

THE GATEWAY GARDENS:

**A Resource for a Diverse Urban Population
at Gateway National Recreation Area
in New York City**

A Report for the National Park Service

by

Steven M. Parish, Ph.D.

1998

**Prepared for the of the Boston Support Office,
Stewardship & Partnership Team.
Dr. Rebecca Joseph, Ph.D., Senior Ethnographer.**

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I. EXECUTIVE SUMMARY: MAJOR FINDINGS AND RECOMMENDATIONS

A. Managing the Gardens: The Benefits of Partnership

The partnership between the National Park Service and the Gateway Gardeners Associations produces significant cost savings and management efficiencies for the Park and provides important benefits for the gardening public.

In 1996, the recommendation was made that the Park enter into a Memorandum of Agreement (MOA) with Gardeners Associations (Canahuati, Deiss, and Goodman 1996:17). The idea was to have let the Associations use the revenue from fees to cover the costs of operating the community gardens, with benefits flowing to the gardeners in the form of self-management and to the Park in the form of cost savings and a reduction of the burden on staff. It was projected that significant savings and benefits to the Park would result.

- Fees collected in 1996 did not cover the total real costs of having the Park operate and manage the community gardens; the fees collected totaled only \$11,975, while operating costs were \$41,736.
- Not only did the fees collected from individual gardeners in 1996 fail to cover Park costs, but the task of collecting and processing fees was itself a burden, requiring that time and effort be expended on issuing permits, processing checks, answering queries, and maintaining records and databases.
- Routine operation of the gardens tied up staff who could be used elsewhere if the gardeners assumed more responsibility for operating the gardens.
- It appeared likely that demands on staff time could be reduced as gardeners solved problems for, and among, themselves, rather than calling on staff.
- While operation by the Gardeners Association would mean reduced expenditures of time and money by the Park, it would produce increased expenditures of time and money by gardeners, as they invested more in the gardens because they see themselves as benefiting more.
- Early findings of this study, communicated in meetings with Park administrators and in a report by Canahuati, Deiss, and Goodman (1996), indicated that the

gardeners had the desire and capacity to form an organization that could assume management responsibilities for the garden sites.

The Park acted on these findings and entered into a Memorandum of Agreement with a Gardeners Association at two of its community gardens. In the interest of providing a better program at less cost, the National Park Service provided some support for the development of the Gardeners Associations.

The experience of the Park in 1997 would appear to support the projection that savings and benefits would result from a partnership with the gardeners: cost savings have been realized, the demands on staff have been reduced, and the program has been enhanced in important ways.

Cost savings

Transferring operational management responsibilities for the community garden sites to a Gardeners Association produces significant cost savings and management efficiencies. Data provided by the Park indicate that savings have indeed been realized from this restructuring of the gardening program.

- Data provided by the National Park Service indicates that the cost of operating the largest of the community garden sites (Floyd Bennett Field) in 1996 were \$41,736, while fees brought in only \$11,975.
- In 1997, the projected costs were down to \$6,100 (and actual costs may have been lower). The Park's anticipated 1997 savings from having a Gardeners Association manage the Floyd Bennett Field site was \$37,661.
- As the Gardeners' Association assumes responsibility for the management of the gardens, staff are available for other tasks.
- The gardeners personal investment in the site appears to have increased, from almost \$20,000 (Canahuati, Deiss, and Goodman 1996:9) to \$30,000 (estimate by Park staff, B. Joseph, personal communication).

Transferring management tasks to the gardeners transfers costs, resulting in savings for the Park. It seems clear that it is more cost effective to have the Gardeners Association retain fees and manage the gardens than it is to have the Park retain the fee and manage the Gardens. The Park should be commended for its initiative in promoting such cost savings

Management efficiencies: recapturing staff time

Taking the opportunity costs involved into account, the case for transferring management responsibility to a Gardeners Association and letting them keep the fees collected seems absolutely clear, a matter of prudent financial and management judgment. The Park staff formerly dedicated to managing the gardens can now be shifted to other assignments, some of which may represent more urgent priorities.

Program enhancement

Given a modest amount of continuing technical and logistical support, the gardeners have the capacity not only to undertake many aspects of the routine operation of the community gardens, but to develop and enhance the program in ways that help the Park fulfill its mission.

- Under self-management, the Gardeners can set up a soil fertility program to maintain and improve the soils of the community garden sites. Allowing soils to deteriorate would threaten the viability of the gardens, while improving soils will enhance the experience of gardening by producing better crops.
- Through their Associations, the gardeners can manage the routine operation of the gardens in ways that best serve their needs, based on their own experience.
- The Associations are likely to sponsor events and activities such as a Harvest Fair that will reflect positively on the Park and which fulfill the mission of the Park.

Thus the Park and gardeners stand to achieve significant long-term benefits by sustaining a working partnership to manage the community gardens at Gateway.

B. The Gardens as Ethnographic and Cultural Resource

The Gateway Gardens constitute an ethnographic resource: planning and management for the community gardens should recognize the nature of the ethnographic resource value they represent.

The Gateway gardens have an important place in the lives of the gardening public: the community gardens embody a number of social, cultural, and psychological values for the public. Gardening allows people to experience nature, to affirm their cultural and ethnic backgrounds, to feel productive, to achieve a sense of well-being. Garden produce--the

substantial quantities of vegetables grown at the gardens--has significance as food, as a contribution to domestic consumption, but it also has importance as an expression of these and other values. In addition, the community gardens reflect the diversity of the public in the urban areas served by the Park: the gardens reflect and express ethnic and cultural heritage. Thus, the Gateway Gardens embody important values for the public and draw together people from diverse backgrounds who experience and express these values through gardening. For these reasons, these community gardens constitute an ethnographic and cultural resource.

In interviews, gardeners from diverse backgrounds reported that the gardens played a significant role in their lives. The gardens are not just plots where people grow food; they are places where people affirm values. They testified that the community gardens have social and subsistence value, cultural and psychological significance for them--in short, that the gardens make a difference in their lives.

The value placed on gardening united an otherwise diverse group of people. The diversity of the gardeners is a value that should be recognized in the planning and management of the gardens. The diversity of the gardeners demonstrates how this program successfully fulfills the mission of serving a diverse population set out in the Park's enabling legislation. Moreover, the ways in which the gardeners draw on their cultural heritage and lifestyles in the activity of gardening make the community gardens an ethnographic resource. The community gardens are comparable to other ethnographic and cultural sites in the National Park Service system where cultural values are expressed, cultural traditions affirmed, heritage recalled. At the Gateway Gardens, this has a number of features:

- The gardens bring together diverse segments of the public; these community gardens reflect and express the diversity of the urban population in terms of race and ethnicity, lifestyle and life-circumstances, regional cultures of the U.S. and world cultures.
- The gardens have subsistence value for gardeners, providing produce for domestic use.
- The gardens have social value for gardeners, forming an important social activity and generating a sense of community.
- The gardens have clear psychological value for the gardeners: they report that gardening contributes to their sense of well-being and to the quality of their lives.

- The gardens have cultural significance for gardeners, allowing them to express and affirm diverse ethnic and cultural heritages as well as shared American cultural values.

Diversity. The diversity of the gardens embraces ethnicity and race, socioeconomic and educational status, regions of the United States, and world cultures. Achieving diversity in public settings is typically viewed as a social value, and affirmed as a goal of public policy; this being the case, then the Gateway Community Gardens represent the realization of a social good, and accomplish in practice what public policy affirms as an ideal. Viewed in these terms, the Gateway Community Gardens serve and sustain important social values and must be accounted a considerable success.

Recommendation: the sociocultural diversity found at Gateway Community Gardens is a resource; it should be managed as a resource. It is recommended:

- that diversity at the community gardens be recognized as a value to be preserved;
- that diversity be taken into account in the management of the program;
- that preserving and enhancing the diversity of the gardens be taken into account in any restructuring of the management or operation of the community gardens that might be deemed necessary.

Subsistence value. The census of garden produce as well as interviews make it clear that the gardens make a significant contribution to household consumption of fresh produce. For some households, this may represent a significant enhancement of diet, while for others it has little or not importance in economic or nutritional terms, but represents a valued way of providing food for themselves, their families, and others. Where possible, the Park should be sensitive to subsistence issues, and any restructuring of the program should seek to enhance the subsistence value of the community gardens. Examples of measures that might enhance the subsistence value of the gardens include:

- Promoting soil fertility measures such as composting that would promote healthy plant growth and allow people to harvest more from their plots.
- Extending the season for those who wish to grow crops cool-season crops.
- Using flyers or signage to educate gardeners about disease-resistant varieties of garden plants.

The Gardeners Associations should play a leading role in developing and implementing such measures.

The social value of the gardens. The community gardens are, in fact, a form of community. The gardens reflect the social relations of gardeners have, as when families and friends garden together, and make it possible for people to interact with other gardeners. Such social interactions are highly valued. The networks of social relationships that develop over time enhance the experience of the community gardens and may constitute an important form of “social capital” for gardeners.

The cultural significance of the community gardens. The gardeners find gardening significant in terms of particular ethnic and cultural heritages, and in terms of cultural values widely shared by Americans of many different backgrounds.

Many garden in ways that reflect ethnic heritages, regional backgrounds, and world cultures. Gardening expresses ethnic and regional ways of life in ways many find meaningful, linking nature and land to kitchen and home in ways that help define ethnic and cultural identity. In the gardens, many of the gardeners cultivate not only crops, but memories of people and places. The gardens can evoke memories of traditions or ways of life that are important to the gardeners and to the communities to which they belong. Memories of living on a farm in New Jersey or of the garden a grandparent had in Florida have personal meaning, but may also link people to a past that may have significance for a larger community. When garden plots recall the garden a parent had in Greece, or what life and work were like on a farm in North Carolina or Chile, they may connect people to the history and social experience of a larger community to which they belong: the regional culture of African-Americans in the South, or the experience of an immigrant community. These memories of people and places link some of the gardeners to ethnic traditions and help affirm a sense of identity. For a sub-set of gardeners, the gardens help shape what “communities of memory”--they express the values and meaning of the past in ways that connect people to a community and its history.

For others, gardening reflects the meaning that nature has come to have in American culture; gardening for them is a way of getting close to, and participating in, the processes and cycles of nature. For some, gardening reflects historic cultural traditions of agriculture

and horticulture—for example, of farming in the rural South, or Asian or Native-American traditions. For many, gardening embodies important cultural attitudes about self—gardening is a way to be productive as a person, to bring something to fruition through hard but meaningful work. For others, gardening is a therapeutic refuge from the pressures of urban life.

Perceived psychosocial benefits. Some gardeners report experiencing psychosocial benefits from gardening. They report perceiving gardening as contributing to their health and psychological well-being. This appears to be especially significant for older, retired, gardeners, a number of these gardeners reported that gardening helps them overcome isolation, that it is a way of getting out and seeing people, that it gives structure and purpose to their days. They perceive the exercise beneficial and value being outdoors, working, in the fresh air, as promoting health and psychological well-being. It could be argued that the reported benefits also derive from the social value and cultural significance of gardening. Gardening not only helps people form and affirm social networks (e.g., by giving produce to others) but allows them to reflect on and realize cultural values, such as that of being a productive, hard-working person. Some reported that closeness to nature—to growing plants—constituted a therapeutic, even spiritual, experience.

C. Gardeners' Evaluation of the Community Gardeners.

The gardeners report a high level of satisfaction with the activity of gardening, and found value in the opportunity to garden. The gardeners interviewed valued the program and appreciated the Park's operation of the community gardens, while expressing some frustration regarding certain administrative practices. The most serious problem identified was theft of produce.

Most of the administrative practices identified as detracting from the experience of gardening appear to be non-fundamental in nature; that is, they do not reflect NPS policies or regulations, but rather are the product of local management actions and efforts that can be modified at the discretion of the Park.

While reporting a high level of satisfaction and an endorsement of the experience of gardening as enhancing their lives, the gardeners also identified several specific problems that detracted from the experience: the most important of these were theft of produce and lack of continuity on plots. These concerns are justified and should be addressed. While

continuity (being assigned the same gardening plot each year) can be implemented administratively within the gardening program itself, a number of steps may be required to keep theft and vandalism below a threshold that gardeners can tolerate. The Park may wish to consider whether the gardens could be included in whatever community policing initiatives the NPS has underway.

D. Evaluation and Recommendations

- The resource values of the Garden should be preserved and the Gardens should continue to be managed to offer a valued experience to a diverse urban population.
- Any restructuring of the program should seek to preserve these values.
- The Park should recognize what it has achieved in this program, take credit for it, and integrate it into planning processes.
- In the interests of savings, efficiency, and greater responsiveness to the needs of the gardeners, the Park should continue to work with Gardeners Associations.

Several points should be stressed in assessing and planning for the program. In terms of an overall assessment of the 1996 program, the community gardens appear very successful at providing a valued experience to a diverse urban population; but it also appears that this success is not fully recognized by the Park itself. A program that successfully serves a diverse population and allows this population to express its diversity in a valued and meaningful activity should receive appropriate acknowledgment and affirmation from the National Park Service, from within and outside the Park itself, from a wider public, and from other agencies and institutions, just as achievements in historic preservation or biological conservation should. The role of the Park in sustaining a program that offers a valued experience to people from diverse social and cultural backgrounds should be communicated to the public, while those involved in sustaining the program should be recognized for their efforts.

The Gardeners Association should receive continued support. It was only in 1996 that the Park entered into a cooperative agreement with a Gardeners Association. This organization is still in its infancy, and should be given whatever support can reasonably be provided to ensure its continued development and long-term viability. Data provided by the Park shows that savings and benefits have already resulted. The logic of the decision appears sound: since gardeners are more directly involved in gardening, they know about the

requirements of soils and plants in terms of gardening, and they understand their own needs and interests. An association made up of gardeners should be able to make prudent, effective, and timely decisions about many aspects of the management of the Gardens. Thus, the gardeners stand to benefit from self-management and the Park will continue to realize greater overall management efficiency. To make this mutually beneficial arrangement work, the Gardeners Association must be able to collect and utilize fees for garden plots to cover the costs associated with the management tasks it has assumed.

The mutual benefits of this co-operative relationship should be stressed. The gardeners know about soil fertility and the needs of the gardens and gardeners; they will manage the gardens with these in mind. A program with deep roots in the community is renewed. As noted above, the Park achieves efficiencies and savings: the transfer of management burdens to the Gardeners Association reduces the burden of managing the Gardens and results in significant cost savings. Since staff time is freed up, the Park can reallocate staff to other tasks, increasing the overall operational efficiency of the Park. Moreover, there are other benefits for the Park.

- The program shows how the Park is successfully fulfilling its mission to serve an urban public--in the most cost-efficient way, through a working partnership with a committed program constituency.
- In the community gardens, the Park has a model program that integrates social, cultural, racial, and ethnic diversity into Park use.

Support for the Program.

The Park must continue to provide essential support for the program, including, but not limited to the following:

- The provision and maintenance of necessary infrastructure.
- Administrative oversight of the gardens and the actions of the Gardeners Association.
- Continuing with management functions the Gardeners Association cannot by law or policy assume.
- Active partnership in problem solving; and, if it should become necessary, an active and authoritative role in resolving conflict.

- The Gardeners Association should be considered a valuable partner and a valuable resource for managing a valuable program.
- The Gardeners Associations should be acknowledged and given shared credit with the National Park Service for the success of the program.
- The development and maintenance of the Association as an institution that benefits the Park should be recognized as a Park goal.

Planning and Development

- The Gardens should be integrated into the planning and development processes of the Park.
- Where appropriate, advantage should be taken of the opportunity to link the community gardens to interpretive or educational themes the Park might wish to advance.

The community gardens should be treated as an integral planning element, not as an isolated unit, but rather as a resource to be preserved, integrated, and interpreted. This applies mainly to Floyd Bennett Field, and to the proposed relocation of this garden to another site. For planning and development purposes the Floyd Bennett Field Gardens should be evaluated for what they can contribute to the development process, and the needs and features of the gardens should be integrated into the planning and development process, not planned and developed in isolation. Dealt with in isolation, the Gardens can continue to serve a diverse urban population; but integrating the gardens into Park development may offer ways to enhance the Park on a larger scale. Such opportunities, and the issues they raise, should be considered.

This requires that the nature of the resource be recognized and understood. For example, the gardens are a landscape unit: they represent cultivated land. In principle, this could be featured and interpreted in various ways that may serve and enhance other Park programs and goals.

- Contrasts between natural landscapes and cultivated land could be established and interpreted with trails and signs—with both standing in contrast to the built environment of the city.

- Urban children—even adults—might gain understanding that human activity (gardening) creates a distinctive landscape; that this landscape contains cultural elements but nonetheless constitutes an ecology, a human ecology.
- Gardening necessarily unites nature and culture, as people care for soil and plants in ways that reflect their cultural heritage: the interpretive and educational implications of this could be developed.
- Ideally, the Floyd Bennett Field Gardens might be integrated into a cluster of uses, sites, and activities that interpret human ecology.

Treating the gardens as the asset and achievement they are may well stimulate ideas that can be shaped into initiatives and integrated with the overall development of the Park as a total system of uses and resources. Recognizing not only what the Gardens actually achieve, but what role they can play in the development of the Park, seems likely to yield benefits to the Park and to the gardeners. Practical or logistical difficulties may stand as obstacles to achieving an integration of the Gardens into the overall development of the Park, but if the Gardens are not defined as an integral planning element, whatever potential the Gardens have to contribute to larger interpretive and development initiatives will never be realized, because the possibilities will never be considered.

Since the Gardens are a successful program, they deserve to be publicized in ways that underscore the Park's missions and accomplishments. For example, the Gardens are an example of what the Park is doing to serve a diverse urban population.

The Gardeners Association can act as invaluable low-cost or cost-free resource for the Park in the area of public relations and education.

- It can do so by hosting educational activities, by helping to organize out-reach programs to schools, by organizing "Harvest Fairs," by participating in "Ecology Days," and by sponsoring other events related to horticulture, gardening, and ecology, for which there is a significant and committed public constituency.
- The diversity of the gardens suggests themes that could easily be incorporated into events or interpretive activities: e.g., the Gardeners might invite a horticulturist to talk about plants associated with a regional or cultural gardening tradition and the public invited to attend.

- Ideally, the Gardeners Association and the Park would make up a brochure and the Gardeners Association would create a web-site for the Gardens.
- A “statement of partnership” might be incorporated into brochures, notices, internet web-site, and any other literature or documentation associated with the community gardens.

The Gardeners Association in pursuing their own goals and interests will perform public relations work for the Park: every public achievement of the Association will be to the credit of the Park. The Association should be expected to credit the Park for support, for the opportunity it gives people to garden, and for all partnership activities.

An Update--1998

Follow-up interviews indicate that the restructuring of the Gateway community gardens has been successful, making possible improvements and enhancements in the program in addition to the cost savings and management efficiencies realized.

- The gardeners have developed a viable organization with elected officers that has absorbed most of the burden of operating the gardens.
- The gardeners have made progress on the urgent issue of soil depletion. The issue was urgent because soil is an essential resource for plant growth; without adequate soil, no gardening is possible. The gardeners have undertaken a program of soil improvement that has halted the decline in soil quality that afflicted the gardens in 1996.
- The Association has successfully mobilized the gardening community to support and improve the community gardens. The Gardeners Association publishes a quarterly newsletter and it has recently established a web-page, where rules and regulations developed for the gardens are posted. The Association sponsors events and coordinates volunteer work.
- It is reported that “people are pleased” and “very active” with “more volunteers putting in more hours than ever before.” The fact that “the gardens look better than ever” can be interpreted as a visible sign of the renewed commitment of gardeners under the new system.
- Of special note, the Gateway community gardens have made a special effort to provide access for gardeners with disabilities. An extra row of plots has been added for them at the Ft. Tilden site and access has been improved by providing a wheelchair compatible surface on paths around plots. Raised beds have been integrated into the gardens, and plans exist for identifying plots in Braille.
- Of special note, too, the community gardens have established links with a wide variety of community groups. These include 4-H groups, the United Cerebral Palsy organization, Girl Scouts, Rockaway Little League, and the Young Adult Institute.

II. INTRODUCTION

Study Issues

This report presents the findings of an ethnographic appraisal of the community gardens at Gateway National Recreation Area. In 1996, the year of this study, more than five hundred people grew vegetables and flowers at Gateway, traveling from urban neighborhoods to the three community gardens sites found at the Park. In terms of the number of plots offered to the public, Gateway has the largest community garden site in the United States.¹

As described in the scope of work for the project, the primary purpose of the study was to document the use of these community gardens and to discover the values associated with them. A second purpose of the study was to weigh the implications of the uses and values of the gardens in terms of the operation of the garden sites and the development of plans for restructuring the management of the gardening program to enhance its ethnographic resource value.

This study was conducted as part of a larger project; the other part of the project was a plant census and gardener survey conducted by Emilia Canahuati, Ila Deiss, and Erika Goodman, a team of researchers from New York University, under the supervision of Dr. Rebecca Joseph of the National Park Service. Canahuati, Deiss, and Goodman (1996) document what Gateway gardeners grow and in what quantities; they also provide data on the gardeners and their activities from the survey they conducted. The present report should be read in conjunction with the report by these researchers. The Canahuati, Deiss, and Goodman report has been reproduced here as appendix B.

Background

In 1972, Gateway National Recreational Area was created by an act of Congress.² The General Management Plan for the Park (1979:2) provides a statement of the objectives or mission of the Park that includes the following: "to provide for and otherwise accommodate the rich cultural and ethnic diversity of the region and take sensitive account of the varying lifestyles of the people." Gateway's location in New York City and New Jersey make it a

¹ Rebecca Joseph, personal communication.

² The enabling legislation was P. L. 92-592; 85 Stat. 1308.

significant resource for an urban population which is indeed characterized by great diversity in terms of ethnicity, cultural heritage, socioeconomic status, lifestyle and life-situation. The community gardens are one of programs developed at Gateway National Recreation Area to provide for and accommodate the diversity of a urban population in ways sensitive to their varying lifestyles, life-situations, needs and interests.

