns and to encourage planning that reduces auto-dependency. Specifically, we need to know what it will take to move someone out of his/her car and onto a bus, a bike or alternative. We need to know how to make a car-less Island experience the preferable experience.

We need to understand why the demand for automobile transportation has increased, and what might reduce it. We also need to know

how traffic is affected by the spread-out nature of some of our dwellings, our land use patterns, and the growth of our population. And we need to understand how to address the national trend toward larger vehicles.

INFORMATION SOURCE:

Howard/Stein-Hudson Associates, Inc/RKG Associates, Inc, March 2002 *Year 2001 Update: Optimal Transportation Carrying Capacity for Nantucket*

Edge Research, "Survey of Full-Time and Seasonal Residents of Nantucket" (Dec. 2001)

INDICATOR: PUBLIC TRANSPORTATION

STATUS: RIDERSHIP GROWS ON NRTA

TREND

Increasing

WHAT WE MEASURE

We measure average daily ridership using data provided by the Nantucket Regional Transit Authority (NRTA).

WHAT IT MEANS

The NRTA was founded in 1994 and ran its first year of service at no charge in 1995. Fares were launched in the 1996 season and NRTA ridership grew steadily until 1998, then leveled off briefly before rising again in 2002 when NRTA began running a longer schedule. These numbers reflect a significant need for and acceptance of public transportation. The increase in ridership is a positive sign for Nantucket, because it means fewer auto trips, less traffic congestion, and a more efficient use of resources.

WHAT IT CONNECTS TO

Public transportation is generally good for air and water quality and ecosystem health, because it reduces the total number of car

Public transportation is generally good for air and water quality and ecosystem health, because it reduces the total number of car trips.

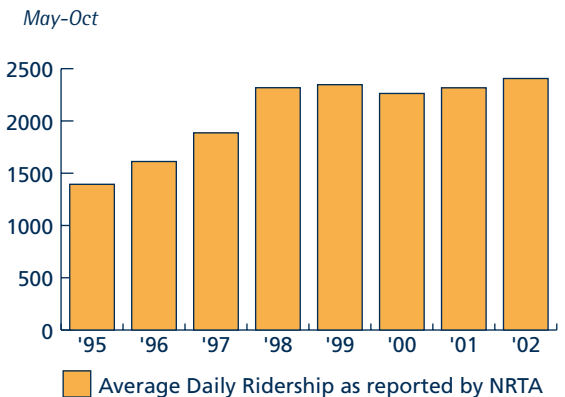
trips. Fewer car trips connect to less road run-off, less car emissions, and less need for extensive new roadway expansion. Use of public transportation also links to public safety and community connectedness. Fewer cars on the road means less congestion, and hopefully safer roads. And, public transportation provides an opportunity for people to see each other and interact; bus riders see the faces of their neighbors and meet new people more often than those of us who drive our cars exclusively.

WHAT WE STILL NEED TO KNOW

We need to understand what leads people to use public transportation instead of driving their cars, and what could make this option not only more convenient, but a more sustainable form of island transportation.



NRTA AVERAGE DAILY RIDERSHIP



Public transportation provides an opportunity for people to see each other and interact; bus riders see the faces of their neighbors and meet new people more often than those of us who drive our cars exclusively.

We need to know what infrastructure improvements would enhance transit service.

We also need to know how best to overcome state imposed budget constraints that have prevented NRTA from expanding service.

INFORMATION SOURCE:

Nantucket Regional Transit Authority

Nantucket Planning & Economic Development Commission

INDICATOR: SIZE OF OFF-ISLAND COMMUTING WORKFORCE

STATUS: WE THINK IT'S GROWING FAST, BUT WE HAVE NO MEASURE YET

TREND

Unknown

WHAT WE MEASURE

We do not have trend data to tell us how many workers commute from off-Island on a daily or weekly basis. We don't even have a definite number of commuters for a given year. What we do have is a one-time data point for one industry.

This often quoted data point comes from a 1997 survey, conducted by a college intern for the Nantucket Planning & Economic Development Commission. He counted people at the airport, ferry terminal and construction job sites to arrive at 290 as an estimate for off-Island commuting construction industry employees.

WHAT IT MEANS

The lack of data means that we're in the dark about this important trend. But we do know that commuting from off-Island is a concern, because the topic came up repeatedly during our Indicators public dialogue process.

Commuting between towns is commonplace on the mainland but poses special problems for an Island community. The vagaries of weather and transportation schedules can keep people from getting to work or from returning home.

And we do know, anecdotally, that at least two conditions are contributing to the existence of commuters. Jobs on Nantucket are plentiful and well paying, and housing on Nantucket is scarce and expensive. We also know that certain workers from off-Island are recruited because of special skill sets that no longer exist in the local population. In addition, there are reports from the retail, service, health care and town employee sectors that Islanders are relocating to the mainland and keeping their Nantucket jobs out of economic expediency.