Gateway National Recreation Area was created from land owned by New York City, the State of New Jersey, the Department of Defense, and private land owners. By any standard—and certainly relative to what one might expect of an urban park—Gateway covers a large area, encompassing more than 26,000 acres in New York and New Jersey. Getting to the different parts of the Park involves a trip from Sandy Hook, a six and half mile long barrier peninsula in New Jersey, across the Goethals Bridge to Staten Island, where the Park maintains three separate sites along the island's south shore; and then on across the Verrazano Narrows Bridge, to areas of the Park in or near Brooklyn, Queens, and Long Island. As this suggests, Gateway is a kind of an archipelago, its distinct parts rather like islands in an urban sea.

The administrative structure reflects this geographical dispersion; Gateway is organized into three units. Two of these administrative units, the Jamaica Bay/Breezy Point unit and the Staten Island unit, are in New York City, while the third, Sandy Hook, is part of New Jersey. Two of the units have community gardens: Miller Field in Staten Island has a community garden, and there are two community gardens in the Jamaica Bay/Breezy Point unit of the Park, one at Ft. Tilden and another (the largest of the three) at Floyd Bennett Field.

Community gardens are, of course, only one of many programs and resources that the public uses. Each of the Gateway units encompasses a number of sites and resources, and each has a number of unique and important features. Among many other attractions, visitors can find America's oldest lighthouse, historic forts, and historic airfields; they can find beaches, places to go fishing, and a variety of recreational resources; the Park also maintains areas managed to provide habitat and refuge for birds and wildlife.

As this suggests, the Gateway community gardens exist as a program within a complex administrative environment, where many programs and priorities make claims on limited management resources. In this environment, a central challenge for managing the community gardens, as for other Park programs, consists of finding ways to manage them efficiently (minimizing the burden on limited Park resources), while maintaining and enhancing the program. While this may sound difficult to realize in practice, in the year

this study was conducted the Park developed a plan for transferring some aspects of the operation and management to a gardener's association; this transfer promises to yield efficiencies for the Park and benefits for the gardeners, reducing annual costs by as much as \$37,661 while allowing the gardeners to adapt the operation of the gardens to their needs as gardeners and to their horticultural practices. Issues and data relevant to this process will be discussed in the body of this report..

The Urban Community Gardens at Gateway

Of the 26,000 acres in the Park, approximately three acres are devoted to community gardens. Even though the area devoted to community gardening (3 acres) may seem minute relative to the size of the park as a whole (26,000 acres), the number of gardening plots and gardeners make this the largest community gardening program in the country. More than 600 plots were assigned in 1996. The greatest number of plots are found at Floyd Bennett Field, where 585 plots were made available to the public. Gardeners reported, however, that fewer people were gardening in 1996 than previous years because of a new fee of \$25 had been imposed for use of each plot. In previous years, all 662 plots available at the Jamaica Bay/Breezy Point had been assigned and people had been put on a waiting list (Canahuati, Deiss, and Goodman report, 1996: 7).

Estimating the number of people actually involved in 1996 poses some difficulties, although the numbers are large by community garden standards. Since the fee imposed apparently decreased demand for the plots, some people were assigned second plots in 1996, as there were unassigned plots available. At the same time, plots may be assigned to individuals but gardened by more than one person. Many people--161 of the 220 approached by Canahuati, Deiss, and Goodman in the survey part of this project--reported tending gardens with a friend, relative, or co-worker. Based on the numbers from the Canahuati, Deiss, and Goodman report, it appears that close to 500 people were directly involved in gardening at the two Jamaica Bay/Breezy Point community gardens.³ Many more are involved indirectly, because they are members of the households of gardeners, or because they are part of the social network of a gardener. Giving and exchanging produce were important practices among the gardeners

The body of this report will document the diversity of the gardeners. It will offer some material on the way the community gardens constitutes a community of gardeners. It will

³ Numbers are not available for the Miller Field site in Staten Island.

describe what the gardens mean to the gardeners, indicating what value and significance these small plots have for these residents of one of the world's largest cities. The report will also offer an assessment of the physical and horticultural characteristics of the garden sites and their infrastructure, since these are relevant to the management of the garden sites. The final section of the report will discuss some of the management implications that follow from all this. The findings of this study are consistent with the recommendation that operational management responsibility for the garden sites be transferred to an association formed by the gardeners.

Overview

The Gateway Community Gardens offers the urban public an opportunity to garden. It has done so for twenty years. By many standards—the commitment of the public to the gardens, the satisfaction reported by those who garden, the longevity of the program, the way these community gardens fulfill the mission of the Park to serve a diverse urban public—the program should be deemed a considerable success. While there are issues in the management of the gardens that needed to be addressed at the time of the study (1996), the general view of the Gateway gardens that grows out of this research is that they constitute a valuable and successful program that contributes significantly to the quality of life of participants. The Park has every reason to view this program as one of the jewels in its crown.

In addition to fulfilling its fundamental goal of providing a place to garden to people who might otherwise have no access to gardening, the Gateway Gardens serve a highly diverse urban population. The way the Gardens brings together people of different social and ethnic backgrounds to garden represents a significant value that should be preserved. The program assessed in terms of diversity should be judged as exceptional and important.

In 1996, the Park may not have fully appreciated how successful the program is. Due to the demands on management in other areas, the Park may not have reviewed recently what the program offers the public and how it helps fulfill the mission of the Park. This may have led some to undervalue the Gardens: this undervaluing of what strikes an outside observer (and the gardening public) as a valuable asset would appear to be a function of a (necessary and appropriate) focus on the details of operating the program: issuing permits, monitoring use, and so on. Staff has commitment in many other areas and with the management process in place in 1996 it may have been easier to perceive the costs of the program than the benefits. Many of the benefits and achievements of the program are

social, cultural, and psychological, and not easily quantified, although the report by Canahuati, Deiss, and Goodman documents some quantitative aspects of the gardens: the amount of produce generated and numbers of people involved (see Appendix B). However, a narrow focus on the management tasks represented by permitting, monitoring garden plots, and other necessary tasks, tends to obscure the actual public value of the program: a sense of the significance of these community gardens gets lost in the necessary preoccupation with what it takes to run the program.

Moreover, there appears to be a clear opportunity to realize cost savings and achieve management efficiencies by transferring much of the operational management of the program to an association formed and operated by the gardeners themselves. If this potential can be developed and followed through to fruition, the Park would be able to have its cake and eat it, too: maintain a successful program while significantly reducing costs.

To appreciate the value of the program, it may be useful to step back from the operational details of managing the resource and view it in light of what it offers the public and how it fulfills the mission of the Park. Any restructuring of the program or the management process should preserve the values now realized in the program. The Gardens are not just an amenity; they constitute an important ethnographic resource. This report will help those involved with the program understand this resource. It will document the meaning and significance gardening at Gateway has for the public involved and clarify the nature of the resource that the Gardens constitute.

Gardeners, too, often focus on issues that arise in the operation of the program, and in particular on those that they see as diminishing their experience or creating obstacles to their enjoyment of gardening. Of course, this is quite understandable: given the value they place on the activity, they wish to be able to pursue it in ways that maximizes their satisfaction and find it frustrating when they cannot. However, this does perhaps have the effect of making their communications with the Park somewhat one-sided. In terms of their communications with the Park, it means that they may at moments ventilate their frustrations rather than communicate their very real sense of satisfaction or appreciation. Yet discussions with them leave little doubt that they value the program. Indeed, one comes away impressed with how singularly important it is for many of them.

It is appropriate and understandable that gardeners want problems addressed, but it is important that planning also reflect the positive value that the Gardens have for the gardeners and the value the Park can place on the garden in terms of fulfilling its mission of service to the public.

There are a number of issues regarding the management and operation of the program that have been identified by gardeners and staff that do need to be addressed, but these should be viewed in the context of the program's benefits, the values it realizes, and program fundamentals. These are the normal sort of management challenges that face any program involving several hundred people. Part of the challenge is to take account of the specific needs of gardening as an activity. Some of what the gardeners would like to see happen has to do with the specific needs of gardening. One of the main points they made is that they would like to keep the same plots each year, rather than be reassigned to a different plot each time they apply for a permit. Given the nature of gardening--the way soil is built up by gardeners over several years, the way plant diseases are controlled by rotation and choice of what to plant--this proposal makes good horticultural sense.

The issues regarding the Gardens do not appear unmanageable. As with any program serving a significant number of people, it would be extraordinary if no management issues developed over time. At the time of the study, Park staff and the gardeners (under the auspices of a Gardener's group in the process of formation) were developing approaches to these issues, and were developing new competencies to help in the process of managing the Gardens. These developments should be encouraged to continue and come to fruition. The Park and the gardeners seemed to be seizing the chance to turn frustrations into opportunity. Both parties want to restructure the management of the Gardens, each working to solve problems.

In essence, the gardeners are more qualified, if (as seems likely) they can develop requisite management competencies and constitute themselves as an association with by-laws and procedures, to make decisions about and manage those aspects of the Gardens that have to do with gardening itself. The Park would like to reduce costs and management time devoted to tasks the gardeners can do as well or better themselves, but must oversee the gardens to ensure that they comply with NPS policies and mandates. While the process of restructuring the program--of sorting out the respective responsibilities--will probably not be entirely smooth, and will no doubt involve some trial-and-error that will require some flexibility from everyone involved, the prospect of a win-win situation exists.

Since the Community Gardens are an asset that the Park can take pride in, the prospect of making them better while reducing management burdens and costs is attractive. Since a compelling case can be made for some of these changes in terms of the requirements of

gardening and the needs of the gardeners, one can understand the desire of the gardeners and of the Park to move forward with these changes and this evolving partnership.

Some issues reflect developments at the level of the Gardens themselves. For example, the depletion of the soil has to do with insufficient inputs of soil amendments and organic matter into the soil system over the 20 year life of the garden. The desire to have continuity on plots reflects the nature of gardening. Certain other issues seem to have as much or more to do with new policies and restructuring at the level of state and federal governments than with the gardens themselves. The \$25 fee initiated in 1996 belongs to this category, as does the withdrawal of the agricultural extension agency program that once supplied technical information to the gardeners. Some gardeners attributed the later to budget issues.

Methods and Limits of the Study

Research Activities

The study involved research activities—interviews and discussions with gardeners, observation of gardeners and gardening activity at garden sites—that were designed to elicit qualitative data undertaken in conjunction with a separate survey that collected more quantitative data on the gardeners and the crops grown at the Gardens (Canahuati, Deiss, and Goodman 1996; see Appendix B).

Following initial planning and preparation, the research has involved a fieldwork phase in which community garden sites were visited, and an analysis and writing phase. In the fieldwork phase, interviews were conducted in August and September 1996. Sixty individuals were approached for brief interviews over a four week period (35 men, 25 women). Ten gardeners were interviewed more intensively on a wide range of topics relating to the community gardens. Direct observation of gardening activities and visual inspection of the soil and drainage characteristics of the sites and of plant growth was carried out at the same time. Participant observation in the setting offered some insight into social relations at the Gardens and supplemented interviews.

Time was spend at all three garden sites in Gateway National Recreation Area. These sites are at Ft. Tilden and Floyd Bennett Field in the Jamaica Bay/Breezy Point Unit of the Park, and at Miller Field on Staten Island. Since it is the site with the most gardeners, more time was spend at Floyd Bennett Field than the other two sites. The research shows that each of these community garden sites have much in common, but also possess specific features that make them distinctive.

As part of the project, meetings were held with the researchers working on the quantitative portion of the project, and with Park staff. Analysis and recommendations were offered at these meetings.

Meetings held by Park staff and a core group of gardeners were also attended. This group was charged with coming up with rules for the gardens and for laying the groundwork for the formation of a Gardeners' Association. Observation of these meetings were the basis of a recommendation that the Park offer assistance to the group in the form of a facilitator/resource person to help them get started as an organization.

An urban compost site at the Queens Botanical Gardens was visited. This formed the basis for the recommendation that the Park explore the possibility of establishing a co-operative relationship that would give gardeners increased access to compost. Some of the gardeners had advocated the development of a "compost connection" of this kind.

Analysis of the data began on-site and continued into November, but then had to be discontinued until July of 1997 due to a relocation to California and personal circumstances.

Problems Encountered and Limits of the Study

The weather was rainy on many days during the research period; as a result, there were periods when few gardeners were available. The second trip in September was disappointing, since the weather had become so poor that gardening activity has been greatly reduced. However, some interviews and discussions occurred at this time, and meetings were held with Park staff. Overall, an adequate number of gardeners were available and willing to talk about their experience of the gardens. In three cases, interview could not be completed because no common language existed. Only two individuals declined to be speak with the researchers: they explained that they had to complete their gardening work so they could leave to do other things.

This gardening season was generally poor, according to some gardeners: as a result, some gardeners may have stayed away. While the research done at the Gardens provides much fuller data than would otherwise be available, it should be appreciated that the research did not involve contact with every gardener. There is no obvious reason to think different conclusions would be reached if more gardeners had been contacted, although this is a theoretical possibility. More contacts over a longer period of time would fill in gaps in our understanding of the lives and social situations of the gardeners. It should be kept in mind that the research is based on visits the garden sites. The research gives an assessment

of the use and meaning of the setting for the gardening population, but does not give not detailed insight into lives and social context. Budget and time constraints for the research did not permit a full-fledged ethnographic study. Such a study would be interesting and might be useful to the Park in understanding the public that uses the Park. The Park might wish to encourage and assist university-based research in this area; a dissertation research project might represent a low-cost way of gaining a fuller understanding of community-Park linkages. The findings in the report by Canahuati, Deiss, and Goodman are consistent with the findings reported here.

Interview questions were designed to invite gardeners to talk about what gardening means to them, and to solicit ideas about managing and improving the gardens. Interviews were designed to be relatively brief and discovery-oriented. Interviews were open-ended and non-directive.

Gardeners were asked a few introductory questions about their garden plots: for example, what are you growing? How long have you been gardening? In terms of the first interview focus, basic questions asked were: Why do you garden? What do you get out of it? How did you learn to garden? Answers to these questions were followed up as appropriate. Leading and directive questioning was avoided, in order that answers might reflect what the gardeners deemed significant.

Open-ended questions were used to invite discussion on the needs of the gardeners, problems they faced, and changes they might like to see in the management or organization of the garden: Do you have any thoughts about the way the gardens are managed? What do the gardens need? Are there any changes you would like to see? Are there any problems you could tell us about?

Gardeners were asked about the soil and what they did to maintain the fertility of the soil. They were asked on a case by case basis about plants growing in their gardens. (A plant census was conducted by a team from New York University [see Canahuati, Deiss, and Goodman 1996]). A sub-set of plot-holders were asked about the infrastructure of the gardens: soil conditions, the irrigation system, and other features of the sites.

Discussions about the management of the gardens were conducted with those involved with the creation of a Gardening Association.

In general, gardeners were willing to talk about their use and experience of the gardens. In some cases, however, they wanted to continue with their gardening, or leave to go home or elsewhere. While interviews tended to be brief, there was time for the core

questions of the project to be asked and answered. Typically, gardeners were able to give definite answers to questions asked. Asked what the gardeners needed, gardeners expressed a desire to have continuity on the same plots. Asked what they got out of the gardens, virtually all expressed a very high level of satisfaction with the basic gardening experiences. They also reported on certain circumstances that interfered with their enjoyment of the gardens. Almost all identified theft as the worst problem facing the gardens, especially theft that “stripped” their gardens of produce. There was some variation in statements concerning the severity of the problem, but most spoke of it as a major concern. Gardeners also reported that being shifted to different plots each year was not conducive to good gardening. Only two individuals failed to volunteer that continuity was desirable; when the interviewer felt they had a chance to reply to the non-directive query, these gardeners were asked specifically about continuity they then endorsed continuity.

The garden sites were visited at different times of day, to see if different activity or use patterns could be observed.

Number of gardeners reporting a positive experience: 58

Number of gardeners contemplating not returning: 2

Number of gardeners who indicated theft was a problem: 60

Number of gardeners who stated they thought having the same plot each year was a good idea: 59.

The Value and Meaning of Gardening: Preview of Research Findings

The next two sections of this report will discuss research findings concerning the background of gardeners and the value and meaning the gardens have for them be discussed. Before launching into this discussion, it may be useful to summarize the findings regarding the value and meaning that a diverse gardening population finds in these community gardens.

- For many, gardening is not just a leisure activity, but a key lifestyle activity. They value it not just for the produce they grow, but for the place it has in their life, the satisfaction and meaning it gives them.

- For some, it resonates with cultural and family heritages. Their gardens plots are places where they can grow food that has cultural meaning; the gardens also embody a sense of heritage and evoke memories of family and cultural traditions.
- For others, gardening is a therapeutic refuge from the rigors of urban life, from jobs that are stressful.
- For some retired people, gardening gives structure and purpose to their daily routine, and allows them to enjoy the benefits of fresh air and an outdoor activity.
- Many gardeners value gardening for the way it allows them to be productive and to grow food to share with others.
- Some stress the skill they can develop and exercise; they value acquiring knowledge of plant growth, as this contributes to successful gardening. A key value for some is the expertise they can display by growing high-quality produce and maintaining highly productive gardens.
- The gardeners value the vegetables they grow, not only for what these mean in terms of cultural background or personal satisfaction, but for its value as fresh produce.
- Gardening has value as an experience of open space and for the contact with nature it provides.
- Some gardeners live in apartments and housing projects: for them, the gardens may be their primary experience of open space and natural processes.
- Some treat their gardens as small pieces of nature that they tend--they value the closeness to nature they find in their plots.

As this list suggests, the economic and subsistence value of the gardens is only one component of their overall significance for the gardening public--although the contribution the gardens make to household consumption is important to the gardeners. While for some the role of the gardens in providing fresh produce for themselves or their families represents the primary value of the community gardens, for most, the gardens embody multiple values. Some of these values are less tangible than the tomatoes or potatoes that appear on the dinner table, but have cultural and personal significance.

For example, it seems likely that a significant number of the gardeners (though not all) use their gardens to constitute what has been termed a "community of memory."⁴ In their gardens, they cultivate memories of places, people, and practices that have been important

⁴ The concept of "community of memory" has been developed by Bellah, Madsen, Sullivan, Swidler, and Tipton, 1985:153-154.

in defining their values and sense of self. Gardening itself allows them to participate symbolically in the historic narratives of their community concerning places of origins and ways of life. Both immigrants (e.g., from Greece and Italy) and migrants from places in the United States (e.g., the rural South) narrated connections with people, places, and ways of life they had experienced in the past when speaking of their gardens. Gardening also allows some of them to feel they are participating in the cycle of nature, an experience they report has deep personal significance for them.

The parallels between the meaning of the gardens and the mission of national parks and recreation areas may be worth noting; it suggests the multiple values the gardens have for the gardening public. Gardens and parks alike may offer an experience of nature, of open space. Many of the parks and recreation areas in the National Park System offer contact with nature, ranging from the experience of wilderness to the experience of agricultural landscapes. Parks and gardens alike may connect people to the past. If some gardeners use their garden plots to remind themselves of their heritage and history, so do national parks: they express and preserve the heritage and memories of the nation. Historic national parks offer the public the opportunity to forge a connection to the past; part of what the National Park System does is constitute a national community of memory. In certain respects, then, the gardeners are doing in miniature something the National Park System does on a much vaster scale—affirm a connection to nature and to the past.

III. THE GATEWAY GARDENS:

COMMUNITY AND DIVERSITY

- Introduction
- A Harvest of Cultures
- Cultural Values of Gardening
- A Taste Of Italy
- Greek Greens
- Roots in the South
- Immigrant/International
- A Sense of Connection
- Socioeconomic Status
- Gender
- Age
- A Sense of Community: Social Relations in the Garden

Introduction

Who gardens, and why? What is the constituency for the gardening program? What value do they find in it? The answers to these questions provide an understanding of the community gardens and help define the importance these gardens have for the public.

The Gateway community gardens serve a diverse urban population who express and affirm deeply held values in the activity of gardening. Many of the values that the gardens possess for these urban gardeners reflect important public values, the most important of which are also values that are fundamental to the mission of the National Parks in general and of Gateway in particular. Interviews with gardeners make it clear that gardening is for them a way of experiencing nature, a way of renewing the self by finding a refuge from the rigors of urban life, and a way of affirming diverse cultural heritages and shared public values that are fundamental to the American experience.

As it becomes clear who gardens, it becomes clear that the Gateway communities gardening program richly fulfill a key mission of Gateway National Park. The Gardens serve a diverse urban population, giving them the chance to garden, to enjoy nature, to grow and harvest foods of great cultural significance to them. Viewed in this light, the gardening program must be evaluated as a highly successful and basically sound program.

The gardeners value the program; they appreciate the opportunity it gives them to engage in an activity they experience as enhancing their lives. They realize a variety of values in gardening; these values have a high level of significance for them. The researchers did not anticipate the degree of commitment, the level of meaning, the felt significance, or the range of values, reported by those gardeners interviewed for this study. That the program can generate the kind of positive evaluations given by gardeners attests to the fundamental success of the program. This positive evaluation of the community gardens should be recognized, even celebrated.

That gardeners value the program does not mean that no changes should be made in the management of the program. There are reasons to restructure aspects of the gardening program. It does mean that any restructuring of the management program should consider, and seek to preserve, the features of the program that give it such extraordinary value for many of the gardeners.

The fundamental success of the program might easily be overlooked by staff and gardeners alike. After all, they not only face the frustrations involved in dealing with the day-to-day issues of running any program involving several hundred people, but must also confront the challenges that any such program faces as the government and the public redefine how public institutions serve the public. The frustrations and challenges are very real, but this fact makes it all the more important not to lose sight of the basic success of this program. What does the program achieve? It puts people in touch with nature; it offers a refuge from urban life; it allow people to be productive and to grow foods that reflect their ethnic and cultural backgrounds—and it also embodies important public values of diversity and community.

Judged in terms of what people reported getting out of the experience of gardening at Gateway, the Gardens have in fact an exemplary quality. They allow people of diverse backgrounds to come together in an inclusive public setting. In this outdoor setting, the breezes stir the leaves of plants, and people enjoy the sun and open spaces, gardeners pursue an activity they find meaningful, an activity that they state gives them great satisfaction. The Gateway Gardens allow these urban citizens to realize the values and

meanings that gardening has for them; these values and meanings range from important associations with family and ethnic community to being able to grow the best or biggest produce they can.