Commuting between towns is commonplace on the mainland but poses special problems for an Island community. The vagaries of weather and



COMMUTING WORKFORCE ON NANTUCKET



transportation schedules can keep people from getting to work or from returning home. The existence of a commuting workforce, though articulated as a concern during the public dialogue process, may or may not mean anything until we can identify a trend. Some people have said that commuters come with their lunch boxes and leave with their paychecks, but this is yet to be quantified.

WHAT IT CONNECTS TO

A transient or commuting workforce relates to our cost of living and housing affordability if people are electing to take up residence off-Island while tolerating the expense and uncertainty of daily or weekly commuting. Increases in ferry service and aircraft operations to accommodate commuting workers connects to energy use and impacts noise pollution, air and harbor water quality.

In terms of social and individual values, on the whole workers who commute may not feel the same community connectedness that Island residents feel. They may not become engaged in community life through volunteerism, through political engagement, or through other avenues, because often times their free time is time off-Island, at home. Stability of population, professional services and family well being could also be impacted if a trend in commuting increases.

WHAT WE STILL NEED TO KNOW

We need to know how many people are commuting to and from Nantucket and where they live and work, and what transportation mode they use. For example, an airline tells us that over two-thirds of their patrons are commuters rather than visitors. But we do not know what part of this number is residents traveling back and forth for personal reasons or

for daily jobs. We need to know what economic sectors are included in this demographic group and why people are coming here to work or moving away but retaining their local jobs. If there are seasonal changes in the commuting flow, we should find ways to measure both groups. If trend data can be developed, we need to know what impacts a growing or declining commuting workforce has on our economy, natural resources and community life.

INFORMATION SOURCES

"The Study of the Building Industry on Nantucket," Final Report, Nantucket Planning & Economic Development Commission, Summer 1997



WELL-BEING INDICATORS

Sense of Community

Physical Health

Access to Health Care

Learning

Emotional & Mental Well-Being

Family Stability and Health

Substance Abuse

Hidden Poverty



INDICATOR: SENSE OF COMMUNITY

STATUS: MANY RESIDENTS CONCERNED

TREND

Unknown

WHAT WE MEASURE

We look at responses to the survey question: "What level of concern do you have regarding sense of community on Nantucket?" We also compare the responses of full-time residents and seasonal residents.

WHAT IT MEANS

Nearly two-thirds of full-time residents and more than two-thirds of seasonal residents say they have at least some concern about the Island's sense of community. For some, those concerns are quite high: 39% of full-timers say they have a great deal of concern, or that what's happening to our sense of community is their biggest worry. Thirty-two percent of seasonal residents feel the same way.

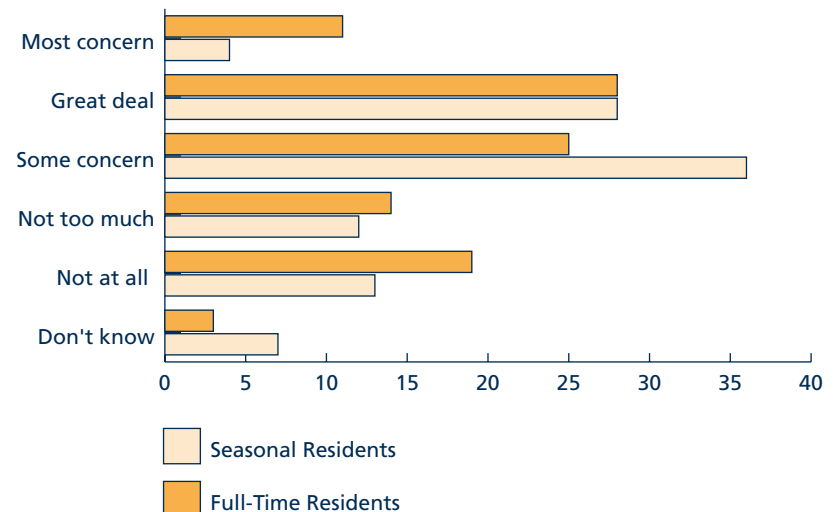
On the other hand, one third of full-timers and a quarter of seasonal residents say they have little or no concern about our sense of community. Clearly, feelings about the Island's sense of community run strong and vary quite a lot from person to person.

A strong sense of community can also raise awareness about environmental and economic conditions: we are more willing to work for environmental and economic health when we feel connected to it; and we remain more vigilant when we watch for problems that we feel connect to us.



SENSE OF COMMUNITY

"What level of concern do you have regarding Sense of Community on Nantucket?" (458 Residents Surveyed)



It would be helpful to find a better, more descriptive, and more trackable measure for this elusive “Sense of Community” indicator.

WHAT IT CONNECTS TO

Our sense of community is central to our overall quality of life. A sense of community can lead to higher levels of volunteerism and political engagement. It can improve our mental well-being and perhaps even our sense of safety and security. A strong sense of community can also raise awareness about environmental and economic conditions: we are more willing to work for environmental and economic health when we feel connected to it; and we remain more vigilant when we watch for problems that we feel connect to us.