The Gateway Gardens are inclusive; the gardeners are diverse; they find gardening meaningful for a number of different reasons that we will explore below. In terms of public values, moreover, an observer develops the sense that this a place where diversity works; that this is one of the relatively rare public settings where community embraces diversity. The gardeners themselves, many of them, may take it for granted. For many, it may be woven into the experience of the Gardens. They value seeing diverse kinds of gardens, and learning how others garden, what they grow, and how they use what they grow in distinct culinary traditions. The cultural diversity of the gardeners is expressed directly in gardening itself. This adds interest and value to the collective experience of community gardening, of being part of the Gardens. Public settings that achieve this kind of balance and harmony are relatively rare.

The people who garden at Gateway are manifestly diverse. Who gardens here? The relatively affluent garden alongside some who are poor; people of different races and ethnic groups garden side by side. They trace their origins to South America, Europe, Africa, and Asia. They speak Spanish, Chinese, Korean, Italian and Greek. They speak English with rural, urban, and regional accents; one can hear Southern accents here as well as New York accents, even British accents. Immigrants from Greece, Italy, Ireland, the Dominican Republic, Guyana, Chile, Korea and China garden alongside people whose families have been established in New York City for generations, the descendants of earlier waves of immigration. Relatively recent arrivals to New York City come not only from outside the country, but from rural places in the United States, arriving in the city as part of historic patterns of 20th century rural-urban migration. As a result, people with roots in rural and small-town America—from Texas, North and South Carolina, Florida, Georgia and elsewhere— garden alongside natives of New York and New Jersey.

We might aptly make use of the obvious metaphor: Gateway community gardens constitute a multicultural garden of ethnic traditions, a harvest of diversity. Connected to gardening are ethnic culinary traditions, and the kitchens of families of diverse cultural backgrounds, where the “soul foods” of particular ethnic communities are important symbols of identity, family, and community.

Ethnicity, class, race and region are not the only dimensions of diversity found here. Individuals with cerebral palsy and disabilities garden. Retired people garden--gardening

helps give meaning and structure to their daily life. Veterans garden. People engaged in a wide variety of occupations garden, for many of whom gardening offers a refuge from the pressures of work. Some who are unemployed garden. People on public assistance garden. Schoolchildren and families garden.

Evidence from interviews and observation suggests that these gardeners not only represent diversity but also recognize and value it. No evidence was found indicating diversity is asserted in a divisive way. People of very different backgrounds were seen engaged in conversation and observing helping each other out, talking, joking, and laughing with each other. Many social interactions and co-operative relationships cross class and racial lines. For example, a woman (white) explained that she was going to give an Asian-style squash to a Chinese friend. Her son showed the squash to another woman (black) and engaged in friendly interaction and banter with her. The taken-for-granted quality of this should perhaps be stressed. During the period of observation, people behaved “naturally” and “normally” with each other at the garden sites. It appears an inclusiveness is realized on an everyday basis at the Gardens (at least for many of those observed) that the larger society often fails to achieve in practice.

What unites these otherwise diverse individuals, and provides them with the common ground on which they can build relationships with each other, is the enjoyment they derive from being able to till the soil and grow plants. They share an interest—in many cases a passion—for gardening. According to many of them, the diversity found at the Gardens—as it is expressed in the gardens themselves—enhances their experience: they report they valued interactions with other gardeners, enjoyed seeing what others do with their gardens, and valued the opportunity to learn from others.

The next three sections of this section will consider some of the dimensions of diversity at the Gardens. After this, the meaning of gardening, as reported in interviews, will be assessed.

A Harvest of Cultures

A number of ethnic groups are represented among the gardeners. These include some who are members of important ethnic communities in New York City, and recent immigrants from other countries [see Table 1]. Some individuals from these ethnic

backgrounds garden in ways that relate them to their ethnic heritages or national origins: they grow foods that are important in ethnic culinary traditions. In particular, Italian, Greek, Asian, and Southern African-American gardens can often be identified by the food crops grown.

Not all gardeners claim an ethnic identity and not all gardens express a relationship to an ethnic heritage. For many, gardening is an activity without any particular relationship to ethnicity or national origin. For such gardeners, gardening has different meanings and plays other roles in their lives. We will get to these in a later section of the report. The purpose of this section is to explore the way gardening may express a sense of family origins and experience, for those who have ethnic identifications. While this kind of meaning appears significant, it is not the only kind of meaning people attach to gardening. Moreover, it is also worth stressing that good gardening practices--taking care of the soil, doing what plants require to flourish--has to do with the requirements of soil and plants, and so transcends cultural background. No matter what their cultural background, good gardeners must meet fulfill the needs of soil and plants if their gardens are to yield a bountiful harvest. With these points in mind, ethnicity is related to gardening for many gardeners. It is a component of the meaning of gardening.

The most direct relationship between ethnic identity and gardening involves the selection of garden crops to grow:; ethnic gardens grow foods for ethnic styles of cooking. These foods, in turn, are markers or symbols of ethnic identity. They have cultural meaning, and are often woven into family life in significant ways. For every ethnic garden where ethnic foods are grown, there is an ethnic kitchen where they are cooked and a home where they are valued.

What often matters most for some gardeners whom observers would place in an ethnic tradition is not a self-conscious identification with ethnicity, but the feeling expressed with the statement that they learned how to garden from some one in their family--a parent, a grandparent. The ethnic character of these gardens is often based on a sense of family connection. Through such family connections, people not only feel connected to particular crops and foods and persons, but also to special places of cultural origin, such as a farm in the South, or a remembered family garden in Greece. Gardening thus becomes for some a very real harvest of culture. It defines what has been called a "community of memory."

Bellah et al (1985:333) describe a "community of memory" as a community "defined in part by its past and its memory of its past." "Communities," they write, "have a history--in an important sense they are constituted by their past.(153)." A community "is involved in

retelling its past, its constitutive narrative, and in so doing, it offers examples of the men and women who have embodied and exemplified the meaning of the community.” These features of the concept are applicable to the way some of the gardeners find meaning in gardening.¹

In the case of gardeners who feel themselves linked to ethnic or cultural tradition, gardening brings to life a sense of place associated with the past of a community. In their gardens, they evoke memories of the rural South or the Greek countryside, a parent’s garden in Italy or France, farms in New Jersey or South America. Asked about their gardens, they recount stories of these places, and of the people who were part of them: gardening allows people to cultivate cherished memories that are central to their sense of themselves, their families, their ethnic and cultural origins. More than this, gardening allows them to recreate in miniature the landscape of these memories, by growing crops that had a valued place in the gardens, kitchens, and lore of the groups to which they belong. In addition, these foods, the gardens in which they grew, and the kitchens in which they were made into family meals have an intimate association with people whose memories are cherished—who worked in the gardens and cooked in the kitchens cherished in memory. For some gardeners, then, gardening allows the gardeners to enact the virtues that people in their past embodied—hard work, persistence, closeness to nature, knowledge of plants—which were made manifest in gardening. In these ways, the gardens affirm memories of places and people that are important to the sense of identity and community of many gardeners.

Bellah et al. also argue that the “the stories that make up a tradition contain conceptions of character, of what a good person is like, and of the virtues that define such character” (p. 153). It is worth suggesting, for some of the gardeners, that being able to enact the virtues they associate with significant figures in their lives through the activity of gardening is a way they affirm these virtues for themselves. Gardening itself defines virtue and character: it is about hard work that brings a fruitful harvest, about being productive, about working with nature and using knowledge and skill in a productive way that provides sustenance to self and others, in a way that has value within a web of morally significant relationships.

¹ Bellah, Madsen, Sullivan, Swidler, and Tipton, 1985:153-154. As noted in the introduction, the parallels between a garden plot as a way of cultivating a personal community of memory, and the role of national parks in expressing and preserving the collective community of memory of the nation are not trivial.

Table 1 Ethnic communities and immigrant groups represented at the Gardens.

<u>Ethnic groups (born in United States)</u>	<u>Immigrants (born outside United States)</u>
Italian	Greece
Greek	Italy
African-American	China
Chinese	Scotland
Korean	Chile
Irish	Guyana
Hawaiian-American	Ireland
Native-American	Philippines
Puerto Rican	Russia
Jewish	Mexico

Cultural Values of Gardening

When people garden at Gateway, they often do much more than cultivate garden crops. They cultivate identities and harvest memories. It is not just that the gardeners are diverse, in terms of their social and cultural backgrounds, their race or ethnicity; for many, the gardens are important as an affirmation of the histories and identities that constitute their diverse identities and cultural backgrounds. The obvious social dimensions of diversity include ethnicity, race, and socioeconomic status. What is not so obvious, but of some significance, is the way each of these finds expression in gardening.

Each of these aspects of diverse identities and social background also reflects historical experience: for example, recent immigrants to the United States garden alongside those gardeners for whom the immigrant experience is a distant memory. For recent immigrants,

with firsthand memories of a place left behind, gardens can affirm a connection with the country of origin. These gardeners grow vegetables that remind them of their former lives and homes.

Working alongside them in other plots are gardeners who are not immigrants from other countries, but whose gardening reflects a different, but equally significant, history of migration—from countryside to city. Many gardeners, or their families, came to New York City from rural places in the United States. For them, the garden affirms a connection with a rural past and the culture and family history this represents.

For those who arrived in New York City on a wave of international immigration, as for those arriving from the rural United States in a wave of rural-urban migration, the gardens express a sense of historical “roots.” When they garden, people such as this cultivate historical and personal memories as well as produce. Doing so, they affirm identities and family background and historical experience in a way that has personal meaning.

“I might have long forgotten the lessons about gardening my father taught me until I came here. You don’t even realize that you value these things until you are old.” (A gardener quoted in the Canahuaui, Deiss and Goodman report).

Even some of those who did not have as definite and immediate a personal connection to rural life or the immigrant experience noted that gardening gave them a sense of historical connection, by noting that gardening helped them understand farming, and that it made them think about farming as part of American history.

It should be appreciated that if some garden in ways that express or affirm who they are, others garden in order to escape. A number of gardeners portrayed gardening in quite a different light, not as giving them a sense of connection, but as offering them a refuge from the pressures of their lives. They value the detachment of the gardens, the way gardening stands apart from society as they experience it. What they found meaningful was not the culture, history, and identity that gardening could express, but way gardening offers them a respite from the burdens of social circumstances and occupational roles.

The two perspectives are not necessarily mutually exclusive, although one or the other may be more salient for a particular individual. Both “the sense of connection” and the way gardens offer a “therapeutic refuge” from urban life appear to be highly important aspects of the experience of the community gardens.

A Taste of Italy

Virtually every one grows tomatoes; they are perhaps the most common and one of the most prized crops in American vegetable gardens. However, they have a special place in the gardens of Italian-Americans. Tomatoes plants were the glory of gardens worked by many Italian-Americans.

The significance tomatoes in gardens and cooking have for Italian Americans is suggested by the number of plants they grow, the prominence these are given in the garden (where much of the plot may be devoted to tomatoes), the care taken in their cultivation, the production orientation (the gardeners seek large crops of vine-ripened tomatoes), the pride with which they are shown to others, and the talk about cooking, eating, and family life associated with them. Tomatoes are grown for sauce, which is cooked up in the kitchen. They are a prominent feature of the cuisine associated with family life. Tomatoes are thus a food with cultural meaning: they are integrated into an ethnic culinary tradition, which in turn is integrated into family life.

For some Italian gardeners, a garden without tomatoes would hardly be a garden at all. One non-Italian gardener reported that he grew the tomatoes he did largely to satisfy the expectations of the Italian gardeners in neighboring plots.

Italian-American gardeners often process and preserve their tomatoes. Tomatoes are cooked into sauce. Sauce, as well as whole tomatoes, are canned. These substitute for the canned sauces and tomatoes that might otherwise be purchased. Tomatoes, fresh and canned, are given as gifts to friends and relatives. One gardener reported that he would give away sauce, and might receive a bottle of wine or other gifts in return.

In sum, the social meanings of gardening, its connection to family meals and the maintenance of social ties, and as well as the link to an ethnic culinary tradition, are stressed by many of the Italian-American gardeners.

Other crops with some prominence in the gardens of Italian Americans include peppers, eggplant, onions, beans, oregano, and basil.

Italian American gardening at Gateway appears to be linked to a regional tradition of Italian-American farming and gardening that extends at least from New York to Massachusetts (Parish, 1996, Chap. 2, "In Praise of Sweet Corn: The Palumbo Farm.")

Greek Greens

Gardeners from Greece have introduced a distinctive crop to the gardens--vleta. This is a traditional Greek green. It is highly valued. As a traditional garden green it is part of

their culinary tradition and it reminds them of their native Greece. The gardeners originally acquired the seeds from Greece since they could not be found here. Friends and family in Greece were contacted and asked to send the seeds to the United States. At present, seeds are now saved at harvest for planting next year. Gardeners share the seeds with others from Greece so they can grow this crop which reminds them of their native country.

Vleta flourishes at FB, where it is grown in rows and blocks of vigorous leafy plants that attract the curiosity of other gardeners. Some non-Greek gardeners who have been given vleta seeds by Greek gardeners have begun to grow the crop.

Gardeners spoke of how the gardens reminded them of Greece, of the countryside, of family gardens they remembered. It is worth noting that these associations were volunteered.

Like others, Greek gardeners reported setting great value on being able to garden. One woman stressed the health benefits she perceived for her husband, as well as the satisfaction he got out of it. He stood up from his work (he was clearing away bean vines that had yielded all they would to make room for new plantings) and confirmed this, saying that it was one of his greatest pleasures.

Roots in the South

A gardener who grew up on a farm in North Carolina told of how his family grew vegetables, cotton, and tobacco. He says he applies to gardening techniques he learned growing up on this farm. In particular, he pays careful attention to returning organic matter to the soil. He lets vegetable matter decompose in the pathways of his plot, and then, when it is ready, he turns it into the soil. This is an adaptation of farm practices for maintaining the organic matter in soils. On farms such as he knew growing up, the parts of crop plants not actually harvested are plowed into the ground. In addition, compost and manure may be added to fields, or grass may be planted and then harrowed into the soils. The layers of plant matter he keeps in his paths are his adaptation to his urban garden of these practices. Others reported they used the walkways in a similar fashion.

He says he never liked growing tobacco. The tar from the plants would stick all over the plants. He remembers picking off tobacco worms as big as his thumbs, and then having to tear off the leaf damaged by the worm, before going on to the next plant.

He did not love tobacco farming, but he loves growing traditional Southern crops--collards, mustard greens, turnip greens—at Floyd Bennett Field. He says his brother

teases him about his love of gardening, pointing out how he hated doing this work when he was a young, but “now he’s growing a whole farm.”

“I could stand out here for hours,” he said, gazing at his garden. “I love to watch things grow. And then, I think of how I planted it from a small seed. It makes something happen in my heart.”

As with other gardening traditions, there is a link with a culinary traditions of Southern foods. This in turn links gardening to family life. A gardener who grows collard greens says he cooks them with ham hocks, and said it was a “Sunday treat.”

Gardeners with roots in the rural South, many of them African-Americans, grow a variety of traditional Southern crops. Turnip greens, mustard greens, okra, and collards are found in these gardens. The regional roots include Tennessee, North and South Carolina and Georgia, with Texas and Florida also being represented. This tradition involves not only the choice of crops--turnip greens, collards, okra, beans--but also expresses itself in cultivation techniques that reflect farming traditions. Most importantly, perhaps, gardeners in this tradition see themselves as applying what they learned as children on farms in the South where their families lived before migrating to northern cities.

Immigrant/international

This category overlaps with the category of ethnicity, but includes gardeners who are immigrants from particular countries, as opposed to those born in the United States.

One South American gardener was growing varieties of flowers and beans from his native country. He had them growing on branches and brush he had found. He had recreated the kind of garden that might be found in sections of his native country.

Another gardener from South America recalled how he used to work on his uncle’s farm in Chile. He said gardening was a way of reminding himself of home.

When he worked on his uncle’s farm, he did not like farming. It was hard work. They plowed with a horse. He felt the farmers’ life was hard. Pulling weeds in the garden, he says, reminds him of this.

Now, however, he finds satisfaction in gardening. Other gardeners from farm backgrounds made similar comments.

The West Indies—the Dominican Republic and Trinidad—were also a point of cultural reference for individual gardeners. East Asia was also represented with gardeners from Korea and China.

Notable absences were gardeners with links to South and Southeast Asia. One might also have expected more East Asian gardeners (with personal or family backgrounds linking them to Korea, Japan, China). Any number of factors could explain this, but would simply be speculation. Perhaps the most likely reason is that these Asian communities are not established in sufficient numbers near the Park.

A Sense of Connection

Ethnic gardening traditions are expressed primarily through the selection of crops to grow. They may also be reflected in cultivation practices, although this is probably not conscious, and the identification people make with crops seems stronger than the identification with cultivation techniques. However, some people did locate aspects of cultivation—using hoes like they did when they were children on a farm, planting in rows, rotating and co-planting crops—in relation to people, places, times and biographical moments important to them (family, the South, childhood, life on a farm). Incorporating organic matter—by allowing vegetable matter to rot and then digging it in to the soil—was said by some gardeners to be something they had learned on farms in the rural South.

Given the size of the plots, cultivation techniques are understandably adjusted to the small area available for gardening. As a result, some “farm” practices that might be carried over into gardening if space permitted are not utilized. This is reflected in the use of rows, which mark gardening traditions derived from agriculture that used animals or tractors for tiling and cultivating. While some gardeners plant in rows, they do not plant at the 24-36 inches between rows once common in vegetable gardens; these spacing reflected the need to permit mules and tractors to pass through crops. Although they were carried over into American vegetable gardens, they are not an efficient use of space where most cultivation is by hand; high density plantings make more sense on small plots. The density of plantings at the Gardens thus reflects the individual efforts of gardeners to get as much out of their plots as they can, and the general trend towards more intensive, high density plantings that characterize the development of vegetable gardens (and agriculture) over the last few decades.

The organization of gardens into careful rows of beans, root crops, and greens gives a definite impression that these gardens derive from a farming tradition. Interviews re-enforce these views, since many of the gardeners report a direct or indirect rural or farming background. This seems most pronounced in the case of Southern gardeners. When some of these gardeners said they were gardening “because they had a lot of mouths to feed” they

focused on food production, not the beauty of plants or the experience of nature. This focus on food production--rather than fun or aesthetics or other values--suggests that these individuals are “farming” in the city. Moreover, the farming tradition that seems best represented is Southern and African-American (although people with an agricultural background in the Atlantic states also garden at the Park). For these urban “farmers” what is affirmed is being able to feed people, especially family; this is affirmed with reference to personal and cultural memories of an agrarian past in the South. Their plots are for them micro-farms, and fields of memory, which resonate with the open farm fields and bountiful kitchen gardens of their pasts.

While there is overlap in crops between ethnic gardens and other gardens (for example between the Mediterranean traditions of Greek and Italian gardeners and between these in the “eclectic” gardens of those who come to gardening through books or television gardening shows or with guidance from other gardeners) there are also some crops that tend to mark differences. While almost all gardeners grow tomatoes, Italian-American gardeners maintain a special affinity for these, and often grow more of them than others, and of course use them in Italian cooking. Greeks, as we’ve noted, grow vleta or “Greek Spinach.” Although some other gardeners have begun to grow it, large plantings of it are a marker of plots worked by Greek gardeners. One plot worked by an Asian gardener included a variety of plants unfamiliar to other gardeners, including a plant the gardener called “Chinese Basil.” Hot peppers are part of several ethnic gardening and cooking traditions (Mexican, Chilean, Asian) but are also found growing in eclectic gardens that reflect no particular ethnic or regional tradition.

Socioeconomic Status

While no formal survey was conducted, observation and interviews indicate that Floyd Bennett gardeners come from a range of socioeconomic backgrounds. One of the ethnographic values of these gardens is their inclusiveness. People who are poor garden alongside people who are relatively affluent, middle-class workers. It seems safe to presume that the upper end of the income range is not represented: people who can afford large homes with ample gardening space or weekend homes with acreage hardly need to garden at Gateway.

Some support for these qualitative judgments is offered in socioeconomic data for the zip code tracts from which the gardeners come. Demographic profiles of these tracts were

developed by Al Galipeau of the Public Use Statistics Program Center, of the National Park Service.² Based on statistics from the late 1980s, these profiles summarize certain of the social, economic, and demographic characteristics of the populations of the zip code tracts in which gardeners reside—but not of the gardeners themselves. However, this material is generally consistent with the impressions formed by the researchers. In the absence of data on the gardeners themselves, it seems reasonable to suggest looking at these profiles as indicating the nature and range of social, economic, and demographic characteristics likely to be associated with the population of gardeners. Since the gardeners represent a selection from the populations described (millions of people live in the areas involved, while the gardeners number in the hundreds) we cannot be certain how well the gardeners fit these profiles—if we had the data we might find that they are older or younger, more or less affluent, and so on, than the populations of the zip code tracts in which they reside. Given the qualitative observations made, however, it does not seem reasonable to assume that the gardeners differ fundamentally and in every respect from the populations of the areas where they reside. While the data here is, technically, only suggestive, it also seems reasonable to interpret these profiles as offering some insight into the economic circumstances of the gardener population..

The information in these profiles of the population of zip code tracts is summarized here. The profiles themselves are included in Appendix 1.

The largest number of gardeners at Floyd Bennett Field (195) come from zip code tracts included in Profile 33, which are described as neighborhoods in the near city suburbs. The most important characteristics noted here were a large proportion of senior citizens (19%), old real estate (82% of homes built before 1960, only 40% of the population own homes). Unfortunately, this particular profile does not give income data, although it says that household income in these neighborhoods resemble those in Profile 32 (29 gardeners), where income is described as low (\$24,000 median). In contrast, household income for the zip code tracts of mid to far suburban metropolitan New York City in Profile 13 (86 gardeners) is described as relatively high (\$41,000 median). In comparison, households in the zip codes of profile 35 have a median household income of \$18,000, while household in profile 44 households have a median income of only \$16,000. Ninety four gardeners reside in these two low income areas.

² The first step in developing these profiles was a visitor survey conducted in 1990 and 1991. The demographic profiles are for the visitor zip codes recorded in the survey.

In sum, while some of the gardeners represent the urban poor, and some are relatively affluent professionals, many are neither, and it seems appropriate to avoid the absolute categorical contrasts suggested by terms such as “poor” and “middle-class.” However, socioeconomic factors are relevant for understanding some aspects of what gardeners do. It is important to contrast the less affluent and the more affluent in terms of considering how personal financial circumstances may affect gardening practices. I will mostly speak of less affluent and more affluent here, but where it seems appropriate I will use other terms.

The Gardens bring together people who are otherwise divided into separate socioeconomic groups: affluent, poor, working people, middle class. The Gardens as a social setting bridge classes differences, bringing together people who might otherwise not meet, much less on a basis that permits open, friendly social interactions. Public spaces may in principle be open to all, but in fact public settings often do not attract users from different socioeconomic groups: the Gardens actually bring together people who represent much of the spectrum of socioeconomic differences in the surrounding urban area.

What is important here is the way the Gardens in fact actually embody the ideal of an open, inclusive public setting. While public parks are by definition open to all, the social settings found in Parks clearly do not always bring people together, even when different groups separately use the same public spaces. What distinguishes the Gardens is the interactive nature of the setting: people from different groups frequently interact on a causal, friendly basis. Even though friendships and the most frequent interactions may still be people with people of a similar background, many gardeners have friendly and co-operative interactions with people of very different backgrounds.

Some of the gardeners recognize and value this, noting that all kinds of people come to pursue their interests here. While they refer to race and ethnicity with these statements, it seems clear that as gardeners distinctions of socioeconomic status do not matter as much as they do in other settings, such as on the job, or in neighborhoods that reflect the social zoning of people into lower-class, working-class, and middle-class areas. The gardens are a place where relative wealth or status matters less than the common interest in gardening.

Nothing was observed that would lead to the conclusion that gardening success is directly correlated with socioeconomic status. The gardeners who seemed most affluent did not consistently have the best gardens, nor did those who seemed the least affluent

necessarily have the poorest gardens. Interviews and observation suggest, rather, that gardening success is related to gardening knowledge and experience as a gardener, with some people having the advantage of a farm background or experience gardening with their parents when young. The pride, prestige, and satisfaction involved in gardening seems effectively detached from the determinants of socioeconomic status such as occupation and level of formal education.

This is not to say that socioeconomic status has no relation to gardening practices. In fact, there may be a number of direct and indirect effects. For example, less affluent gardeners may have to spend more hours to get the same results as more affluent gardeners, or may have to substitute ingenuity for cash expenditures. Less affluent gardeners may not be able to afford the supplies and equipment more affluent gardeners purchase. They may have no fence around their gardens or have fences build of scavenged material (substituting time and resourcefulness for cash expenditures). Some less affluent gardeners may use more chemical fertilizer and less compost because this is cheaper and more effective in getting an immediate crop, even though in the long-run it is less than optimal for the soil. This should be included among the reasons that the Park should cooperate with the gardeners and their association, if this is formed, to undertake a program of soil improvement for the gardens as a whole. Truckloads of compost or organic matter can be brought in for a more lower unit cost than individuals can get when they buy at retail outlets. There may even be free sources of compost that can be donated.

To put the general point in another way: as soil fertility declines in the gardens, as the most knowledgeable gardeners say it has, those affected first and most by this process are likely to be the less affluent gardeners who cannot afford to buy or make the quantities of compost required to maintain soil fertility. More affluent gardeners, for whom the subsistence value of the gardens is less, are more able to supply compost. The elderly or disabled who cannot carry bags of compost are also affected.

It should be noted that some of the gardeners with less cash to spend on compost pay meticulous attention to decomposing and recycling organic matter (weeds, plant remains) in their gardens. Others, however, do not. A concern here is that the most subsistence-oriented gardeners—those most interested in the gardens as a source of food—will be forced to garden in a fashion that does not replenish the soil. They may adopt an extractive approach—in effect mining the soil for nutrients, leaving it exhausted—because this is all they can afford to do.

In general, it seems likely that gardeners who can most afford to invest in soil fertility and so can expect more produce from their gardens, are those who least need the food their garden produces—they can easily afford to buy it elsewhere—although their gardens clearly provides much of their produce needs during the growing season. As some pointed out, they can buy “better produce at the store,” and if they factor in their time and effort, store-bought produce would be cheaper. Their situation for the least affluent may be different, especially for the retired, underemployed or unemployed. Less able to afford relatively expensive compost and soil amendments at garden supply outlets, and having a greater interest in the contribution garden produce makes to their food budget and to the variety of foods they are able to eat, it seems likely these less affluent gardeners are less able to do what it takes to get the highest yields from their plots.

While inferential, the Park should seriously consider the implications of the economic circumstances of gardeners. For reasons such as this, I believe the Park should cooperate with the gardeners in a soil-maintenance program, rather than leave it entirely up to individual gardeners. Many other matters would appropriately be left up to individual gardeners or the Gardeners association, but the task of maintaining the soil is best pursued as a cooperative endeavor.

An issue for some gardeners is whether fees tend to exclude less affluent people. While many gardeners support the fees recently instituted because they feel this discourages gardeners who are not “serious” enough about gardening to take good care of their plots, others express concern that the fees may have discouraged some good, but less affluent, gardeners.

It should be noted that data on socioeconomic status was not collected systematically, for several reasons. The project was not intended or designed to be comprehensive and the research period was relatively short. There was not time to build up the kind of rapport and trust needed to have a researcher probe family finances. Under these circumstances, people might be understandably reluctant to disclose such data. Since we were conducting one survey (see Canahuati, Deiss, and Goodman 1996), it did not seem appropriate to try the patience of gardeners by doing a second survey or to add numerous questions about personal finances that they might be reluctant to answer. It might not have been clear to informants why such data was being collected, given that the stated purpose of the projects was to understand the Gardens.

Despite not involving a survey or detailed accounting of household financing, even a rapid informal assessment leads to certain definite impressions about the economic conditions of individuals. Moreover, some gardeners did provide self-reports in which they defined themselves as poor, as working people, as professionals. I am confident that a more detailed study would corroborate the judgment that a wide range of socioeconomic backgrounds are represented among the gardeners. The Park might benefit from research documenting the socioeconomic backgrounds of specific groups of users, especially in terms of uses that have a role in subsistence. This might usefully include fishing as well as gardening.

The concept of a therapeutic refuge applies to both the less affluent and the more affluent gardeners. Those of modest means have a refuge from cramped urban apartments surrounded by concrete; the gardens give access to open space, greenery, and nature. Those who are more affluent gain this, and also a refuge from the pressures of work.

Gender

Gardening in the broadest sense does not appear to be defined in gender terms, as having some special affinity with men or women, although it may be that some of the ways of pursuing gardening, of deriving pleasure from it, reflect gender experience or roles. Women and men gardened on their own, with friends, with spouses, and with children. This involvement of both men and women may not be true of all activities at the Park—for example, casual observation suggests that men may predominate among those fishing in the Park.

Due to limits on the number of questions that could be asked, and the scope of the research, the survey conducted by Canahuati, Deiss, and Goodman did not record the gender of respondents. The Park may wish to assess whether the Gardens, as compared to other activities, constitute a use of the Park where women are relatively well-represented. This does not mean the numbers of women are equal to the numbers of men who garden—25 women, and 35 men, were approached in this study, suggesting that men may in fact outnumber women in absolute terms. The interviews and discussions indicate, however, that it is not gardening as an activity that would account for the presence of fewer women, if this should in fact be the case and not an artifact of the scheduling of contact efforts (some of which may have occurred at times when women were less likely to be at the

gardens).³ It may be that activities in which women are involved off-site in some ways limit their involvement; the women contacted spoke of gardening experience in highly positive terms. Women may have more child care responsibilities than men, making it hard to get out to the Gardens. More women were observed bringing children to the garden sites than men, but some men did bring children. Observation suggests that integrating children into the activity of gardening may pose some challenges—integrating a play area into the Floyd Bennett site might be an attractive amenity.

Having noted these points, the impression of the researchers is that women enjoy gardening as much as men, if perhaps in slightly different ways. Any Park use will presumably be affected by the off-site requirements of work and child care, and by the way household tasks are distributed among men and women. Conceivably, if there was sufficient interest, it would be possible to design in a “family section” and areas for children’s activities. This would probably only be true at the Floyd Bennett Field site. If the Floyd Bennett Gardens are to be relocated, the planning process for this might include discussion of what they could do along these lines. At present, the lay-out of the gardens does not taken account of the needs of families: the use of space is mechanical, and does not integrate areas for special uses in a creative way.

Gender was not invoked in most discussion about the management of the garden, other than in the context of comments on infrastructure (as when a woman said she would like to see “better facilities [restrooms] for the ladies”) but did appear in testimony about the meaning of gardening, where the experience of gardening was expressed metaphorically in terms of the capacity to bear, give life to, and nurture a child.

For the most part, the features and management of the garden do not seem to have a differential impact on men or women. However, two women reported concerns about security. They expressed a fear that it might not be safe for them to be in the Gardens at dusk. As a result, they reported, they did not come late in the day. These concerns about

³ The fact that more men than women were contacted at the Garden sites (35 to 25) might suggest that more men than women garden, but it could also be an artifact of the times at which people were approached. If women tend to come out disproportionately during the day and on weekends, while researchers approached people during the day and on weekends but also in the evenings throughout the week, the result might simply be a higher contact rate with men. The impression of the researchers is that somewhat more men than women garden and perhaps make more frequent visits, but this is not a setting characterized by the near complete absence of women.

safety thus had the effect of limiting the hours they could use the gardens. This could mean working women would be discouraged from gardening, since they might feel they would be unsafe if they visited their plots after work, after dinner, or after picking up their children. [See the section on theft for other security concerns; see also comments on the desirability of a telephone in the section on infrastructure.]

Age

Age forms a basis for self-identification by many gardeners; they define themselves as retired. Many of these feel the Gardens have a special importance for them: it is a place to go, a place where they can feel productive, a place that gives structure and purpose to their days. People who identified themselves as retired were quite definite in asserting the importance of the Gardens for themselves and other retired people. They stressed the health benefits and psychological benefits of gardening. They indicated that gardening gave them a valued, healthful, physical activity in an outdoor setting, that it helped prevent or overcome isolation, that it gave meaning and structure to their day, and enhanced their self-esteem. For many of the retired gardeners, as with many of those still working, gardening constitutes a therapeutic experience.

A few of these gardeners noted some issues of access. Two individuals made the point that it would be useful to hold plots near the entrance gates from the parking lots, not because they themselves are restricted in their mobility, but so they can either bring along spouses who are, or be nearer them while they wait in the parking area.

Older gardeners who become ill may not be able to tend their plots until they recover. Their plots may appear to fall in the “abandoned” category, even though the gardener hopes to return to their garden as soon as health has returned to them. Procedures implemented by the Park or Gardeners Association should be sensitive to such circumstances. Discussion with gardeners in general suggests that there is considerable, and highly commendable, sensitivity to such issues among gardeners.

A telephone that could be used in emergencies is also important for this group of gardeners. The gardeners themselves may be in good health, but they may be accompanied by spouses or friends who have health problems.

Few young men or women (in their late teens or twenties) were observed. One young adult pointed out that people his age don’t usually go in for gardening. Families with children involve their younger children.

A Sense of Community: Social Relations in the Garden

“No one is a stranger when you are a gardener” said one gardener. He compared being a gardener to being a fisherman and a musician, which he had been in the past. In each, he found the same sense of community. He says he has a number of friends at the Gardens. (Indeed, he often drove from his plot on one side of the garden to the parking area on the other side, where he spent time socializing with people, getting in and out of their cars, sitting at a picnic table with them.) A friend who had been doing it for several years talked him into trying gardening. He had now gardened for two years. He waters for one gardener who cannot get out to water his plot. This gardener expressed the thought that the Park does not want people to help each other. I think this is an artifact of the theft problem and the efforts to do something about it by discouraging people from entering others’ gardens.

Others echoed this man’s thought about the importance of relationships at the Gardens. A retired man who has gardened at Ft. Tilden for 11 years said that meeting and talking to others is a big part of the satisfaction.

Gardening offers a way of initiating conversations and building friendships. The gardens and their produce are in fact integral to the process of developing relationships and building a sense of “belonging.” The foods grown in the gardens are a medium for social relations: not only can people talk about what they grow, they can share what they grow with others. These gifts and exchanges cement relationships. For example, one man announced how he liked to “put hot (cherry) peppers in vinegar.” He followed up by declaring how he loves to give these away.

Not only are friendships formed in the gardens, but friendships may be essential to gardening, for some gardeners. Not only do many novice gardeners learn much from more experienced gardeners, but some people could not tend their gardens without the help, the mutual aid, offered by others. One woman explained how a friend would watch her garden while she took a trip to Athens. Another person was watering three plots while the gardeners were away.

As all this suggests, not only do gardeners give each other gifts of produce, they exchange tips and recipes, share gardening knowledge, help each other by watering and monitoring others’ plots. They exchange knowledge. More experienced gardeners help

novices get started; new gardeners value the advice they get from others. Social relations are established and enhanced with every exchange.

People not only talk about gardening, they talk about cooking. They exchange recipes, and they describe how they prepare and cook what they grow.

In sum, co-operation, sharing knowledge, and friendships are all part of the Gardening scene, and help define it as an experience of community.

Social Relations__Other Aspects of

Most people learn about gardens from friends or relatives. Social relations in the Gardens thus reflect kinship and friendship networks. For example, one gardener reported that he was asked by friends for several years to come out to the gardens before he did. Once he started, he said, he was hooked. In a special case of the friendship pattern, co-workers are another source from which some gardeners learned about the gardens, and some co-workers garden together.

Social Units that Garden Together

Households are the most important social units that share plots. Household members who garden may include only spouses or domestic partners, or parents with children, extended families of adults, or households of unrelated adults. Although households are well-represented, often only individuals will garden, either because family members are not interested or they live alone. Many of these individual gardeners, however, report that family members are involved as consumers of garden produce or as audience for conversation and “bragging rights” about the gardens.

Social Units Formed at the Gardens

Social units formed at the Gardens include friendship or socialization groups (people who enjoy each other’s company, engage in conversations, form joking relationships, and so on) but also units involved in mutual aid. In some cases, clusters of gardeners assume reciprocal responsibilities for each other’s gardens, monitoring and watering the gardens of others when they cannot tend the garden plot themselves because of work, family, or other circumstances. These mutual aid “clusters” do not necessarily follow ethnic lines; they often simply reflect proximity or friendships that have formed.

Some individuals assist gardeners all over the gardens; these “floaters” generate wide-ranging social networks that help link segments of the gardening community. At the other

end of the continuum are isolates--individuals with little contact with other gardeners, who focus almost exclusively on horticultural rather than social activities. Even gardeners who have little contact with other gardeners, however, report that gardening plays a role in off-site their kinship and social networks. Gardeners report giving produce to people they know: friends, relatives, and neighbors.

In general, each garden plot represents not just an individual recreational activity, but also a network of social relations: as a result many more people are involved, affected, and interested in the Gardens than just the individual plot-holders.

IV. THE MEANING OF GARDENING

- Introduction
- Cultural Chords of Memory
- An Experience of Nature: Watching Plants Grow
- A Therapeutic Refuge
- Perceived Health Benefits
- What Gardening Means to Them: A Sample of Gardener Statements
- Being Productive
- Gardening to Give: Feeding Family, Friends, Neighbors
- Conclusion

Introduction

In discussion with researchers, gardeners spoke of gardening as an experience they find satisfying and meaningful. They stressed the significance gardening has in their lives and the importance of the Gateway Gardens as the place that gives them the chance to garden. There was appreciation of the opportunity to garden provided by the Park's community gardening program, and some apprehension that the program would not continue, depriving them of an activity many of them value very highly.

While they reported some frustration over such issues as theft in the gardens, the general view of the community gardens was that it offered them concrete benefits and a highly valued experience. By making garden plots available, the program offers people from urban neighborhoods the chance to get out into an open area, to work the soil of their plots, to grow vegetables and other crops. As simple as this sounds, it generates a very high level of satisfaction. On this score, the Gateway Community Gardens must be rated a substantial success. In terms of serving the needs of a diverse urban population, the gardeners who express this level of satisfaction are diverse, and reflect the diversity of New York City.

The Gateway Gardens help fulfill a core mission of the Park, and successful in offering a diverse population the opportunity to engage in a highly valued, deeply meaningful, activity. It is as this success-story—but also as a program that requires restructuring to continue to be successful—that the Gateway Gardens should be evaluated.

Before turning to how the gardeners think the program might be improved, a presentation of the kind of testimony elicited from gardeners, and an analysis of this, may serve to highlight the values of the program.

What do these plots—10 feet by 25 feet of soil—mean to people? It is hard to exaggerate the degree of enjoyment and satisfaction gardeners reported getting out of gardening: what they say about their experience makes it clear that the Gardens serve a need. Gardeners find the experience of gardening to be meaningful and satisfying. Many of them, in fact, regard gardening at Gateway as among the most vital experiences in their lives. Many say gardening enhances their lives, that it contributes to their well-being. Some say it preserves their sanity. For some, in fact, the Gardens have a place in their lives that is vital: it organizes their time during the growing season, forms a community for them, and allows them to be productively involved in an activity they find intensely meaningful. Without these community gardens, they would have no access to gardening and all that it represents: the experience of nature, the opportunity to grow food that has cultural meaning and subsistence value, a connection with a historic agricultural past, the opportunity to meet others who share their interests in gardening, the psychological satisfactions of gardening. Users reported deriving a number of social and psychological benefits from gardening. The satisfaction of the gardeners, and the benefits they see in gardening at Gateway tell us that the gardening program overall is serving the needs of the population the Park was intended to serve. The Gardens enhance their lives.

Preserving the elements of the program that make it success should be a key goal in any restructuring of the Community Gardens that the Park undertake. Three dimensions of the meaning of gardening seem particularly significant: gardening as an expression of family and ethnic heritage; the experience of nature found through gardening, and gardening as a therapeutic refuge.

Cultural Chords of Memory

As discussed in the section on diversity, some gardens are linked to family heritage, which is often also a cultural heritage. We suggested that the gardens were a way of cultivating a “community of memory”—gardeners related their gardens to life on a farm in

Georgia or in Chile, said it reminded them of the gardens, plants, kitchens, of places left behind when they moved to New York City, and spoke of strong personal memories of family members who taught them gardening. To interpret these statements, we might suggest that for those who spoke in these terms, the gardens help constitute “mystic chords of memory” (to follow Michael Kammen [1991] in adopting a memorable phrase of Abraham Lincoln) that stretch from the present to the past, from adulthood to childhood, city to country, in ways that affirm a sense of self and express an identification with a heritage. The sense of connection to a heritage expressed in gardening reflects the history of American society: the immigrant experience, the formation of ethnic communities, the transition of the United States from a rural to an urban country, and the movement of rural Southern blacks to the urban North.

This interpretation of the gardens as expressing a sense of connection, as embodying a heritage, also seems consistent with repeated statements about rural and national origins, about growing up and learning about farming/gardening as children or youth. Given the diversity of the gardeners, the chords of memory evoked by the gardeners stretch out to different places, times, and cultures. If for some they run across the years to a childhood in North Carolina, for others they stretch across the Atlantic to farms in Ireland, across the Pacific to Asia, or across the Americas to a farm in Chile.

An Experience of Nature

The experience of nature, of seeing plants grow and develop, was identified by many as important to their experience of gardening. They also stressed the value of being outdoors, of being out in the sun and breezes, of being surrounded by plants and vegetation. Some reported they were very moved by the experience of planting seeds and watching plants grow. One said it was “like a miracle.” The opportunity to participate in this miracle of nature was valued. Unlike wilderness experience, where nature is apart from the human being, people reported that they valued the experience of nurturing plant growth. They felt they were not just observing nature, but participating in it.

One woman said that gardening was like having a child. After having carried a child for nine months, a child is born. This is a natural process, and gardening is like it. A garden, for her, is a place you nurture for months, where you care for and shelter the plants, make it possible for them to grow. Then you have a garden, born from your effort and care, as special in its own way as your child. The contentment she gets from gardening, she reported, is very important.

This gardener stressed how gardening is part of your life, especially for older, retired persons. "What would people do," she asked, "if they did not have the garden?"

She said she did not garden as a child. When she did start gardening, she said, it was "a revelation." A number of gardeners expressed similar sentiments. In fact, the experience seems common enough that we might want to speak of some as "revelation gardeners." For them, the garden is a place of revelation. Central to this is the experience of nature found in the garden, which is seen as having an intrinsic fascination as well as therapeutic and even spiritual qualities.

These meanings can co-exist with other meanings, including the cultural meanings discussed above. Recall how one gardener testified to what it meant to watch plants grow (the experience of nature)--"it makes something happen in my heart"--while also placing his gardening in the context of his childhood on a farm in the South (a community of memory). Since he also contrasted the experience of the gardens with the experience of urban life (having concrete all around), he may also find gardening to be therapeutic refuge.

A Therapeutic Refuge

The woman who compared the experience of gardening to the experience of being a mother also spoke, as did many others, of gardening as a form of therapy. This seems to highlight something many found important about their experience of gardening. The natural and biological processes observed while gardening appear to provide integrative metaphors for self: the growth and fruition of plants may provide conscious or unconscious images of personal integration and personal regeneration--the plants grow, receive care and nurture, the garden is fruitful, it yields a harvest. The imagery of gardening, of the growth of plants and their care may be conducive to forming an image of wholeness--something good can come from the earth, something good can be nurtured by self. It is possible that such images underlie the perceived therapeutic benefits of gardening reported by some gardeners. However, gardening is also therapeutic in that it is a respite from the anxieties, pressures, obligations, and frustrations of daily life. The garden is a refuge, a place of wholeness.