WHAT WE STILL NEED TO KNOW

It would be helpful to find a better, more descriptive, and more trackable measure for this elusive “Sense of Community” indicator. We know that people define sense of

community differently, and so base their sense of “concern” on a variety of factors. It would be helpful to know specifically what factors determine individual responses. We want to know more about this critical issue.

INFORMATION SOURCE

Edge Research, “Survey of Full-Time and Seasonal Residents of Nantucket,” December, 2001

INDICATOR: PHYSICAL HEALTH

STATUS: MORE LOW BIRTH-WEIGHT BABIES BORN ON NANTUCKET

TREND

Increasing since 1996

WHAT WE MEASURE

How we care for our newest arrivals – both before birth, and just after – is widely considered a good indicator of health standards in communities the world over. Here, we measure the percentage of low birth weight babies born on Nantucket.

WHAT IT MEANS

Nantucket has historically had a small percentage of low birth-weight babies. The nationally recognized standard, put forward in a document titled "Healthy People 2010," is a rate no higher than 5%. From 1992-1996, between 1% and 4.5% of babies had low birth-weights here.

However, rates of low birth-weight rose in the late 1990s, to as high as 8% in 1999. Despite our low birth numbers (see "WHAT WE STILL NEED TO KNOW"), this is a worrying trend that needs to be closely monitored and better understood.

Low birth-weight is an important predictor of childhood health as well as an indicator of parental health and access to appropriate pre-natal care.

Low birth-weight is an important predictor of childhood health as well as an indicator of parental health and access to appropriate pre-natal care. Low birth-weight often leads to an early death for babies (the majority of infant deaths happen because babies are born too small or too early). Those who survive are more likely to have brain damage, lung and liver disease, developmental problems, or other health issues. And they're more likely to experience learning disabilities, attention disorders and other problems later in life.

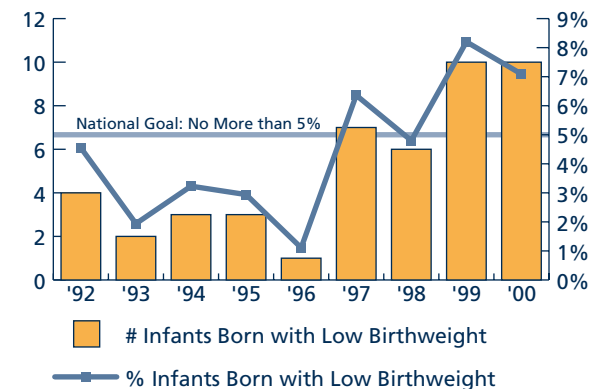
WHAT IT CONNECTS TO

Low birth-weights and infant mortality are closely linked to poverty levels, substance abuse, and access to healthcare. Even the stability of our professional services community could have an impact here. Researchers have demonstrated specific ties between our early



LOW BIRTH-WEIGHT ON NANTUCKET

in both Numbers and Percentages



Because relatively few births take place on the Island, even one low birth-weight baby increases the percentage by nearly a point. This makes this traditionally good proxy for general health trends less easy to interpret in our context: we need to know more about why this number is rising to know whether it can be linked to other health issues.

years and long-term health, readiness for school, overall educational success, and workforce productivity.

WHAT WE STILL NEED TO KNOW

Because relatively few births take place on the Island, even one low birth-weight baby increases the percentage by nearly a point. This makes this traditionally good proxy for general health trends less easy to interpret in our context: we need to know more about why this number is rising to know whether it can be linked to other health issues. We may need to look at the numbers of islander births that occur off-Island and the corresponding number of low birth weight babies in that group.

But this indicator is very meaningful with regard to *infant* health, because we are looking at the percentage of all babies born here, and not just a statistical sample. It is not good news that 10 babies were born with low birth weight in 2000, compared to just 1 in 1997 (the actual numbers). For the sake of those individual children, their families, and our community, we need to find out what must be done to reduce these numbers.

INFORMATION SOURCE

Massachusetts Department of Public Health

INDICATOR: ACCESS TO HEALTH CARE

STATUS: HALF OF EMPLOYERS DO NOT OFFER HEALTH INSURANCE

TREND

Unknown

WHAT WE MEASURE

To assess trends in health care access, we look at the number of businesses providing health insurance to their employees. This gives us a sense of how many people have adequate access to health care, because access in our culture is dependent on insurance coverage.

WHAT IT MEANS

Nantucket's numbers reflect a national concern: a growing percentage of the population is not covered by insurance, and is not assured access to adequate health care.

On Nantucket, an equal number of employers offered insurance as did not offer insurance. However, a large majority of our smallest companies (those with 5 or fewer employees) do not provide health insurance. The larger the company, the more likely it is to offer this benefit. Fortunately, those companies that do offer insurance employ a greater percentage of the population.

Access to health care is directly connected to cost of living and hidden poverty because people without health insurance face higher financial risks in the event of an expensive health problem.

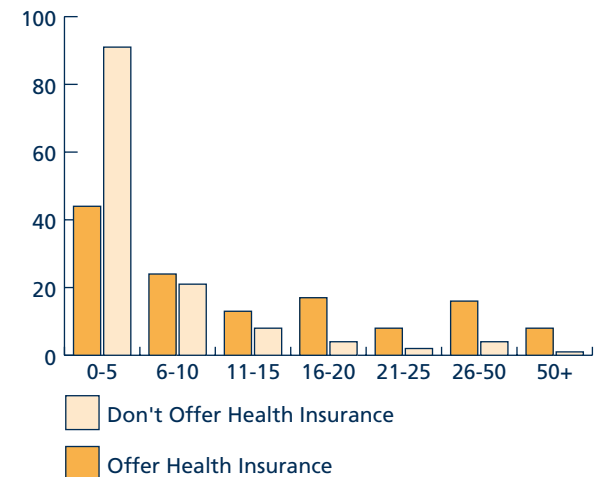
WHAT IT CONNECTS TO

Access to health care directly affects our overall well-being, and affects every facet of our society. It is directly connected to cost of living and hidden poverty because people without health insurance face higher financial risks in the event of an expensive health problem. Additionally, children lacking health care are less likely to thrive at school. This raises issues of economic disparity, political disconnectedness, and a lack of community connections. This indicator could be a sign of weak community well-being in our society.



BUSINESSES OFFERING HEALTH INSURANCE

Nantucket, 2001



We need to know how many people total are covered by health insurance, not just the number of companies providing it.

WHAT WE STILL NEED TO KNOW

We need to know how many people total are covered by health insurance, not just the number of companies providing it. We need to know about coverage for seasonal workers, part-time workers, the self-employed, and people completely outside the labor market such as children, the elderly, and stay at home parents. We also need to know how much health insurance coverage correlates to income levels. We lack historic data that would show us whether we are facing a positive or negative trend.

INFORMATION SOURCE

"Nantucket Employer Health Insurance Survey,"
Town of Nantucket Department of Human
Services, October, 2001

INDICATOR: LEARNING

STATUS: TEST SCORES UP FOR LANGUAGE; FLUCTUATING FOR MATH & SCIENCE

TREND

Improving overall

WHAT WE MEASURE

To what extent are Islanders – particularly young Islanders – improving their ability to learn? We use Massachusetts Comprehensive Assessment System (MCAS) test scores, the scores on state standardized testing of 4th, 8th and 10th graders, as a proxy to measure trends in the individual Nantucketer’s learning capacity.

The annual MCAS tests assess student ability in three categories: English and language arts; math; and science and technology. In each category, students are ranked as advanced, proficient, needing improvement, or failing. Here we look at the combined percentage of students performing at levels deemed “Proficient” or “Advanced.”

WHAT IT MEANS

Overall, scores have improved over the past four years. Fewer and fewer of our students are performing at levels below where they are expected to be – although, as in most schools in the U.S., math and science showed more weakness than English and language. One

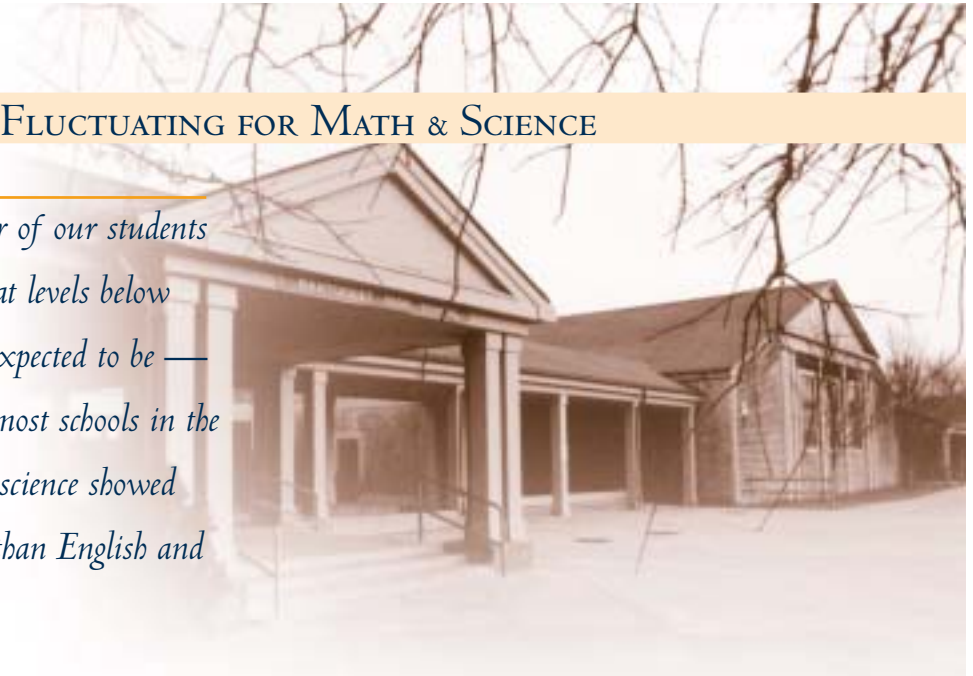
Fewer and fewer of our students are performing at levels below where they are expected to be — although, as in most schools in the U.S., math and science showed more weakness than English and language.

exception to the general trend of improvement is math and science scores among our 8th graders, which have come down a bit in recent years.