The gardeners also have a role in overcoming the isolation and stagnation that may be associated with aging and retirement. Gardening gives people a reason for being out, and for being active. It provides a way to meet and interact with others with similar interests. At Miller Field, one of the gardeners pointed to another gardener who was 88 years old,

and said, "If you take this away from him, he'll die. He'll sit like this [slumped back] in a chair, and then he'll die." ⁴

Perceived Health Benefits

A woman sitting on a stool by the plot she gardens with her husband stressed the health benefits of gardening. She said her husband had arthritis. Her husband, who was harvesting bush beans, paused long enough to say that it was good exercise for him. Other gardeners also stressed the health benefits of exercise and fresh air, as well as the way gardening relieved stress that they believed could cause illness.

The basis for this could be the health benefits of exercise (generating an experience of increased wellness), the overcoming of social isolation, the sense that one is a productive person, the psychological imagery associated with natural processes, the experience of nature and open-space, the simple pleasures associated with gardening, or other factors or combination of factors. However we attempt to explain the benefits they report, it is clear that the gardeners see the gardens as enhancing the quality of their lives and contributing to their well being.

What Gardening Means to Them: A Sample of Gardener Statements

The way gardening has meaning as a self-affirming and self-transforming experience of nature and as a therapeutic refuge is apparent in the following testimony, which show the high value people place on the gardening experience:

"My pleasure is in seeing growing things. Going from seed to seeing the first leaves---that gives a great deal of pleasure. It is almost like a miracle.

[Gardening] has a therapeutic effect. You can sit close to the ground and all you can see is green--no cars, no distractions. This has a very calming effect.

I can immerse my whole being in the tranquillity of plants.

⁴ The importance of an affirmative maintenance of self and of social relations is apparent in anthropological studies of aging such as Myerhoff, 1978.

[My garden] is a little piece of heaven. It is like your church. [You] don't have to go into a building to pray.

It is really wondrous.

When I started, I wanted to grow stuff and eat it. I didn't realize all the benefits I would get.

I find I share everything I grow that is edible. Some critter has tasted every beet!

I also share with my neighbors. I share with gardeners if they don't have something I do. [We] share seeds, plants, tomatoes.

People are friendly here. It is peaceful here. There is no arguing here.

[The Park should understand] what it means to retired people. [The gardens] add a good deal to life. What would I be doing right now without the garden--turning on the TV, eating a roll, getting fat, stagnating. Here I am doing something constructive. Without the gardens, I would be a bored, fat old lady.

I would be lost without this place to come to. I think others feel like this, too.

"I could stand out here for hours. I love to watch things grow. And then I think of how I planted it from a small seed. It makes something happen in my heart."

"It is great to get away from the noise and sirens."

"This is a wonderful place where everyone greets each other, and give vegetables to each other. Unlike the city."

"Gardening is therapy. It relieves stress."

[My garden] is my home away from home. It becomes part of you. It transforms you. You start to feel something. It is spiritual. You plant a little seed, see it grow. That gives meaning.”

“I enjoy getting in the soil. It is marvelous.”

“I love it.”

“It’s great.”

“People really love this.”

Being Productive

These statements do not exhaust the meaning gardening has for people. We covered “cultural chords of memory” as another aspect of the meaning of gardening in an earlier section. Also noteworthy is the way gardening expresses core American values of autonomy and productivity. A garden plot is a place where the work ethic can be expressed directly, without the constraints and compromises of the workplace, where autonomy is often limited by bureaucracy, by narrow job descriptions, and supervisory and technical requirements. The garden gives scope to the work ethic. The garden permits a person to be productive, and to have something to show for their effort, and to do it on their own. This proof of productivity can be shown to others: it gives a person what one gardener called “bragging rights.” For some, there is even a competitive value: a few gardeners enjoy entering produce in competitions. For some of the retired (male) gardeners, the garden affirms their independence and continued productivity, as well as giving structure and purpose to their days and weeks during the growing season.

Gardening to Give: Feeding Family, Friends, and Neighbors

It is not just growing food that has meaning for gardeners. It is also sharing what is grown. Gardeners give produce to family, friends, and neighbors. The giving of garden produce is one of the ways people can affirm and maintain a social network.

Giving produce to others may involve exchanges or reciprocity that enhances social relations. One gardener estimated that he only consumed about a quarter of what he grew; the rest he gave away. He would give away corn or tomatoes, or tomato sauce; those he

gave produce to might give him a bottle of wine or a piece of pie. What matters is not so much what is given, as the act of giving, which enhances social relationships.

Some gardeners pointed out that the people they gave produce would in turn give some of it to still other people. One gardener estimated that he gave produce to between 5-10 people, and that some of these gave to other people. "I can't eat it all," he said, and added "I love it."

One gardener said that "giving away is a way of bragging." He takes produce when he goes to play racket ball with friends. Gardening helps enhance relationships not only among gardeners, but in other social groups.

Receiving is also meaningful. One gardener reported that he had been given some seed for a kind of squash from a gardener he had given some produce. He said he "felt honored" by this, and "felt obligated to plant it." But now, he pointed out, it is so large and vigorous that it is threatening to take over his garden.

Exchanging produce and helping other gardeners (by watering, monitoring plots, sharing tools or knowledge) create a sense of community at the Gardens. Giving to non-gardeners--friends, neighbors, relatives--extends this, as gardeners share food they have grown with their own hands. Values of community and self-worth are expressed in these exchanges.

Conclusion

In sum, the Gardens bring together people from highly diverse backgrounds in a common activity that has an important value for all of them. At the same time, gardening make it possible for them to express and affirm values important to them in gardening itself. People do not just grow plants at the Gardens: they grow them in ways that express values they cherish: an experience of nature, finding a therapeutic refuge from the stress of urban life, memories of family and personal history, a sense of personal productivity.. These are significant cultural values. They are a large part of the reason gardeners affirm the value of the gardening program in very strong terms.

To this list of cultural values, we must add the economic and subsistence value of the produce grown, which as the Canahuati, Deiss and Goodman report documents, is significant. It is not just that people feel productive by gardening: they are productive, and they feed family, relatives, friends, and neighbors the food they grow.

Gardening also allows the gardeners to achieve a wider sense of community, to engage in an activity that generates a sense of community among people who might otherwise have relatively little opportunity to interact with each other in a friendly, relaxed, non-threatening, setting. In certain important ways, the Gardens as a civic setting affirm diversity as integral to community, not set against it. Many would consider this an important public value. In this setting, it appears to be achieved with a kind of ease and unselfconsciousness not all that common in American society.

A caveat: This is not to say that the Gardens will never be affected by tensions and divisions that characterize urban society. There are various ways such tensions could affect or enter into relationships at the Gardens; for example, changes in Park policy might introduce or exacerbate tensions or reduce diversity (e.g., if fees were raised to the point they discouraged less affluent gardeners).

If plots were to be allocated in ways that assigned less desirable plots to one group, this would certainly introduce tensions--such an eventuality should be avoided by monitoring the allocation process to ensure that the allocation procedure does not favor any one segment of the gardening community over any other. However, this is only a hypothetical example of a problem that could in theory develop. What the findings of 1996 suggest is that Gateway National Recreation Area has created a public setting where a significant and valuable degree of diversity has been integrated with a sense of community. Given the public value in which such a state of affairs is generally held, changes in policy or procedure should be evaluated for what consequences they might have on the state of inclusiveness and harmony that have been achieved at the Gardens.

In sum, the Gateway Gardens not only serve a diverse urban population—fulfilling one of the Park's basic missions—they do so in a way that has extraordinary value for people.

IV. THE GARDENS—PHYSICAL AND HORTICULTURAL CHARACTERISTICS

- Location and Qualities of the Sites
- Soils
- Drainage
- Recommended: A Composting Program

Location and Qualities of the Sites

The Floyd Bennett Field and Ft. Tilden gardens are located on flat, wind-swept areas. The Floyd Bennett Field Gardens are at the end of the tarmac of the old airfield: one looks out across a runway. A wide road parallels the runway and the gardens, bringing traffic into the facilities of the unit for such activities as a Native-American pow-wow.

Located close to Park offices, the Miller Field and Ft. Tilden have views of park settings that include baseball fields, picnic areas, and various park buildings. The Miller Field site is on the edge of a residential area, with pedestrian access directly into a neighborhood: neither of the other sites are adjacent to a residential area.

At Floyd Bennett Field, the primary adjacent use was an area leased by the city to store helicopters.. The main impact of the helicopters is the noise of they create: the relative quiet of the Garden site is shattered. When a helicopter lands or takes-off, conversations are interrupted; they either have to be delayed or shouted above the sound. The use is inconsistent with the value most gardeners place on the experience of the Gardens: the experience of nature, quiet, getting away from the noise and activity of urban life.

The road next to the gardens was used by a motorcycle club once during the period spent at the gardens. The sounds of other motorized activities could be heard, but nothing close to the decibel levels of helicopters taking off and landing a very short distance away..

The ideal site for a community garden would have a more natural or “garden-like” setting, with less background noise, and would not have such uses as a helicopter landing area located next to it. The gardeners seemed willing to tolerate the noise and activity that seemed to the researchers to detract from the setting: for them, the positive value of the

experience outweighs these negative features of the site. For a researcher whose last project involved a more rural setting, the way gardeners overlooked noisy, urbanized features of the setting seemed surprising. However, the gardeners come mostly from Brooklyn and Queens, which are heavily built up urban areas; some live in apartments. As a result, it appears they have a different frame of reference for the setting. They focus on the qualities of the setting that are natural: for them, this site at the end of a runway represents a significant experience of nature. What they value might be taken for granted in a more rural or suburban setting, but the way the gardens gives them access to the elements has considerable importance for some of the gardeners. Being out in the Gardens means they can experience the sun and the wind. Several spoke of how they liked to sit in the sun after gardening, and how they enjoyed the breezes the blow through the area. So even if it is bounded by tarmac and road and buildings, and blasted occasionally by the noise from helicopters, for these urban people the Gardens represent a natural oasis : it is open to the sky, the garden itself is alive with plants, there is a feeling of space and unboundedness that many of them cannot find in the places they dwell. The values of nature that others pursue in wilderness areas within National Parks are pursued here in the community gardens.

One gardeners spoke of how she liked to kneel close to the ground; she said she could imagine that she was in a entirely natural setting.

While it is inevitable that features of the urban setting will be visible or audible, the Garden sites do allow for a psychological distance from urban experience that people value.

Soil

A visual inspection suggests that the soil at Floyd Bennett Field is generally quite poor, with only a thin layer of topsoil over a sandy sub-soil. The produce flourishing in the gardens themselves indicate that this soil does have the capacity to be developed into a adequate to good gardening soil with the application of fertilizer, compost and other soil amendments.

Sections of the garden and many individual plots appear to be in a state of depletion, based on a visual inspection of plant growth. Stunted plants, yellowed leaves, weak growth of food plants suggests soil nutrient deficiencies. Other plots were fertile enough to support vigorous growth and healthy plants; this can be attributed to the soil management and development practices of individual gardeners who have enhanced the fertility of the soil in plots they have gardened.

The desire by plot-holders to have the same plot every year no doubt reflects a concern they might be moved from a relatively fertile plot which they have improved to an infertile plot that has been depleted by another.

Discussion with gardeners suggest that there is a general trend of soil depletion in the Floyd Bennett Field site. The soil history of the site is not clear. Since it is at the edge of the former airfield, it was presumably not managed for soil fertility at that time. One gardener thought that topsoil or other soil amendments were brought in when the gardens were started, but he believed this was a one-time input.

The soil at Ft. Tilden field may be better than the soil at Floyd Bennett Field, but there is no evidence that any of the sites have superior agricultural soils. The soils at Miller Field appear somewhat better than the soils at Ft. Tilden, but some sections have poor drainage characteristics [see below, drainage]. The soils could be and should be periodically tested, but I suspect the fertility of any particular gardening plot is likely to have more to do with the efforts of the garden to develop the soil and supply adequate plant nutrients than the intrinsic qualities of the soil. Any actions that can be taken to supply appropriate organic matter and compost would be beneficial—whether carried on by individual gardeners, the gardeners as a group, or the Park. The absence of such a program will result in the further loss of fertility and the decline of soil quality.

It seems likely that disease organisms affecting such plants as tomatoes have built up in the soil throughout much of the Floyd Bennett Field site. An agricultural specialists could possibly confirm this and suggest the (probably somewhat limited) options for dealing with this condition. The use of disease-resistant varieties should be encouraged. Many of the less experienced gardeners do not appear to be familiar with disease processes in plants or with the availability of resistant varieties.

Chemical fertilizers purchased at home and garden stores are used by the gardeners. Such use appears necessary for successful gardening given current soil conditions and the backgrounds of gardeners. Even gardeners who have used organic methods of maintaining soil fertility elsewhere report that they find it necessary to use fertilizers at the garden sites.

The use of fertilizers should not be equated with the use of pesticides. The chemicals in chemical pesticides do not exist in nature; the chemicals in chemical fertilizers do exist in nature, are in fact the same elements found in non-chemical “natural” or “organic” sources of plant nutrients. The nitrogen, phosphorus and potash contained in fertilizers are the same elements the plants would absorb and utilize from other sources of the same nutrients, such as manure and compost supplemented with bone meal. Adverse effects associated

with fertilizers might include run-off into streams or ponds, or if used without re;replenishing organic matter, deterioration of soil structure and quality.

The use of fertilizers and the use of compost are not mutually exclusive. On most soils used for vegetable gardening, fertilizers should not be used alone, but in conjunction with a plan to maintain or supplement the soil by supplying organic matter to it: a long-term soil development program should include the application of soil amendments such as compost. A composting program is vital to the development of garden soil, but it does not preclude the supplemental use of fertilizers. Compost provides organic matter that help improve the structure of the soil, and over a number of years can improve the fertility of the soil. It is possible to garden relying only on compost, composted manure, or other naturally occurring sources (e.g., bone meal, blood meal, fish fertilizers) to supply plant nutrients. However, the testimony of a number of expert gardeners indicates that fertilizers are needed to get adequate to good results on depleted or poor soils of Floyd Bennett Field.

It seems likely that imposing restrictions on the use of fertilizers would be a burden on many gardeners. Elderly and disabled gardeners may not be able to engage in the extra labor required to add the large quantities of compost and organic soil amendments that a conversion to organic methods would require--and there is no guarantee that this would work, at least not until such additions to the soil had continued for several years. Gardeners who grew up in agricultural traditions that made use of fertilizers may not wish to have organic methods imposed on them. Then there is the question of who can afford to garden without fertilizers. Poor gardeners may be less able to make the investments in soil amendments required by organic methods. Unlike more affluent gardeners, they may not have a space at home to compost; transport and handling of soil amendments may be more of a burden for them; the costs of such amendments may exceed the costs of fertilizers and not give immediate results. Moreover, the value of garden crops as a substitute for produce purchases at local markets may have greater significance for less affluent gardeners and modest fertilizer applications may ensure that harvest ample quantities of staples such as beans, greens, and tomatoes for their homes.

Organic gardening methods reflect a philosophy that is important to many: it affirms an attitude of harmony with nature that carries moral and spiritual significance for many. This leads to a stance of advocacy for this approach, and such advocacy, as long as it is not coercive, should be respected; but the fact that it is a value for some does not necessarily mean that it should be imposed on others, especially when others may be less able to pursue this approach. If the Park assigns a staff coordinator to the Gardens, it should not

be someone who advocates a particular approach to gardening and uses the position to mandate this approach, since this could have an adverse impact on an diverse gardening community characterized by eclectic gardening methods. If management responsibilities are given to an outside organization, the same considerations should apply. For example, high-density, raised bed gardening is a good way of gardening: but should it be imposed on gardeners who for personal and cultural reasons might wish to garden in a different fashion? If an organization given management responsibilities is an advocate of a particular approach to gardening, what effect will this have on the social and cultural diversity of the gardeners, the diversity of gardening styles, and the resource value of the Gardens? The Park should ask, will this impact the cultural diversity of the gardening population, and will it pose a burden on particular segments of the gardening community or prevent them from gardening in the styles and the traditions that have value for them?

It is hard to see how the interest of the Park in maintaining the diversity of gardeners would be promoted by limiting fertilizer use or mandating organic gardening methods. And imposing an approach could cause tensions and divide the gardeners. A gardeners who plants in the way he or she learned as a child on a farm in North Carolina may simply not wish to garden on the raised beds advocated in some other gardening tradition. Raised intensive beds may represent a meaningful approach for some, but not resonate with the meaning gardening has for some one else, who prefers to plant in the rows they remember from childhood. To avoid homogenizing the gardens and creating tensions, the Park should avoid any management actions that would have the effect of imposing the gardening approach of one group on others. The gardeners themselves, observing and discussing gardening with each other, can decide when they wish to change their gardening styles, innovate or experiment.

If the Park has an interest in maintaining the diversity of gardening styles and the gardening community, the management of the garden sites should not involve mandating a specific approach.

The use of fertilizers should not mean the neglect of compost, since compost is invaluable for building up a garden soil, but the use of compost alone will not necessarily suffice for many gardeners. Composting should be encouraged, its vital contribution to building the soil highlighted, but the use of supplemental fertilizers should not be prohibited. Many gardeners may achieve the best results possible on the soils at the garden sites by combining composting with supplemental fertilization.

A buffer should be maintained between agricultural or gardening sites and streams or ponds. This applies to compost and to fertilizer alike. This was not a issue at current sites—the Floyd Bennett Field site is surrounded by pavement on three sides, and there is a uncultivated area separating the fourth side from a topographical drainage area. Should any of the sites be relocated, the need for a buffer strip should be assessed.

Drainage

Drainage at the Floyd Bennett Field and Ft. Tilden site appears adequate. The Floyd Bennett Field gardens were inspected after a heavy rainfall; a section of the area flooded, with two-three inches of water standing in some areas. However, the water had been absorbed into the soil by the next day, with no apparent damage to crops.

Drainage was not adequate at Miller field. Drainage at this site has reportedly been compromised by work done by the Park at the garden site. Gardeners report that a tank or underground object was removed using heavy equipment; this has affected the sub-surface drainage characteristics of a central section of the garden site. Water collects here on the surface after it rains. As a result, a number of plots can no longer be gardened. The standing water may exacerbate a mosquito problem.

Composting Program

People threw items that do not compost into the compost pile. I observed such material as plastic bags and Styrofoam cups in the compost heap. Just as trash was found in the compost, plant material was found in the trash cans set up around the gardens. Since this was found every day of the research visits, it is reasonable to infer that a significant portion of the vegetative matter produced in the gardens--weeds, the inedible portions of food plants, spoiled or unwanted produce—is being thrown away rather than recycled back into the garden soil. Gardeners concerned about this believe that the net result is soil depletion. In effect, the Park has the burden of hauling away as trash what gardeners should be composting into an invaluable soil amendment.

The addition of compost and organic matter to improve the condition and the fertility of the soil represents a significant investment in terms of money, time, and effort. One gardener said that you haul out big bags of compost, but when you spread it over the plot

you have just a little, scattered thinly on the ground. Given the poor quality of the soil, a gardener cannot simply buy one bag of compost and expect good results. At one garden supply place visited, 30 lb. bags of compost (2-1-1) were selling for \$5.99. At one bag per 10 square feet, a gardener purchasing from this source could pay almost \$120 for organic matter, and still not have used enough, given the condition of the soil.

Another gardener said you have to shop for compost, and have to drag it to your plot. Several people found the bags hard to handle.

An educational initiative about the value of composting would be desirable. Permanent signs that direct people to take plant matter to composting bins or sites and warn them against putting plant matter in trash cans would be a good idea. In 1996, the only compost bin was on one side of the garden; it would be desirable to formalize another site on the other side of the garden, to make depositing plant matter more convenient for gardeners. Some informal steps were taken to open a second site at the end of the research period.

A Co-operative Program?

When I made a verbal recommendation that the Park cooperate with one of the city programs involved in composting (based on a site visit to an urban composting program at the Queens Botanical Garden), some concern and reluctance was expressed because past experience suggested forming such a relationship might pose certain problems (e.g., the city might simply dump or store material on Park land and fail to follow through on its responsibilities). Obviously, any partner in a composting program would have to meet certain standards, follow through on agreements, and be responsive to the needs and requirements of the Park. Perhaps this would not be possible; however, if such issues could be dealt with, a co-operative composting program would help restore and maintain soil fertility at the Gardens, and at Floyd Bennett Field in particular. The city has a number of composting operations. The program I observed seemed well-run and person in charge of the composting site appeared knowledgeable and qualified to run a composting operation.

Gardeners would probably accept compost and soil amendments based on plant matter produced by landscape maintenance, but one might expect some resistance to compost or soil amendments based on sewage sludge.

Major Finding: The soils of the garden sites are depleted and in poor condition. They require a program of soil improvement and replenishment. This applies to all the garden

sites, but at Floyd Bennett Field conditions are more urgent. In addition, drainage conditions at Miller Field need attention.

Recommendation: the Gardeners Association should initiate and run a composting program and soil fertility program and should work with the Park to ensure the viability of the soils at the garden sites. It should seek the aid, sponsorship, and cooperation of private parties or governmental agencies in this effort, to the extent such cooperative efforts are consistent with Park policy and practices.

VI. MANAGING THE GARDENS

- Scale of the Gardening Program: Management Implications
- Transferring Operational Responsibilities to Gardeners Associations
- Park Management versus Gardener Association Management: A Cost Appraisal
- Managing Infrastructure
- Theft: A Difficult Problem to Manage
- Conclusion

The Scale of the Program: Management Implications

Managing the gardens is no small task. The scale of the program needs to be appreciated. The area covered by the gardens is quite small—only about 3 acres or 1.2 hectares of land¹—but the unit of management here is the plot and the number of plots is significant. There are 585 plots at Floyd Bennett and an additional 77 at Ft. Tilden—for a total of 662 plots at these two sites. In previous years, all 662 plots had been assigned and there was a waiting list. In 1996, many plots were not assigned; gardeners attribute this to the \$25 fee that was initiated this year. Many gardeners in 1996 added a second plot.

From a management perspective, each plot represents more than a 10 by 15 foot plot of earth; they represent a bundle of rights and obligations conferred on members of the public and a set of management tasks.

- Each plot thus represents a unit of management effort and information that must be processed; equally, the plots are the object of contacts with the public.
- Information about each plot and plot-holder must be recorded—a plot has to be assigned to an individual who submits an application, their phone numbers and addresses recorded in a data base so they can be contacted.
- The plots have to be measured, laid out, identified, and monitored.