WHAT IT CONNECTS TO

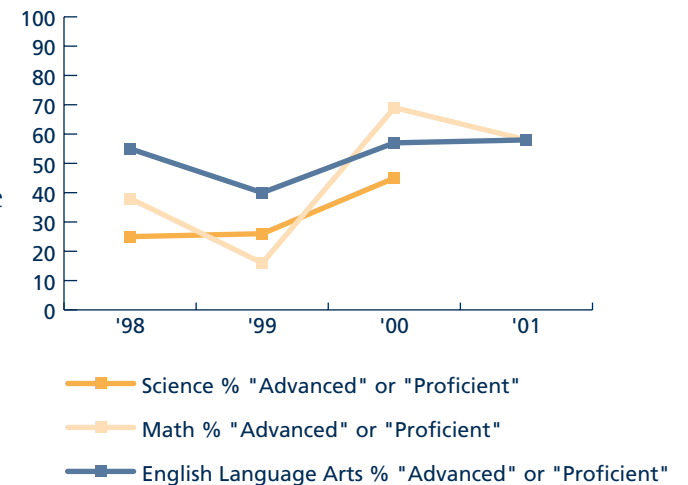
Individual learning depends on strong schools and good educational systems. On Nantucket, these are directly tied to factors like affordable housing for teachers and the stability of professional services.

Learning is also linked to general emotional well being, family stability, and it can connect directly to the future economic success of our children, their sense of community connectedness and community participation.



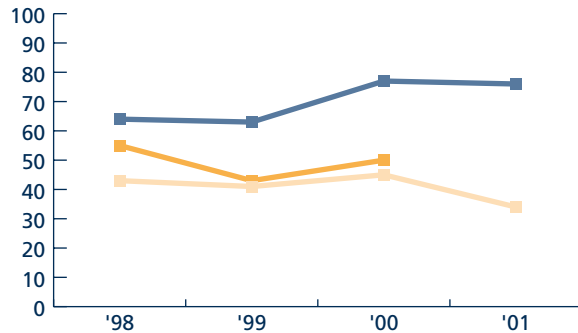
GRADE 10 MCAS RESULTS

Percentage of Students Performing at Advanced or Proficient Level



GRADE 8 MCAS RESULTS

Percentage of Students Performing at Advanced or Proficient Level



- Science % "Advanced" or "Proficient"
- Math % "Advanced" or "Proficient"
- English Language Arts % "Advanced" or "Proficient"

WHAT WE STILL NEED TO KNOW

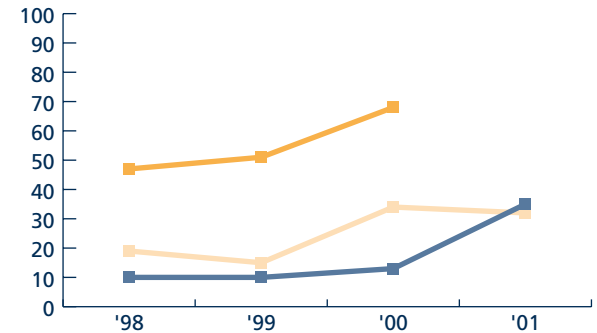
Test scores are just one measure of scholastic achievement; and beyond that, scores measure only a certain facet of learning. Self-development and life-long learning are not covered by MCAS. We would like to see a measurement that somehow includes these critical, but less concrete, parts of learning.

INFORMATION SOURCE

Massachusetts Department of Education

GRADE 4 MCAS RESULTS

Percentage of Students Performing at Advanced or Proficient Level



- Science % "Advanced" or "Proficient"
- Math % "Advanced" or "Proficient"
- English Language Arts % "Advanced" or "Proficient"

INDICATOR: EMOTIONAL AND MENTAL WELL-BEING

STATUS: INCIDENCE OF TEEN ALCOHOL OFFENSES DECLINES

TREND

Decreasing

WHAT WE MEASURE

Since it is very difficult to assess the inner well-being of people directly, when it comes to identifying indicators, we look for proxies: in this case, other measures that are likely symptomatic of psychological health. Here, we've chosen the incidence of teenage alcohol offenses as our proxy. Our assumption is that the healthier the community, the less likely its adolescents are to abuse alcohol. As a caveat, the numbers in this measure are small and the distinction between our year-round teen population and those who visit seasonally is not made in the data.

WHAT IT MEANS

Juvenile liquor offenses rose sharply in 1999, then declined in 2000 and 2001. The recent decline is encouraging, as it indicates that teenagers are using their energies in more productive ways that are likely to be less destructive to their emotional and mental well-being.

WHAT IT CONNECTS TO

High rates of teen drinking can impact physical health, public safety, learning, and the Island overall. Teen drinking activity can be influenced by sense of community, economic opportunity, and general social well-being. This is a key indicator from which we can learn about our families and the stability of our families, about our community connectedness, and about the future potential of our young people as they go through school and into the job market.

WHAT WE STILL NEED TO KNOW

As with any indicator, we need to examine the data closely. We need to know, for example, to what extent this data reflects actual drinking rates, to what extent it reflects fluctuations in enforcement and whether we can distinguish between year-round and seasonal teen violators. Based on this information, we can think about whether to stay with this indicator in the future or whether to choose a new indicator that more closely tracks emotional and mental well being.

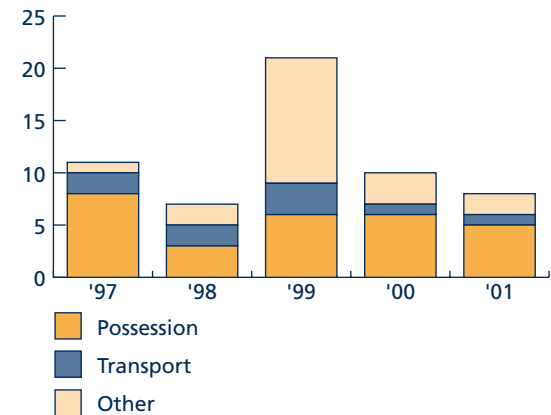
INFORMATION SOURCE

Nantucket Police Department

This is a key indicator from which we can learn about our families and the stability of our families, about our community connectedness, and about the future potential of our young people as they go through school and into the job market.

LIQUOR LAW OFFENSES BY JUVENILES

Town of Nantucket





INDICATOR: FAMILY STABILITY AND HEALTH

STATUS: HIGHER LEVELS OF DOMESTIC VIOLENCE AND FAMILY ABUSE

TREND

Stable after a sharp rise

WHAT WE MEASURE

How are Nantucket’s families doing, as families? To gauge the trend in the stability and health of our community’s families, we look at the incidences of family violence that result in police intervention. We track domestic violence (violence between spouses) and family abuse (violence which includes child and elder abuse).

WHAT IT MEANS

Worrying news: after years of steady decline, domestic violence and family abuse incidents have shot back up in the past few years. Current levels are higher than their previous high in 1994. According to this data, it appears that more of our families are experiencing the trauma of violence in the home.

WHAT IT CONNECTS TO

A stable and healthy family life is essential for individual well-being. Domestic violence and family abuse have been linked to substance abuse, violence, poor school performance, and high crime rates. And, of course, this indicator is about the emotional and mental well-being of the people who suffer from violence. It is also about our collective emotional well-being: violence in any home on Nantucket affects all of us.

WHAT WE STILL NEED TO KNOW

We do not know why these numbers have risen so sharply in recent years. And it is important to remember that domestic violence and family abuse figures track only confirmed reports – and that falling or rising rates could indicate not a change in actual abuse, but a change in reporting rates. We need to look at this issue more closely to know whether it reflects an increase in actual violence, or an increase in our awareness of that violence.

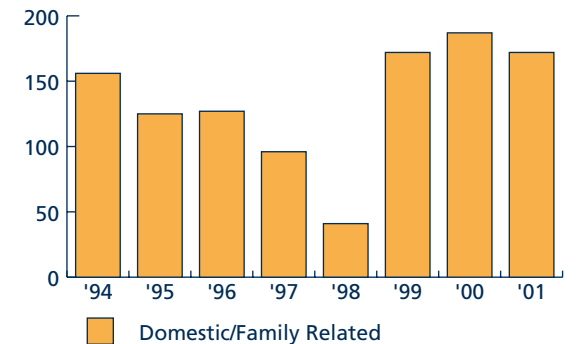
INFORMATION SOURCE

Annual Report, Town of Nantucket

This indicator is about our collective emotional well-being: violence in any home on Nantucket affects all of us.

DOMESTIC/FAMILY-RELATED ABUSE

Reporting years correspond to town fiscal years, which run July 1 - June 30



Total # of incidents – may include multiple responses to same address

INDICATOR: SUBSTANCE ABUSE

STATUS: IMPAIRED DRIVING OFFENSES RISE SHARPLY; NARCOTICS VIOLATIONS UP SLIGHTLY

TREND

Increasing overall

WHAT WE MEASURE

We look at Nantucket Police data on violations for narcotics use and violations for operating under the influence of controlled substances.

WHAT IT MEANS

Narcotics violations have been rising slowly but steadily since 1999. At the same time, the rate of operating under the influence increased sharply, though neither measure is back up to its previous high of 1996. In short, substance abuse on Nantucket appears to be on the upswing.

WHAT IT CONNECTS TO

There is a social and economic cost to substance abuse. Substance abuse undermines the physical and emotional health and the family stability of abusers. It also decreases public safety and perception of public safety, and undermines our sense of community connectedness. We all have to trust each other not to drive in ways that put each other in danger. And employers need to be able to trust that their employees are responsible on the job. This indicator connects to all these fundamental issues.