¹ The area has been calculated by multiplying the number of plots in the Jamaica Bay unit by 150 (the number of square feet in each plot), which produces the figure of 2.27 acres. Rounding off the figure generated to 3 acres allow for paths and bordering space. The figure is only an approximate estimate, for rough reckoning. It does not include the parking area.

- Contacts with plot-holders include taking the applications and answering questions about this process and the gardens in general, answering questions relating to the status of applications or the application process (e.g. being notified about how and when to apply) or about the status of plots, such as query letters about plots that seem to have been abandoned, and communications regarding policies and rules.

While these are routine procedures, they do require time and effort.

From the point of view of gardeners, of course, the plots are not bureaucratic abstractions, but cherished gardens. This means they are likely to have questions and want to know about matters that affect the Gardens.

Inefficiencies in the permitting and plot assignment process--delays or confusion about procedure--may upset the gardeners, who, after all, attach a significance to these plots that may not be fully appreciated by non-gardeners [see section on meaning and significance of the gardens]. Delays or confusion regarding the permitting process were reported by some gardeners as a matter of concern. This may reflect a scarcity of management resources and the imperatives of other priorities. It may reflect the inefficiencies inherent in any bureaucratic process, but appreciating this does not offer much consolation to gardeners who want the process to be as smooth as possible so they can devote themselves to gardening.

The general impression one gets, talking to gardeners and staff, is that the Park in 1996 lacked the capacity to commit sufficient resources to manage the gardens in the way gardeners and staff would like. This has been one rationale for the formation of a Gardener's Association: the idea is that gardeners themselves can assume certain responsibilities in matters where they can in principle do a better job.

Transferring Responsibilities to a Gardeners Association

In 1996, the idea of having the gardeners themselves assume much of the operational management of the community gardens was discussed by Park staff and gardeners. A meeting to discuss program management issues held in April, 1996 was followed up in June by the appointment of an ad hoc committee of gardeners from Ft. Tilden and Floyd Bennett Field. This group was charged with establishing rules and regulations for the gardens. By July, a draft of these policies had been completed. Meetings open to the entire gardening population were then held to get comments from gardeners at the two sites. The rules and regulations were then approved by the Superintendent.

The 1996 report on the gardens (appendix B) recommended that the NPS should enter into a Memorandum of Agreement with a Gateway Gardeners Association. The Association was in fact already in the process of formation by the time the report was submitted; the meetings held by ad hoc committees to discuss policies for the community gardens were instrumental to the formation of the Gateway Gardeners Association. They helped demonstrate that the gardening community had the commitment necessary to form a self-governing group for the management of the community gardens; these meetings also highlighted the ability of the gardeners to develop the competencies needed to form an association and assume responsibility for the management of the gardens.² It was recommended that the Park provide some technical support and contact with resource people to help the gardeners form a viable association.

The question of a transition from Park-centered management to self-management by gardeners was discussed in meetings with Park staff. The discussions focused on implementing the transfer in a timely and deliberate way, making the point that the transfer should not be delayed if the gardeners are willing to accept the task of managing the gardens, and have developed the institutional structure and management competencies needed to assume the responsibilities entailed by self-management, but also that tasks should not be thrust upon the gardeners or their association that they might not yet be prepared to handle.

The number of gardeners involved in the program means that considerable management time must be allocated to the administrative task of issuing permits, keeping track of addresses, and so on. The Gardeners Association can take care of such tasks. It should be able to handle a range of other routine administrative tasks.

With an active gardening population of approximately 500-600, some dissension and disagreement is inevitable. It may be that the only point on which all the gardeners will agree is that value of the gardening experience for each of them as individuals. Formats for negotiation and discussion will need to be developed into a consensus-generating and decision-making process within the framework of the Gardeners Association. In 1996, the gardeners had taken several steps to develop this process by holding a series of public meetings in which a group of the gardeners began to work on formulating rules and policies to present to the gardeners as a group.

In general, it seems very appropriate for a Gardeners Association to represent the gardeners, since this offers advantages to both the Park and the gardeners.

²Miller Field was not included in the process that led to the formation of Gardener Association.

- The gardeners themselves are in the best position to understand the needs of the gardens.
- The Association can also reduce the administrative burden of operating the gardens.
- The Park must retain oversight role, in order to ensure that the Gardeners Association operates the community gardens in a fair, open, and non-discriminatory manner and in a manner consistent with NPS policies and regulations.
- The Park must ensure that the gardens continue to represent a use that is consistent with the Park's stewardship of the land and that it operates in a way that fulfills the mission of the Park.

Equally, there are some things the Park should not attempt to do.

- It should not try to micro-manage the gardens.
- Except where it must require gardening practices to conform to NPS policy (such as the prohibition of pesticide use, which is also banned in the rules drafted by the gardeners themselves), the Park should let gardeners decide about gardening techniques or practices.
- The Park should not mandate a particular style or approach to gardening nor a particular set of horticultural techniques.
- The Park should not attempt to arbitrate disputes about what gardening methods will be used.³

The policy should be for the gardeners, using procedures they adopt themselves, to settle such issues. The Park does not have the expertise to decide horticultural issues, or to arbitrate disagreements about approaches to gardening, nor will it always be clear that there are definite answers based on conclusive data about such issues. In some cases, the Gardeners may need to seek the expertise of horticultural or gardening specialists who can address factual issues, but often gardeners will simply have different styles or preferences regarding gardening. These differences in approach are in fact integral to the diversity of the gardens.

- The diversity of gardening styles reflects the diversity of the gardeners.

³ The gardeners involved actively in the effort to form a Gardener's Association spent much time discussing gardening techniques and their fit with the common use of the Community Gardens. The use of plastic mulches which leave shreds of plastic, the use of wood chips in gardening were two questions debated.

- Attempting to impose a uniform style or approach to gardening might diminish the ethnographic resource value of the community gardens.

Gardening activity should be limited only when it affects others. Pesticide use should not be permitted for a number of reasons, but it can be used to illustrate this point: pesticide use on a plot might adversely affect plants growing on an adjoining plot. Such use might contaminate the garden crops of some one attempting to raise vegetables by organic gardening methods. Troubling questions about health might arise. So the gardeners' ban on such use is appropriate, even though it restricts the techniques and responses available to gardeners. Where adverse impacts cannot be shown, however, approaches to gardening should not be prohibited. Restrictions should not be based on gardening preferences, philosophies, aesthetics or styles, but only on concrete adverse impacts.

Weeds may be a point of contention. Some gardeners prefer weed-free gardens, and weeds do have an adverse impact on the productivity of gardens. Other gardeners are more tolerant of weeds and are satisfied with the harvests from their gardens even if they are somewhat decreased by weed growth that competes for water, soil nutrients, and other growth factors. Some criticism was directed at gardeners who permitted weeds in their plots by gardeners who did not. The failure to control weeds throughout the gardens does make it at least marginally more difficult to control weeds in any individual plot; however, a policy of requiring gardeners to keep plots weed-free seems likely to fail, given the numbers of people involved, and their different reasons for, and approaches to, gardening. The Gardeners association might wish to present vigorous weed-management as an ideal, but not attempt to enforce a policy, since this is likely to put the Association in the uncomfortable role of policing the gardeners on this issue. In any event, this should be an issue for the gardeners, not the National Park Service. Looking at the gardens in 1996 shows that plots can be kept weed-free despite the growth of weeds in neighboring plots.

Managing for User Diversity

Neither the Park nor the Gardening association should promulgate rules that have the effect of reducing diversity, either the diversity of the gardeners, or the diversity of kinds of gardening styles, without justification. The prohibition of pesticides, for example, is justified because it is prohibited by NPS policy even if the gardeners had not also voted to prohibit such use. But other restrictions on gardening style, or mandate of a particular style, could have the effect of reducing the diversity of gardening styles, which might also make these gardens less appealing to particular groups.

The gardeners themselves value the diversity gardening styles found at the community gardens. They speak of liking to see “what other people are doing.” They also report that they learn from others who garden in other ways and sometimes adopt gardening practices from others or try out crops grown by others.

- The diversity of the gardens are central to the value of the gardens as an ethnographic resource.
- This cultural and ethnic diversity is concretely expressed in the different approaches to gardening pursued by gardeners from different groups.
- An action that might be advocated by some gardeners or even by gardening experts as a desirable and have the support of some gardeners--e.g. mandating the use of raised beds--might impact the diversity of the gardening.

For example, mandating raised beds might reduce the diversity of gardening approaches at Floyd Bennett Field. The southern-regional style do not use raised beds, while gardeners who pursue Asian intensive techniques or read up on intensive raised bed systems in the gardening literature may utilize raised beds. These choices should be left to the gardeners.

In general, in the context of the ethnographic resources values the gardens represent, the only justification for regulating gardening practices would seem to be when:

- NPS policy or regulations require such regulation, as in the case of prohibiting pesticides
- The grading practice affects neighboring gardening plots in concrete, discernable ways.

Allowing users to keep the same plots from year to year should reduce conflict and disputes relating to the second point. Having the same plots every year will allow gardeners to explore the potential of their own approaches to gardening, and will maintain the diversity of gardening styles now found at the gardens.

The only circumstances where gardeners do not value or tolerate different gardening approaches is when they feel certain practices adversely affect their own gardens. For example, some gardeners say that plastic from plastic ground covers used to control weeds and preserve soil moisture gets into their gardens when the garden site is tilled in the spring. This means they have to dig out shreds of plastic. The pieces of plastic are unsightly, they feel, and it is work to dig them out. They point out that plastic does not

biodegrade. Some argue that the plastic stunts plants or promotes disease, by changing soil conditions to make them more conducive to disease organisms.

The Gardeners group has proposed three measures to address this concern:

- First, giving gardeners continuity on the same plots, so gardeners will not get moved to plots where plastic has been used in previous years.
- Second, not having the Park till the garden sites, so that plastic will not be widely incorporated into the soil.
- Third, requiring people to clean up all plastic ground covers, and monitoring the plots to make sure this is done.

Some gardeners believe a total ban should be enforced if a problem continues.

The point here, however, is that the gardeners can resolve such problems. The Park should not expend time and effort dealing with such issues.

- Establishing policies about gardening practices and deciding what approaches are compatible is best decided by the gardeners as a group, thorough procedures they set up for themselves.
- The Park does not have the time or expertise to deal with issues such as this; letting the gardeners address these questions reduces costs and the burden on Park staff.
- The Gardeners have shown considerable initiative in addressing such issues and should be able to deal with them effectively as they gain experience in self-management.
- Given that the gardeners have definite ideas about how to solve the problems they face, know what their needs are, and as a group possess greater knowledge about the ecological and technical processes of plant growth and gardening, the operation of the gardens, including problem-solving and decision-making about most matters, should primarily be the responsibility of the gardeners through their Association, with the Park monitoring the Association to ensure fairness, non-discrimination, and compliance with NPS policies.

Park Management versus Gardener Association Management: A Cost Appraisal

Early findings of this study, communicated in meetings with Park administrators and in a report by Canahuati, Deiss, and Goodman (1996), indicated that the gardeners had the

desire and capacity to form an organization that could assume management responsibilities for the garden sites. The Park acted on these findings and entered into a Memorandum of Agreement. The National Park Service provided some support for the development of the Gardeners Association, in the hope of providing a better program at less cost.

This section will review the basic issues regarding cost savings that might be realized by transferring management tasks to the Gardeners association. The primary ethnographic component of this study is relevant to the assessment of the Gardens as an ethnographic and cultural resource—a resource that falls under the Park’s general responsibility of stewardship. In non-economic terms, this is a program of significant value that fulfills the Park’s public mission. The ethnography also tends to make it seem likely that the Gardeners can organize themselves into an Association capable of undertaking a large part of the operational management of the Gardens.

The value of the program for the public involved seems unquestionable. The economic question remains: who can manage the program in a more cost effective way, the Park by using its paid staff, or the Gardeners Association, by using volunteers?

This question is not directly related to the ethnographic scope of the study, but is relevant the question of restructuring the program. Thus, it may be useful to frame the questions involved and then consider the financial data available. Viewed in economic terms, the fees collected from the gardeners do not of course represent an unencumbered revenue stream: they are not “free money,” not a windfall. There are very definite costs associated with the generation of these fees: the gardens must be made available and managed professionally. (Collecting fees itself involves costs: in issuing the permits, processing checks, maintaining records, and so on.)

How much does management of the Gardens cost and who is better able to provide it—the Park or the Gardeners association—is a question that should be evaluated in financial terms as well as in terms of a set of relevant non-economic considerations such as advancing the Park’s public mission. The questions that have to be answered to evaluate the economic side of this issue seem clear. What is the cost of the Park managing the Gardens and collecting the \$25 fee versus having the Gardeners Association collect the fee and manage the Gardens? Just as there is no “free money,” there is no “free management”—it costs money to operate a program. What is more cost effective: management by the Park or management by the Gardeners Association?

To operationalize this larger question, we need to be able to compare the sum collected in fees to the cost of having the Park manage the Gardens. Is the amount collected in fees

less than, more than, or equal to, what it costs the Park to run the program? If less, the case for Gardener management is clear.

However, if the fees bring in more than the direct costs involved in managing and maintaining the garden sites, we could still not conclude that the “best use” of resources would be to have the Park manage the garden sites. The Gardeners manage the Gardens with volunteers and the Park cannot reassign these volunteers: but the Park would have to manage the garden sites with paid staff, who could be reassigned to other tasks. So a second step in the analysis would be to tally opportunity costs: what tasks could staff dedicated to operating the gardening program be doing if they could be reassigned, and what is the value of these tasks? In addition, the Park would need to make a non-financial decision: perhaps the other work its personnel could perform if not involved in managing the gardens is more valuable to the Park, represents a higher priority from a management point of view.

Data provided by the Park indicate that savings have indeed been realized from the transfer of operational management to the Gardeners Association. Not only management tasks, but the costs associated with these tasks, have been transferred to the Gardeners Association.

The data provided indicates that these costs would not be covered by the fees collected if paid Park staff performed the management tasks now undertaken by the Gardeners Association. Data provided by the National Park Service indicates that the cost of operating the largest of the community garden sites (Floyd Bennett Field) in 1996 were \$41,736, while fees brought in only \$11,975. Fees did not cover costs—they fell almost \$30,000 short of doing so. Collecting fees itself represents a burden on management (i.e., the time and effort spent issuing permits, processing checks, answering queries and maintaining records). It makes sense to externalize the costs of the program by transferring as much of the management of the program as possible to the Gardeners Association.

- In 1997, the Park’s anticipated savings from having a Gardeners Association manage the Floyd Bennett Field site was \$37,661, with anticipated costs to the Park down to \$6,100.⁴

⁴The costs to the Park included maintaining porta-toilets, an amenity maintained for the public throughout the Park. The Park also emptied trash cans located at the periphery of the garden sites and supplied a water link.

- Since the costs of operating the program greatly exceed the total amount of fees, it is clear that it is more cost effective to have the Gardeners Association operate keep the fees and operate the program.
- Since the gardeners appear ready and willing to operate the program through the group they have formed, there seems to be no reason not to externalize these costs.
- When the opportunity costs involved in having the Park perform these tasks are considered—that is, when we take account of the fact that the Park staff who would have to be dedicated to managing the gardens can now be reassigned to other activities, some of which may represent more urgent priorities—the case for transferring management responsibility to a Gardeners Association and letting them keep the fees collected seems absolutely clear, a matter of prudent financial and management judgment.

In sum, by transferring much of the operation of the community gardens to the Gardeners Association, the Park has saved money and freed up staff to work on other Park priorities. The Park should be commended for its initiative in promoting savings and efficiencies while preserving and enhancing the values of the program and fulfilling its mission to the public.

In addition, the transfer draws in additional resources for the gardens from the gardeners and from outside sources.

- It seems likely that the personal investments made by gardeners in the garden sites have increased, by as much as 50% at Floyd Bennett field by one estimate, up from \$20,000 to \$30,000.
- The gardeners will solicit resources from various external sources: e.g., the delivery of compost or organic matter to improve soil quality, from urban recycling and composting programs.
- The time volunteered by gardeners represents a meaningful input of resources into the program.

At Ft. Tilden, the much smaller site, volunteers logged about 450 hours. It seems reasonable to assume that volunteer hours at the much larger Floyd Bennett field site will be much greater in proportion, reflecting the much larger number of gardeners at that site.

In other words, not only has the Park transferred and reduced certain costs, it seems likely that it has also attracted additional resources from the community.

Managing Infrastructure

- Transportation and Parking
- Access
- Restrooms
- Fences
- Water Supply
- Bulletin Boards and Signs
- Telephone
- Shelters
- Disposal and Recycling of Plant Matter

Transportation and Parking

Most people drive their cars to the gardens. A few bike, and a very few walk. Only 16 of 204 people asked reported biking to the garden sites, and only 4 reported walking. Six reported taking the bus (Canahuati, Deiss, and Goodman, 1996, Table on Transportation to the Gardens). A greater proportion of the smaller numbers of gardeners at Ft. Tilden and Miller Field either reported using bikes as transportation to visit the gardens or can be presumed to do so. According to the data collected, 6 of 26 gardeners reported biking to Ft. Tilden (about 23% of those who responded), compared to 10 of 178 at Floyd Bennett (about 6%). Since Miller Field is located in a residential area on Staten Island, it seems reasonable to assume that a greater number of gardeners walk or bike to this garden site than do so at Floyd Bennett Field, which is relatively isolated. It seems likely, however, that all or almost all gardeners who bike, walk, or use public transportation to get to their plots on some occasions also use cars at some point in the year, either during rainy weather or when they need to transport bulky items such as bags of compost or gardening supplies.

Cars are more than the means of getting to and from the garden sites; they are used for the transportation of gardening supplies and equipment, for bringing food and water to be consumed on-site, and for taking produce home. At Floyd Bennett Field, the parking area along the borders of the garden are not just places to park, but the scene of social interactions. Gardeners move back and forth from car to garden plot, and engage in various kind of “tailgate” activities, including conversation, consuming meals, the cleaning and preparation of equipment and produce. Some people spend time working in their plots, then return to the parking areas to sit in portable chairs to read or sun themselves.

Some people also sit in their cars to rest or take a break. Guests or non-gardening spouses may sit in the cars while gardeners work in their plots.

People can identify the cars driven by some of the other gardeners. They will check the parked cars to see if particular individuals are at the gardens.

A few individuals were observed working on their cars, but no evidence was seen that any one was draining automotive fluids onto the parking lot.

At Floyd Bennett Field, people park on the side of the garden site nearest their plots. They open or cross over the fence to gain access to their plots. Doing so, they are unlikely to see notices on the bulletin boards.

Since the majority of gardeners drive, each of the Garden sites require parking spaces to accommodate the gardeners. At present, parking appears sufficient to ample. Parking was not raised as an issue. However, if a decision was made to move any of the gardening sites, the question of providing parking would need to be considered.

Access

Sections of the gardens are, or can easily be made, wheelchair accessible and accessible to individuals with limited mobility. Especially at Floyd Bennett Field, other sections are less accessible because of distance from the parking lot, the presence of tall weeds growing in paths, and dirt paths that can become rough, rutted, and muddy. Irrigation pipes laid across paths and across the entrances to plots might also limit access in portions of the garden. However, good access exists or can be provided along the outside periphery of the garden sites. At Floyd Bennett Field and Ft. Tilden, corner spots have been reserved for programs with gardeners who cannot easily traverse paths, pipes, and other obstacles.

One gardener has developed techniques for promoting wheelchair access by laying out firm mats along the edges of plots. She expressed an interest in raised beds that could more easily be worked by individuals in wheelchairs. Efforts by gardeners and the Park to make the gardens accessible are commendable and should be supported and publicized.

Restrooms at Floyd Bennett Field are not wheelchair accessible.

Bulletin Boards and Signs

Bulletin boards are not sited in a way that makes them convenient for all gardeners, but it is also not clear what the best placement of these would be. At Ft. Tilden, gardeners must walk around the side of the garden outside the fence to view the bulletin board. If

important notices are posted on these boards, more gardeners are likely to see them if they are located close to an entrance, perhaps between one entrance and the restrooms or adjacent to the parking lot.

At Floyd Bennett Field, one bulletin board is sited at the designated main entrance to the gardens; but since many gardeners do not enter the garden at this point, choosing to enter at points closer to their own plots, they might miss notices posted on this bulletin board.

- If the goal is to reach the greatest number of gardeners, bulletin posts of some sort will need to be sited on the other side of the garden to pick up the many people who enter there.
- During the research period, staff posted some notices at multiple sites throughout the gardens; this is likely to reach more gardeners than notices posted on the bulletin boards.
- Even so, posted notices will no doubt miss some gardeners. Mailings are perhaps the only way to be reasonably sure of reaching a majority of the gardeners.

A sign identified the community gardens at Floyd Bennett Field, but did not provide much information about the program

- Permanent signs explaining basic rules and the composting program would be beneficial.
- The Gardener's Association's partnership with the Park might be identified in a sign.
- The gardeners need to be able to explain that the public does not have the right to enter or cross garden plots, and a sign listing basic rules and regulations might be useful.

In general, any measure, however small, that makes it clear to the public that there are certain restriction on use at the garden sites might be beneficial. Be able to point to a sign stating the basic rules or etiquette for visiting the site might be useful. A sign declaring the role of Gardeners Association might also be helpful, since it would highlight that the gardeners in fact have a role in monitoring the appropriate use of the site.

In 1996, a verbal altercation occurred when a gardener tried to explain to a non-gardener who had entered the garden site that plants are easily damaged and asked him to take care in passing through the gardens. In this incident, it might have been useful to have an "official" sign explaining the courtesies and care involved in visiting the gardens. The issue here is that some members of the public will reject or misinterpret the reasonable efforts of gardeners to communicate reasonable rules governing the use of the garden sites—for example, that one cannot cross plots, since this might damage crops or the work of the

gardener. In the case observed, the non-gardener apparently felt that a private individual (a gardener) had no right to tell him what to do on public property. Signs would make it clear that the gardens are protected by rules that apply to all members of the public.