WHAT WE STILL NEED TO KNOW

We need to understand the factors that correlate actual substance use and number of offenses logged by the Nantucket Police Department.

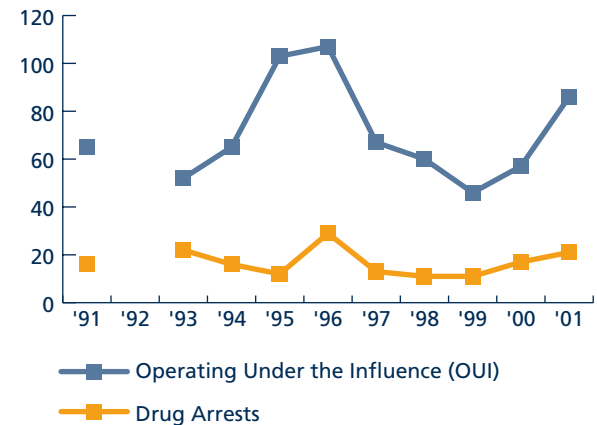
INFORMATION SOURCE

Annual Report, Town of Nantucket

Substance abuse undermines the physical and emotional health and the family stability of abusers.

SUBSTANCE ABUSE ON NANTUCKET

Reporting years correspond to town fiscal years, which run July 1 - June 30



Note: Data for 1992 not available.

INDICATOR: HIDDEN POVERTY

STATUS: THE POOR ARE FEW ON NANTUCKET ... BUT THEY EXIST

TREND

Stable since 1997

WHAT WE MEASURE

Despite the common perception that Nantucket is a wealthy community, some of us have a hard enough time economically that we qualify to be called poor. We count families with children on temporary cash assistance ("TAFDC"), those who are elderly, disabled, or who are children needing emergency cash assistance; those of us on non-public assistance; and those of us receiving food stamps.

WHAT IT MEANS

As best we can interpret from the data, fewer than 50 of us at any one time are receiving cash assistance and/or food stamps; and this number declined a bit before leveling off around 1997. The fact that the welfare office was closed down and relocated to the Cape in 1998 may also be a factor. While the number seems small, it also means that most of us who live here probably know somebody personally who is experiencing poverty.

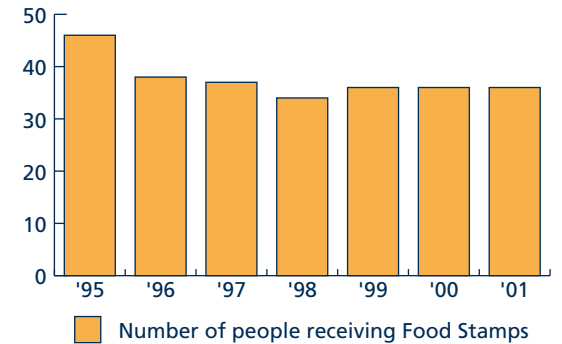
While the number seems small, it still means that most of us who live here probably know somebody personally who is experiencing poverty.

WHAT IT CONNECTS TO

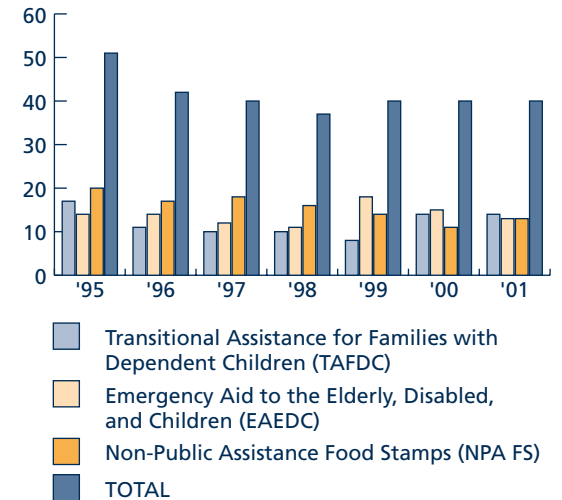
Poverty has many connections because financial stability, in our society, is a foundation; it is a fundamental and basic need. Poverty has clear connections to many Social, Well-Being, and Economic indicators, especially emotional and mental well-being, public safety, community connectedness, and, of course, income distribution. And poverty is directly linked to our high cost of living.

Specifically, poverty can be correlated to poor health, lessened learning opportunities and strain on family stability. By adding to the "haves" versus "have-nots" reality of income distribution, it adds to social divisiveness. Poverty affects our population stability and it siphons off energy, both on an individual level and a community level, that could be better used elsewhere.

FOOD STAMP RECIPIENTS ON NANTUCKET



PEOPLE RECEIVING CASH ASSISTANCE



Poverty affects our population stability and it siphons off energy, both on an individual level and a community level, that could be better used elsewhere.

WHAT WE STILL NEED TO KNOW

It is impossible to know whether the number of those in poverty here is being affected by better economic circumstances for the small number of poor, or being affected by the fact that those who cannot afford to live here eventually move away. We would also like to know how many of us, though not statistically counted in this indicator, struggle to make ends meet.