Individuals sometimes insist that they have the “right” to do things on “public” property because it is public, not private. While such claims may in some case indicate confusion about the nature of public settings, and at worst may be made only to excuse unacceptable or even illegal actions--such as poaching, the theft of farm crops grown on National Park land, or the theft of produce from community gardens, as occurs at Gateway--it may be appropriate to clarify the rights of the gardeners to plots and produce. A posted statement of the goals, nature, and rules of the community gardens which explained the need to respect their use of their plots and that produce belongs to the individual plot-holders would not end theft and would not deter vandals or the insensitive, but it would make clear that when gardeners ask that the gardens be respected and the rules followed, they are not being arbitrary, and that there are rules for use of the site.

Restrooms

Only rudimentary porta-toilets are available at Floyd Bennett Field. While the porta-toilets in use were perhaps minimally adequate for most users, they are not in the best condition and are far from ideal.

- They are not wheelchair accessible.
- The less able gardeners may find them difficult to use.
- Gardeners in general, and women in particular, spoke of the toilets as inadequate.
- Hands are washed in the same outdoor sink that many gardeners use to rinse and wash vegetables.

Two measures are recommended:

- The NPS should not assume that gardeners or their guests do not have disabilities. A wheelchair accessible toilet should be provided at Floyd Bennett Field.
- Separate sinks should be provided for rinsing produce and washing hands.

Water Supply

Water at the garden sites is used for irrigation and cleaning of produce. There is no supply of drinking water: gardeners bring their own bottled water for drinking. The gardeners warned the researchers not to drink the water piped into the gardens.

- It there is no procedure to warn new gardeners not to drink this water, one should be adopted; a warning should be posted at the garden site, and this information should be contained in whatever information packet or orientation is provided for gardeners.
- Dehydration can occur when gardeners exert themselves in the gardens on hot days; novice gardeners should be warned about the dangers of dehydration and told to bring their own water or beverages.

While the water may not be acceptable for human consumption, it appears to be adequate for plants. The water supply system used for irrigation appeared adequate in 1996. At Floyd Bennett Field, it consists of a series of pipes laid out across the site; taps are spaced at intervals and gardeners attach their own hoses to these. This gives each gardener control over irrigation of their plot. Gardeners did not report problems or dissatisfaction with the system. They indicated that there was adequate pressure and delivery of water.

Due to the theft problem, hoses and other irrigation equipment cannot safely be left out in the gardens.

Fences

Site Fences

Tall fences surround some urban gardens to keep out those who might vandalize or steal from gardens. At Floyd Bennett Field, some gardeners (3) said they would not like to have such fences around Floyd Bennett Field community gardens and rated it negatively as a solution to the theft problem. They explained that they like the “open” feeling of the garden, and don’t want to feel “hemmed in.” They come out here to get away from urban experience of the city, and would not like to fences become a dominant feature of the community garden site.

Plot fences

In 1996 fencing surrounded many of the individual plots. The primary reason given for having fencing was to help prevent theft. Many of the fences had gates that could be secured with padlocks. In material, fences ranged from wood and wire to fences made of found and scavenged material. Some fences were used as trellises on which climbing and vining plants (peas, pole beans; tomatoes) could grow. For temporary seasonal structures, some fences were fairly sturdy and substantial, while others were less so. The taller fences were roughly four feet high, but most were less than four feet tall, ranging about waist high

or approximately three feet or less. The fencing materials used did not seem to cause unacceptable shade (block the sunlight needed for vigorous plant growth) in adjacent plots.

As with perimeter fencing, a question about plot fences is whether they reduce the experience of openness and space that is important to many gardeners. At their present heights, the researchers did not feel they did so: the vista across the garden was not obstructed and the dominant impression was the expanse of garden vegetation. Taller fences, however, might obstruct views and diminish the experience of openness.

- If the Park allows more permanent fences on plots where gardeners are granted longer tenure, it may wish to limit fence heights. It should do so before any of the gardeners make investments in such fences.
- If a need to limit fence heights and materials should arise, the distinction between fences designed to control access by human beings and netting or crop covers used to keep out birds or insects should be kept in mind.

One plot was enclosed in material to keep out birds and insects should be kept in mind. One plot was enclosed completely with netting to keep out birds and an insect that would eat seeds and seedlings.

There is no reason to think gardeners want to put up fences that would create an enclosed, fenced-in feeling at the gardens; as noted, the reason given for going to the trouble of putting up fences is to prevent theft. Fences may also mark the boundaries and identify the plot. They indicate that a gardener has “sweat equity” in the plot—has worked to make it what it is, and feels an attachment to what he or she had created. It also marks boundaries in a way that is satisfying—like a frame on a picture. In the absence of the theft problem, however, it seems likely most gardeners would rely more on other means to define the boundaries and mark the identity of their plots (as they already do when they put up signs, flags, symbols, incorporate objects into their gardens and arrange their plantings to express themselves). They would not need fences to keep thieves out.

The fences would not prevent a determined thief from entering a plot if they were motivated to do so. However, the fences may tend to divert thieves into unfenced plots where access and escape is easier. The fences also signal the produce belongs to some one. One gardener said he thought the fences would remind some gardeners that they should not casually take produce from other plots: he described the fences as being “for honest people,” to help keep them honest by putting an obstacle between them and temptation.

Telephone access (lack of)

One of the most repeated requests at Floyd Bennett Field was for a telephone. Gardeners saw this not only as a convenience, but as a security and safety issue. They gave examples of incidents where the absence of a phone put people at risk. In one case, a woman told of how she had injured herself on a gardening implement. In shock, she drove herself to a relative's house. She raised the question of what would have happened if her injury had been more severe.

Some gardeners expressed concern about the possibility of someone suffering from heat exhaustion or experiencing some kind of medical emergency. Several people noted that some of the older gardeners might be more affected by the heat, and need to call someone to pick them up.

One person reported being at the garden alone when his car would not start. He could not find an open office that would let him use the phone.

Gardeners thought that a phone would be helpful in addressing the theft problem. Several reported times when they would have liked to call Park staff to report possible theft or ask them to come out to investigate or monitor activity in the gardens.

At Ft. Tilden, the proximity of the garden site to Park offices means people can contact staff in case of need and make emergency phone calls.

In some cases, absence of a phone at Floyd Bennett Field might curtail visits by people who need to check on children or family members for any number of reasons (school and activity schedules, health problems, or other family circumstances). This was a particular concern of a gardener with an ill family member.

Shelters

Shelters are used for elaborate and simple picnics, to which gardeners may invite family members and friends. Gardeners may sit at the picnic tables under the shade of the shelters to eat a snack or drink water or beverages. The tables provide a place to sit down and to get out of the sun. They are used frequently by visitors who accompany gardeners but do not garden themselves (who sit on the picnic tables and chat or read or watch the gardens, birds, and activity as they wait). Children are sometimes left under supervision (with books or toys) in the shelters.

Present shelters at Floyd Bennett Field provide protection from the shade, but no protection from the rain. Ideally, a shelter providing protection from the rain would be available.

Disposal and Recycling of Plant Matter

Trash cans are available and are emptied by staff on a regular basis. At Floyd Bennett Field, much material that could be composted is put in the trash cans. In essence, the Park hauls away material that could contribute to maintaining the soils at the site. This should be discouraged and people directed to place such material at compost sites. Heavy, bulky plant material being put into trash containers may represent a significant portion of the waste hauled from the site.

As suggested in the section on compost, the Gardeners Association could organize an education campaign on the benefits of recycling plant material through composting. Permanent signs might be attached or painted on trash containers. The benefits would be to reduce the amount of trash removed from the site and aid the recycling of leafy plant matter into compost to help maintain the garden soil. [See Composting Program]

Theft: A Difficult Problem to Manage

Theft of garden produce was identified as a major problem in the Gardens. Many gardeners were angry about the theft of their produce, and some spoke of not returning to the gardens because of this problem.

While all gardeners reported theft was a problem, based either on having it happen to them or hearing about it from others, there was some variation in evaluations of the severity of the problem. Some seemed to find the theft a severe or intolerable problem, while others thought it was appreciable but tolerable. Most, however, seemed to perceive it as a severe problem. The variation appears to reflect two factors. First, those who have not experienced it personally may tend to see it as less of a problem than those who have had produce taken from their plots. Second, there was concern that theft might be used as an excuse to shut down the gardens. Taking into account the fact that gardeners have not been targets or may believe there are reasons to minimize the problem and given the nature of the reports made to researchers, the theft problem should be recognized as severe.

None of the gardeners thought theft could be eliminated. The question for them and the Park is whether the problem can be managed: can steps be taken to keep theft below a certain threshold where a large number of gardeners would simply give up on gardening?

This is the biggest dissatisfaction: all gardeners expressed concern about this. Almost all said it detracted from the experience of gardening. One individual said, however, that he did not mind losing some produce: he said he had more than enough. A threshold question exists: people will put up with some losses of produce, just as they accept losses from insects or disease. What bothers them most is having their gardens stripped, or having especially prized produce stolen when they have anticipated harvesting it themselves. It is the consistent loss of a significant amount of the produce they have grown that would cause many to stop gardening at Gateway.

Gardeners mentioned the following as responses to the problem.

- Fence plots: As one person said, plot fences are “For the honest people”—to mark garden boundaries and identify them as belonging to some one. Such fences will not stop a determined thief.
- Identification documents: the gardeners suggested that people be required to have permits or documents that identify them as gardeners and be prepared to show them; some suggested that gardeners should wear identification tags. Visitors, they said, could be given visitor permits.

Staff seemed doubtful or pessimistic about recruiting the aid of Park police to address the theft problem at the Gardens. The Park apparently does not have a program analogous to the community policing programs which have been initiated by many American police departments. If the Park intends to institute a community policing program, it should integrate the community gardens into this process. If the National Park Service does not have a community policing program, it might find it useful to follow the example of many cities and explore the value of some form of community policing.

- If the Park has a community policing program, the community gardens should be included in it.
- The Gardeners Association, on the same model, might consider setting up a “garden watch” along the lines of neighborhood groups that report criminal activity to the police. A requirement that people in the gardens carry a permit or identification document would aid this approach, as would signs that identify the plots as not open to the public.

Conclusion

The ethnographic assessment of the gardens gives strong support to the recommendations for the management of the Gardens made in the report submitted by Canahauti, Deiss, and Goodman (1996) as part of this project that significant management responsibilities should be transferred to an Association constituted by the gardeners.

- When it comes to issues affecting gardening, the gardeners are often in a better position to address them, because they can respond based on their specific needs and direct experience.
- The Gardeners Association should be allowed to collect and keep the fees charged for individual plots for use in managing, maintaining, and improving the garden sites.
- Areas where the Park will need to maintain a role include the provision of basic infrastructure and ensuring compliance with Park policy.
- With the development of a successful Gardeners Association, there will be less need of a coordinator who spends much time on the gardens but there will still be a need for a liaison person, with less total staff time devoted to the Gardens as the Gardeners Association assumes responsibilities.
- The Park also has ultimate responsibility for making sure the community gardens are managed in ways consistent with National Park Service, Department of the Interior, and federal government policy and requirements.
- The Park should recognize the diversity of the gardeners as a value and resource. Management actions--by the Park and Gardeners Association alike--should be evaluated for their impact on this diversity of the gardeners, who represent many different racial, ethnic, age and socioeconomic groups.
- The Park will have to make final decisions about disputes gardeners cannot settle among themselves.
- The Park will need to continue to supply water for irrigation, provide sanitary facilities, and the garden sites themselves.
- Where possible, the Park should integrate the gardens into interpretive activity: for example, a harvest fair sponsored by the Park and organized by the gardeners could showcase the Gardens in their various dimensions.
- A harvest celebration, with a competition and prizes for best vegetables in various categories, would bring together the gardeners in an event that affirms the value of gardening and attracts members of the public. It would also be a way of highlighting the value of the program and the way the program fulfills the Park's mission.

- A harvest fair could be linked to basic interpretive themes, such as ecology, conservation, cooperation and cultural diversity (showcasing the ethnic gardening and culinary traditions represented in the Gardens). The relationship of cities to nature and the role of urban parks in “greening” cities could also be themes interpreted in conjunction with the

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Appendix A

Zip Code Data and Tract Profiles

**Prepared by the Public Use Statistics Program Center,
National Park Service.**

FLOYD BENNETT FIELD GARDENERS

ZIP	POST OFFICE	POPULATION	PERCENT				MEDIAN AGE	PERCAP INCOME	SAMPLE FREQ.
			WHITE	BLACK	ASIAN	HISPANIC			
11234	BROOKLYN	73,449	78.9	17.2	2.8	5.2	37.8	21,260	84
11229	BROOKLYN	71,168	82.4	3.5	12.3	6.2	39.9	19,352	52
11235	BROOKLYN	66,873	80.5	3.1	13.0	9.6	43.4	18,796	31
11230	BROOKLYN	70,546	76.3	9.3	11.7	8.8	35.6	18,735	25
11204	BROOKLYN	63,654	83.5	0.5	13.2	8.6	34.4	15,327	22
11224	BROOKLYN	50,987	51.9	36.1	2.6	21.1	37.2	12,337	21
11210	BROOKLYN	60,983	44.5	47.5	4.9	10.8	33.8	18,690	19
11223	BROOKLYN	68,376	80.3	6.4	9.7	10.4	37.2	17,662	18
11209	BROOKLYN	59,881	88.1	0.8	9.1	6.5	40.0	24,800	17
11214	BROOKLYN	70,652	81.6	1.0	15.1	7.6	38.2	16,121	16
11226	BROOKLYN	9,811	7.5	83.0	5.2	17.6	30.5	12,918	14
11207	BROOKLYN	84,683	9.5	68.7	1.4	38.8	27.4	9,693	11
11239	BROOKLYN	14,596	51.5	30.9	9.6	19.6	37.7	10,570	10
11218	BROOKLYN	65,702	63.2	16.7	12.1	21.9	34.6	16,062	10
11220	BROOKLYN	74,738	48.8	5.7	22.6	49.7	31.7	13,091	9
11212	BROOKLYN	86,712	2.5	90.5	0.6	16.1	27.4	9,664	9
11236	BROOKLYN	75,867	60.2	30.1	6.5	10.0	37.2	17,992	8
11233	BROOKLYN	59,367	2.6	90.1	0.5	13.9	29.3	9,968	8
11216	BROOKLYN	64,286	1.2	95.9	0.8	8.4	32.7	12,988	8
11215	BROOKLYN	62,554	66.7	13.5	6.5	30.8	34.5	24,449	8
11228	BROOKLYN	38,821	91.1	2.1	5.1	5.5	38.5	19,375	7
11213	BROOKLYN	62,633	10.7	85.2	0.7	11.5	29.2	10,717	7
11225	BROOKLYN	64,885	5.7	89.6	1.8	11.9	31.5	13,624	6
11238	BROOKLYN	43,109	13.2	80.1	2.1	14.5	32.4	17,443	5
11221	BROOKLYN	71,775	8.1	69.4	1.0	35.8	28.0	9,828	5
11219	BROOKLYN	74,039	80.6	1.6	12.5	13.6	31.3	13,022	5
11208	BROOKLYN	82,066	17.5	49.2	6.9	49.0	28.0	10,076	4
11203	BROOKLYN	80,040	5.5	91.6	1.3	7.6	32.8	15,444	4
11217	BROOKLYN	35,478	40.6	42.3	3.4	34.1	33.2	21,251	3
11205	BROOKLYN	36,801	16.7	66.3	2.2	31.3	31.1	13,131	3
11385	FLUSHING	85,852	81.9	1.4	8.3	21.6	36.0	16,689	2
11377	FLUSHING	75,816	54.1	4.5	28.6	35.3	36.8	16,823	2
11354	FLUSHING	52,215	54.2	7.1	32.2	19.9	37.9	17,001	2
11201	BROOKLYN	45,724	57.3	29.8	6.0	17.9	35.4	31,477	2
10028	NEW YORK	41,844	92.6	1.6	4.9	4.0	40.2	72,515	2
11434	JAMAICA	50,016	3.3	94.5	0.6	5.3	35.3	16,688	1
11432	JAMAICA	53,931	34.9	29.2	22.5	31.8	34.8	17,518	1
11427	JAMAICA	21,212	53.5	23.3	15.9	20.2	37.7	20,159	1
11421	JAMAICA	29,516	78.4	2.1	12.1	19.9	36.6	19,200	1
11420	JAMAICA	38,328	34.9	45.7	9.2	26.2	32.7	15,257	1
11414	JAMAICA	26,572	94.3	1.3	2.9	5.8	40.3	22,617	1
11413	JAMAICA	36,413	5.0	92.4	0.9	7.0	33.7	19,354	1
11412	JAMAICA	31,991	1.2	96.8	0.7	4.7	34.0	16,204	1
11379	FLUSHING	28,911	92.9	0.8	3.9	7.1	40.5	20,849	1
11375	FLUSHING	65,709	79.9	2.4	15.8	8.4	42.2	28,293	1
11372	FLUSHING	57,731	58.7	4.3	21.0	45.7	38.5	18,228	1
11370	FLUSHING	24,103	67.1	1.7	18.9	31.8	36.2	19,600	1
11368	FLUSHING	77,869	27.6	30.2	13.2	57.8	32.1	12,293	1
11362	FLUSHING	16,035	83.0	0.7	15.4	4.3	41.8	25,825	1
11222	BROOKLYN	37,767	79.5	3.0	5.2	25.9	39.1	17,381	1

FLOYD BENNETT FIELD GARDENERS

ZIP	POST OFFICE	POPULATION	PERCENT				MEDIAN AGE	MEDIAN INCOME	SAMPLE FREQ.
			WHITE	BLACK	ASIAN	HISPANIC			
11211	BROOKLYN	79,223	62.2	10.5	2.9	46.5	26.7	8,980	1
11206	BROOKLYN	76,620	17.9	45.4	3.2	57.3	27.6	7,779	1
10801	NEW ROCHELLE	30,307	58.1	33.1	3.2	15.5	35.9	19,088	1
10467	BRONX	83,604	42.1	33.8	7.4	40.0	34.4	14,659	1
10466	BRONX	57,005	18.8	70.5	2.9	24.6	34.0	15,831	1
10456	BRONX	69,411	8.9	68.3	1.0	47.2	27.2	8,391	1
10453	BRONX	73,254	11.8	54.6	1.6	60.3	25.6	7,898	1
10314	STATEN ISLAND	82,274	85.9	2.6	10.1	5.7	34.6	20,870	1
10306	STATEN ISLAND	52,574	93.9	1.0	4.0	5.4	35.9	20,787	1
10038	NEW YORK	13,877	38.5	13.7	36.7	26.2	40.0	16,847	1
10010	NEW YORK	25,242	82.2	6.5	8.8	8.4	40.3	49,540	1
10004	NEW YORK	3,402	76.1	15.0	6.8	7.6	27.1	19,932	1
10003	NEW YORK	50,021	80.0	5.5	11.3	9.3	36.0	39,384	1
REGIONAL AVERAGE		36,803	54.7	26.2	9.0	23.9	34.9	19,855	

FLOYD BENNETT FIELD GARDENERS

ZIP	PERCENT AGE									MEDIAN AGE
	0-4	5-9	10-14	15-19	20-24	25-44	45-64	65-84	85+	
11211	11.8	9.6	9.6	8.8	7.8	28.2	14.7	8.7	0.8	26.7
11206	10.4	8.9	8.8	8.8	8.9	28.0	17.6	8.0	0.6	27.6
10801	6.9	6.3	6.0	5.7	7.0	31.8	20.0	14.1	2.3	35.9
10467	7.9	7.0	6.4	6.0	6.6	33.2	18.3	12.4	2.1	34.4
10466	7.4	6.7	6.7	6.8	7.7	31.3	21.4	10.4	1.5	34.0
10456	11.4	9.7	8.9	8.2	8.1	29.8	16.1	6.7	1.0	27.2
10453	12.2	10.3	9.4	8.7	8.4	31.4	14.7	4.4	0.3	25.6
10314	7.3	7.0	6.6	6.1	6.4	34.2	21.1	10.3	1.0	34.6
10306	6.8	6.5	5.9	5.4	6.1	32.8	22.5	12.7	1.3	35.9
10038	4.4	4.2	4.6	5.4	7.2	32.3	21.6	18.3	2.0	40.0
10010	3.0	2.5	2.0	2.3	6.4	43.2	24.0	14.9	1.7	40.3
10004	11.9	9.1	8.5	11.2	6.6	40.9	11.3	0.6	0.0	27.1
10003	3.0	2.3	1.5	1.9	11.7	49.0	20.0	9.3	1.2	36.0
REGION	7.3	6.5	6.2	6.1	7.2	34.6	21.0	12.4	1.5	34.9