INFORMATION SOURCE

"Yearly Applications for Assistance on Nantucket," provided by Bruce Demoranville, Commonwealth of Massachusetts, Bruce.Demoranville@state.ma.us

TECHNICAL NOTES

ABOUT THE COMPASS

The Compass of Sustainability, developed by Alan AtKisson and others, is a way of organizing an array of indicators selected to assess community sustainability. The Compass was inspired, in part, by the pioneering theoretical work of Herman Daly, a former World Bank economist and professor at the University of Maryland; and by modifications to that work by pioneering systems scientist Donella Meadows.

"Daly's Pyramid" is a simple model that describes the relationship between Nature, the Economy, Society, and individual Well-being. Nature is at the foundation of the pyramid, because it is the foundation of all human activity. The next level up is the Economy, which converts natural resources and ecosystem services into the products and services—from food to computer software—that humans use. Economic production makes possible Society, the complex systems of culture, politics, and collective endeavors such as education, and these in turn make possible the top of the pyramid: the Well-being and fulfillment of an individual human life.

The Compass format provides the reader with an intuitive interface for understanding a complex indicator array, clustered in a similar

way. The Compass format, however, eliminates the hierarchy in Daly's Pyramid; that hierarchy has proven to be controversial, while the clusters (Nature, Economy, Society, Wellbeing) have not. The Compass itself, with its deep symbolic roots in the human experience and its link to navigation and direction, is an apt metaphor for the kind of tool an indicator array is meant to be.

Indicators, like compasses, can help us chart a course into the future.

ABOUT INDICATOR SELECTION

The specific indicators in this array were chosen using a combination of citizen input and technical filtering, using what has emerged as standard practice in the sustainability indicators movement. This movement, which now includes hundreds of communities, cities, and states around the world, began with the Jacksonville, Fla., Quality of Life Indicators in 1985 and the Sustainable Seattle Indicators of Sustainable Community in 1993. A similar process was used to develop the White House's experimental Sustainable Development Indicators for the nation as a whole.

The process used by AtKisson, Inc. generally involves using a multi-stakeholder group to frame the key "Assets and Concerns," and then

to advise the selection of preferred indicators for a community (or any other geographic area), supplemented by technical input to guide indicator selection and data gathering.

Data availability and other technical considerations may strongly affect refinement of the indicator array; however, the framework set by the stakeholders continues to guide the selection as much as possible. In theory, this process produces an indicator array that is both more reflective of the particular needs of a given place and more meaningful to that place's citizens.

The focus here, as in most sustainability indicator arrays, is on measures that reflect outputs (measurable results and performance) rather than inputs (the activity level of programs, the existence of policies, etc.). This focus on outputs highlights the extent to which sustainability concerns are not limited to the spheres of government, commerce, or civil society, but are generally the responsibility of all three sectors simultaneously.

The Nantucket indicator array is distinguished by the particularly intensive development and review process to which it was subjected, over the course of nearly three years. Citizen input meetings happened at several locations around the Island. Original survey research was

commissioned and analyzed. And the draft indicators were reviewed by local experts, leaders, the Indicators Steering Committee, and NSDC.

ABOUT DATA

We have done our best, in the preparation of this report, to insure that we had the highest quality available data. However, partly because of the specific nature of the issues on a small island like Nantucket, data availability was constantly a challenge, as a read-through of the "WHAT WE STILL NEED TO KNOW" sections in each indicator will reflect. We will continue to monitor data availability for these indicators, and update them on our website.

SOURCES

NATURE

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Beach Driving

Sheila Clinger, Police Department, Town of Nantucket. Re: Beach Driving Permit Data 1997 – 2002. Postal mail to Nantucket Sustainable Development Corporation.

Bay Scallop Harvest

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Ecosystem Health

National Audubon Society Website. Audubon Christmas Bird Count: Nantucket MA, United States. 1992 – 2001 Data. Retrieved from the World Wide Web: <http://www.audubon.org/bird/cbs>

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Harbor Water Quality

Tracy Curley, Marine and Coastal Resources Department, Town of Nantucket. Nantucket Harbor Water Quality Synopsis, August 2002

Home Size

Debbie Dilworth, Assessor's Office, Town of Nantucket, December 2002. Re: Average Square Foot of Homes, 1991 – 2000. E-mail to Nantucket Sustainable Development Corporation.

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Economic Value of Bay Scallop Industry

Dave Fronzuto, Marine and Coastal Resources Department, Town of Nantucket. Fax to Nantucket Sustainable Development Corporation.

Home Ownership Affordability

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Edge Research, Dec 2001. Demographic Profile of Full-Time and Seasonal Residents: Employment Status, main Income Source, Income and Age. *Analysis of a Survey of Full-Time and Seasonal Residents of Nantucket, December 2001*. (One-time random telephone survey), pg 8. Prepared for Nantucket Sustainable Development Corporation and Nantucket Land Council.

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Nantucket. pg 14. Prepared for Nantucket Community Association, Nantucket Land Council and Nantucket Sustainable Development Corporation.

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