FLOYD BENNETT FIELD GARDENERS

ZIP	PERCENT AGE									MEDIAN AGE
	0-4	5-9	10-14	15-19	20-24	25-44	45-64	65-84	85+	
11234	6.3	6.0	5.9	5.7	6.2	30.6	22.9	15.1	1.3	37.8
11229	6.0	5.6	5.7	5.6	6.1	28.5	21.2	18.8	2.5	39.9
11235	5.2	4.8	4.6	4.7	5.1	27.9	21.8	22.1	3.7	43.4
11230	8.1	7.2	6.8	6.2	6.5	29.2	18.5	15.1	2.4	35.6
11204	7.8	6.7	6.9	6.9	7.5	29.3	18.9	14.2	1.8	34.4
11224	7.4	6.6	6.9	6.9	7.2	24.3	18.5	19.0	3.1	37.2
11210	7.9	7.2	7.4	7.1	7.5	30.9	19.8	10.7	1.5	33.8
11223	6.9	6.2	6.1	5.9	6.7	29.5	20.0	16.9	2.0	37.2
11209	5.2	4.7	4.3	4.3	5.3	33.9	21.7	17.6	2.9	40.0
11214	6.1	5.4	5.1	5.3	6.6	31.4	20.8	17.0	2.3	38.2
11226	9.1	8.1	8.2	7.9	8.3	34.4	18.1	5.4	0.5	30.5
11207	10.6	9.0	8.9	8.9	8.7	30.1	17.2	6.1	0.6	27.4
11239	5.8	5.5	7.2	8.4	8.0	26.4	21.5	15.0	2.2	37.7
11218	8.1	7.1	6.7	6.4	6.9	32.3	18.8	11.9	1.8	34.6
11220	8.6	7.5	7.1	7.3	8.0	32.6	18.5	9.3	1.1	31.7
11212	10.3	8.8	9.0	9.1	9.0	29.7	17.3	6.3	0.6	27.4
11236	6.9	6.2	5.8	5.9	6.3	30.5	22.0	15.0	1.4	37.2
11233	9.9	8.5	8.6	8.5	7.9	28.9	17.9	8.9	0.9	29.3
11216	8.5	7.4	7.2	7.1	7.4	32.0	19.5	9.9	1.0	32.7
11215	6.7	5.8	5.1	5.3	7.4	40.9	18.5	9.1	1.2	34.5
11228	6.1	5.4	5.1	5.4	6.2	30.9	21.1	17.7	2.1	38.5
11213	9.6	8.3	8.5	8.3	8.6	30.1	17.4	8.3	0.8	29.2
11225	8.7	7.7	7.7	7.7	8.4	32.1	19.9	7.4	0.5	31.5
11238	7.9	6.7	6.4	6.5	8.8	36.8	18.1	7.9	1.0	32.4
11221	10.6	9.1	8.7	8.5	8.3	29.5	17.0	7.5	0.7	28.0
11219	10.1	8.4	8.0	7.7	7.5	26.7	15.2	14.3	2.3	31.3
11208	10.1	8.7	8.7	8.6	8.9	31.3	17.1	6.2	0.5	28.0
11203	7.5	6.6	6.9	7.7	8.7	31.9	22.3	7.5	0.8	32.8
11217	6.8	5.7	5.2	5.4	8.6	42.5	18.6	6.6	0.5	33.2
11205	8.0	6.8	6.6	6.9	9.2	34.7	18.2	8.5	1.0	31.1
11385	6.9	6.2	5.8	5.8	6.7	32.6	20.4	13.7	1.9	36.0
11377	6.1	5.5	4.9	5.1	6.3	36.4	21.8	12.5	1.5	36.8
11354	6.1	5.6	5.1	5.1	6.0	33.5	21.2	14.7	2.6	37.9
11201	5.9	5.0	4.4	4.5	7.3	41.7	20.1	9.6	1.5	35.4
10028	3.7	3.4	2.8	2.7	5.3	41.4	26.9	11.8	2.0	40.2
11434	7.0	6.3	6.7	6.9	7.5	29.1	22.3	12.9	1.2	35.3
11432	7.3	6.4	5.7	5.9	7.2	34.9	20.2	10.5	1.9	34.8
11427	6.5	6.2	6.2	6.1	6.0	30.2	21.1	16.4	1.3	37.7
11421	6.6	6.0	5.8	5.9	6.7	32.2	20.2	14.9	1.8	36.6
11420	7.8	7.0	7.0	7.1	8.0	31.4	19.9	10.8	0.9	32.7
11414	5.3	5.0	4.6	4.5	5.3	31.5	24.9	17.7	1.2	40.3
11413	6.6	6.1	6.7	7.4	8.8	29.8	24.6	9.3	0.6	33.7
11412	7.2	6.4	6.8	6.9	8.0	29.7	20.8	13.2	0.9	34.0
11379	5.0	4.8	4.6	4.5	5.5	31.9	23.5	17.6	2.6	40.5
11375	4.5	4.1	3.7	3.8	5.4	32.9	22.6	19.8	3.2	42.2
11372	5.9	5.4	4.7	4.9	5.9	34.6	23.1	13.5	2.0	38.5
11370	6.3	5.6	4.9	5.2	6.8	35.6	22.5	11.8	1.2	36.2
11368	8.1	7.2	6.7	6.8	7.9	36.8	17.8	7.7	1.0	32.1
11362	4.9	4.9	5.0	4.4	4.6	31.2	23.1	20.2	1.7	41.8
11222	5.3	4.9	4.8	4.8	5.8	35.3	24.5	13.5	1.0	39.1

FORT TILDEN GARDENERS

ZIP	POST OFFICE	POPULATION	PERCENT				MEDIAN AGE	PERCAP INCOME	SAMPLE FREQ.
			WHITE	BLACK	ASIAN	HISPANIC			
11694	FAR ROCKAWAY	18,586	89.9	6.4	2.0	5.3	41.3	23,301	28
11697	FAR ROCKAWAY	3,698	98.9	0.4	0.4	0.8	42.5	24,239	9
11693	FAR ROCKAWAY	10,495	64.8	29.8	1.5	9.7	33.9	14,555	5
11229	BROOKLYN	71,168	82.4	3.5	12.3	6.2	39.9	19,352	4
11692	FAR ROCKAWAY	15,753	17.1	74.3	1.1	19.7	28.3	11,279	2
11235	BROOKLYN	66,873	80.5	3.1	13.0	9.6	43.4	18,796	2
11220	BROOKLYN	74,738	48.8	5.7	22.6	49.7	31.7	13,091	2
11209	BROOKLYN	59,881	88.1	0.8	9.1	6.5	40.0	24,800	2
11691	FAR ROCKAWAY	52,940	32.2	55.3	2.3	24.8	31.4	12,676	1
11234	BROOKLYN	73,449	78.9	17.2	2.8	5.2	37.8	21,260	1
11228	BROOKLYN	38,821	91.1	2.1	5.1	5.5	38.5	19,375	1
11224	BROOKLYN	50,987	51.9	36.1	2.6	21.1	37.2	12,337	1
11207	BROOKLYN	84,683	9.5	68.7	1.4	38.8	27.4	9,693	1
11203	BROOKLYN	80,040	5.5	91.6	1.3	7.6	32.8	15,444	1
11104	LONG ISLAND CITY	26,011	62.2	2.3	25.5	29.1	38.8	18,584	1
10012	NEW YORK	27,094	71.7	4.1	21.5	9.1	36.6	32,882	1
REGIONAL AVERAGE		43,213	46.4	38.1	6.6	19.8	33.8	16,077	

FLOYD BENNETT FIELD GARDENERS

RESIDENCE NEIGHBORHOODS

SAMPLE FREQUENCY

1

2-5

6-9

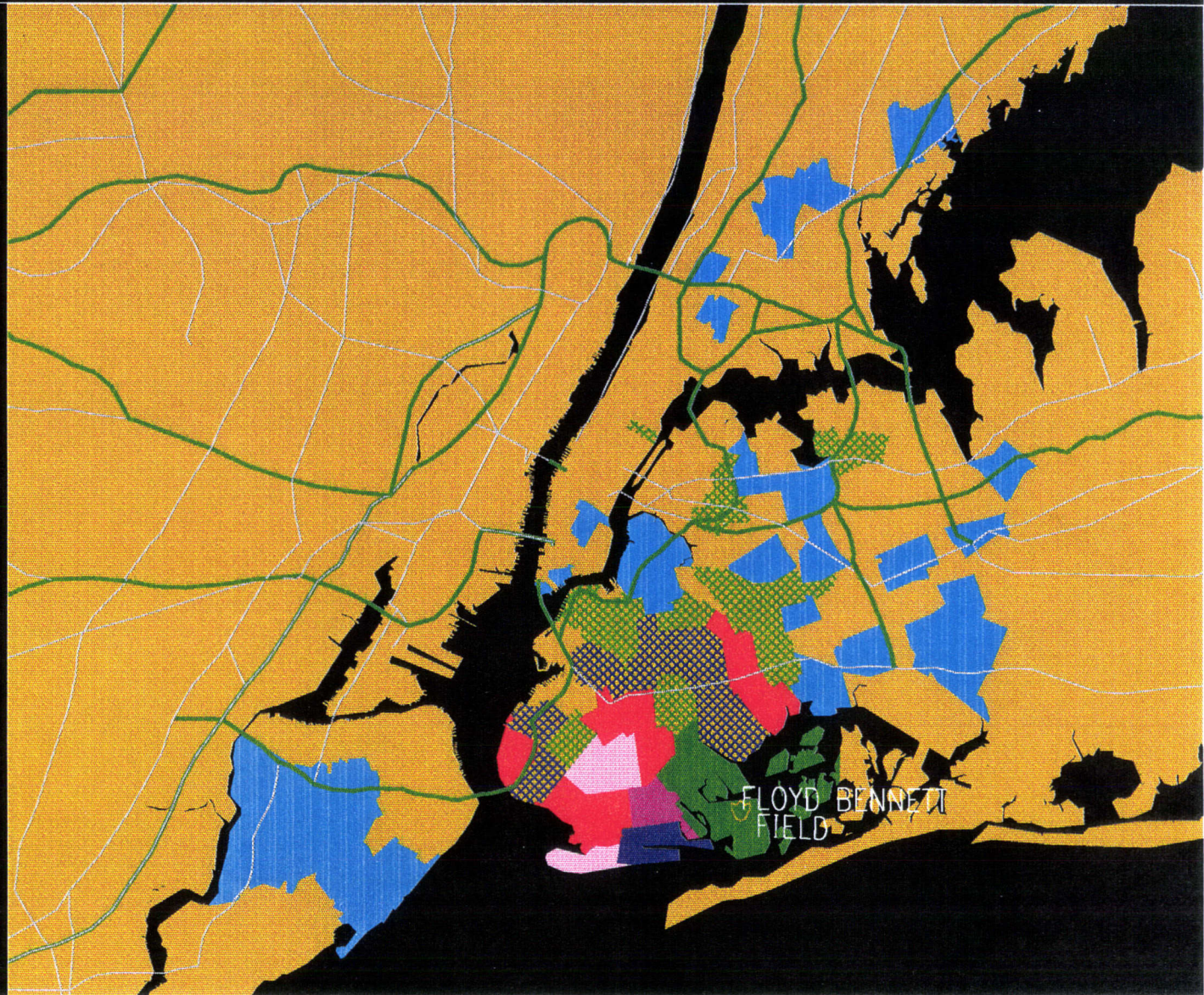
10-19

21-25

31

52

84



FLOYD BENNETT FIELD

SIXTEEN MILE RADIUS

DISPOSABLE INCOME

15398-23165

23165-28148

28148-31040

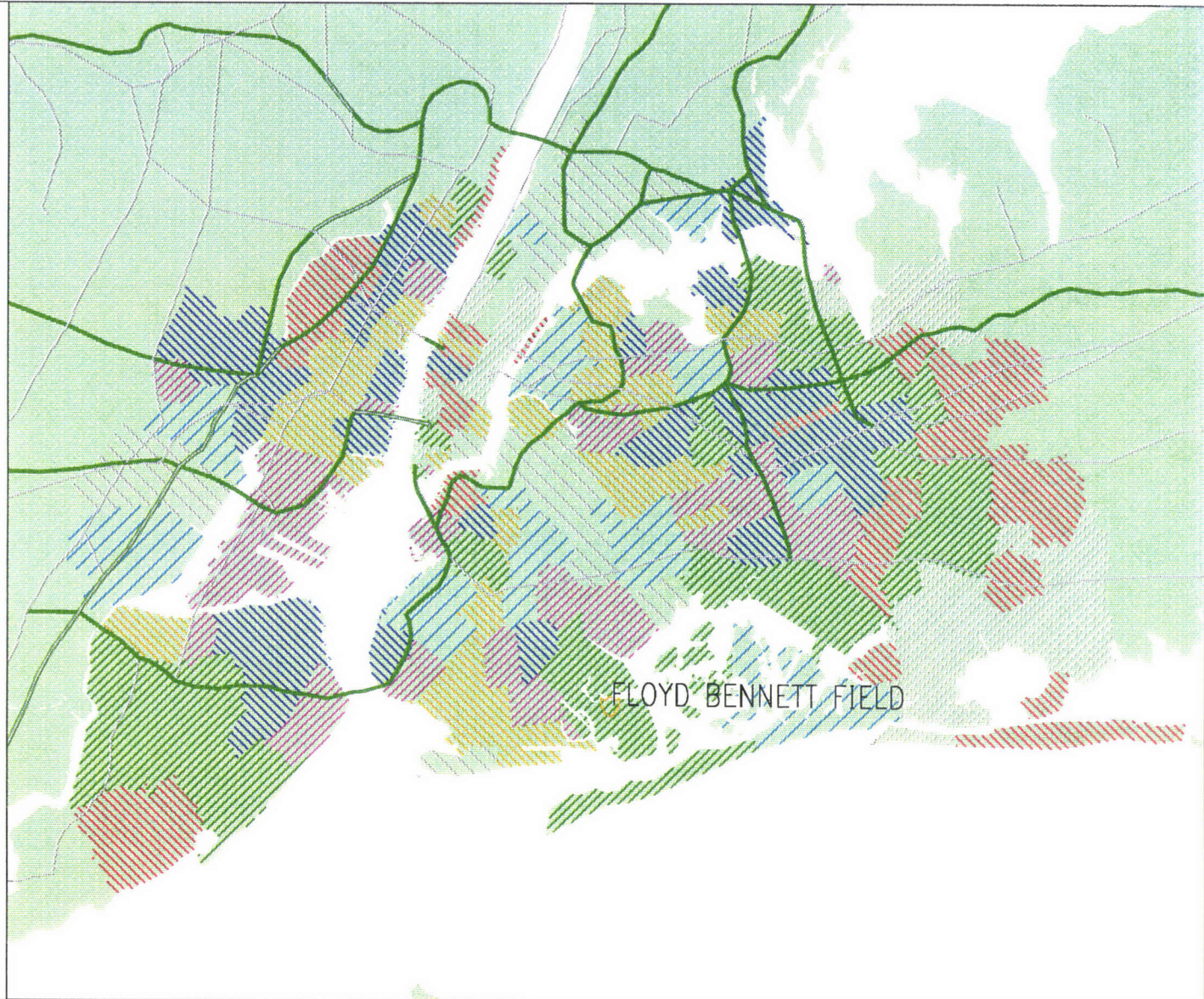
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34186-39098

39098-42124

42124-49194

49194-80668



FLOYD BENNETT FIELD

SIXTEEN MILE RADIUS

PROPORTION BLACK
RACE (percent)

0-1

1-2

2-6

6-10

10-22

22-37

37-61

61-96



FLOYD BENNETT FIELD

SIXTEEN MILE RADIUS

PROPORTION HISPANIC
(percent)

0-5

5-7

7-9

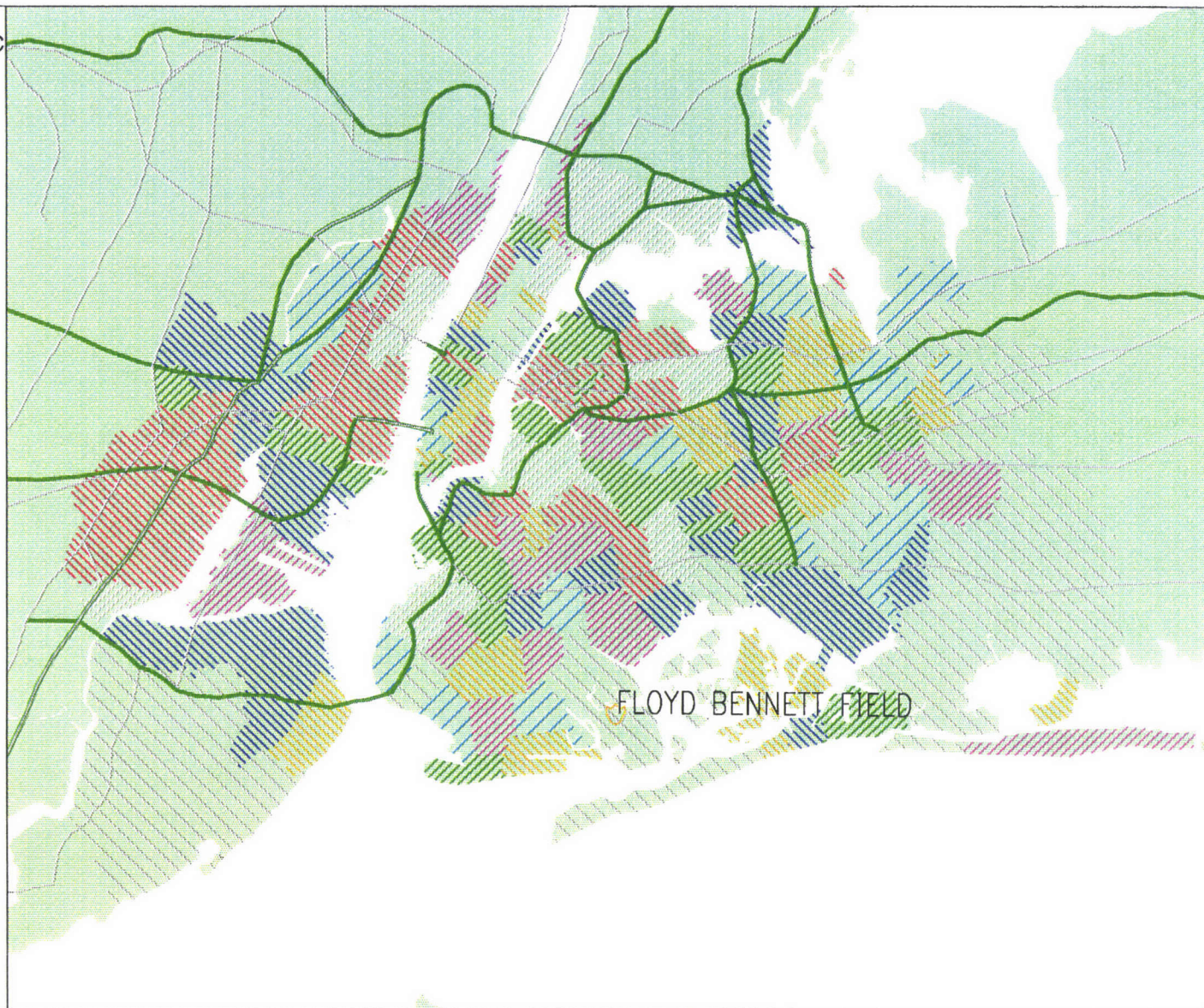
9-14

14-19

19-30

30-40

40-76



FLOYD BENNETT FIELD

SIXTEEN MILE RADIUS

PROPORTION ASIAN
RACE (percent)

0-1

1-2

2-3

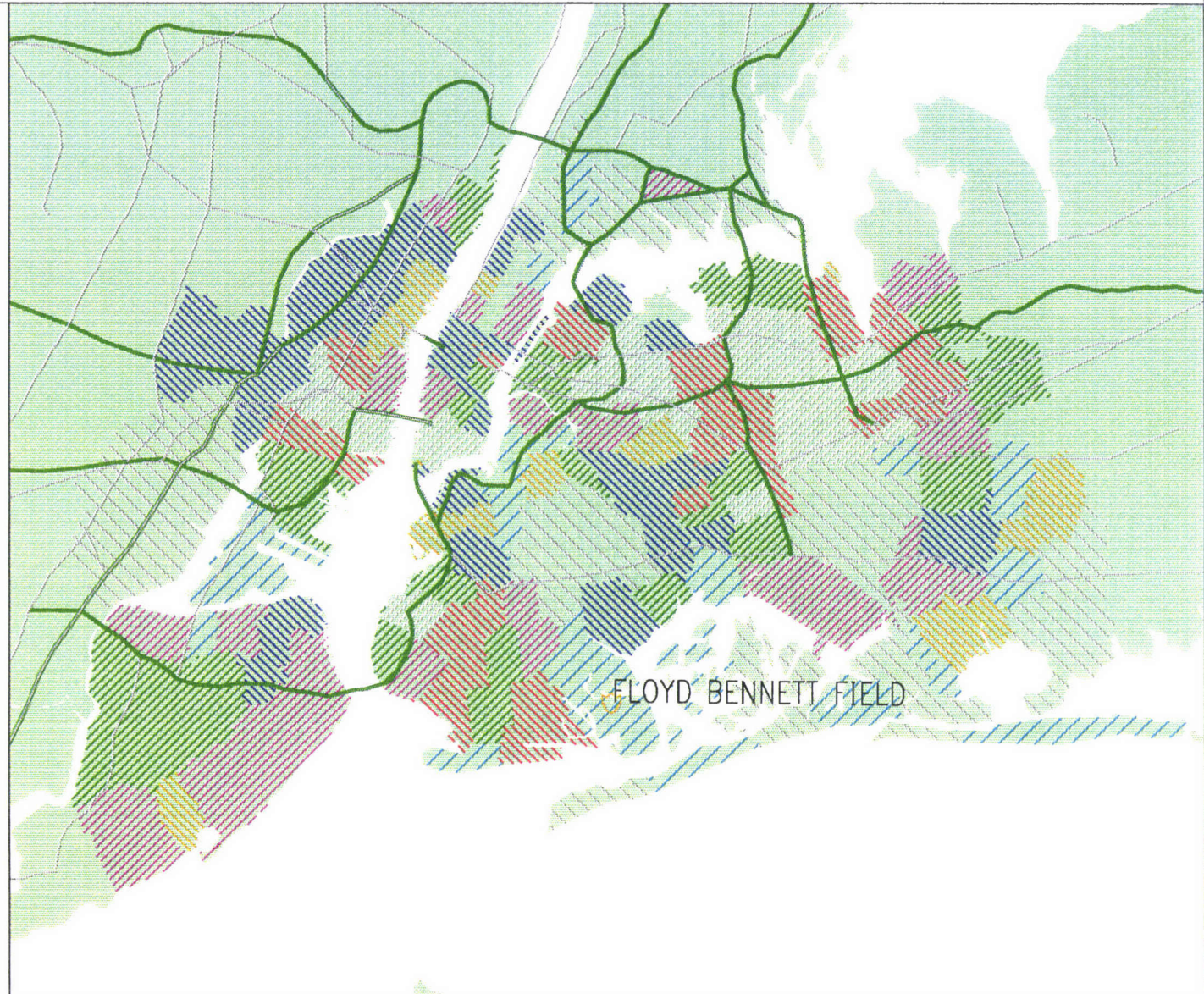
3-5

5-8

8-11

11-15

15-46



FORT TILDEN GARDENERS

RESIDENCE NEIGHBORHOODS

SAMPLE FREQUENCY

1

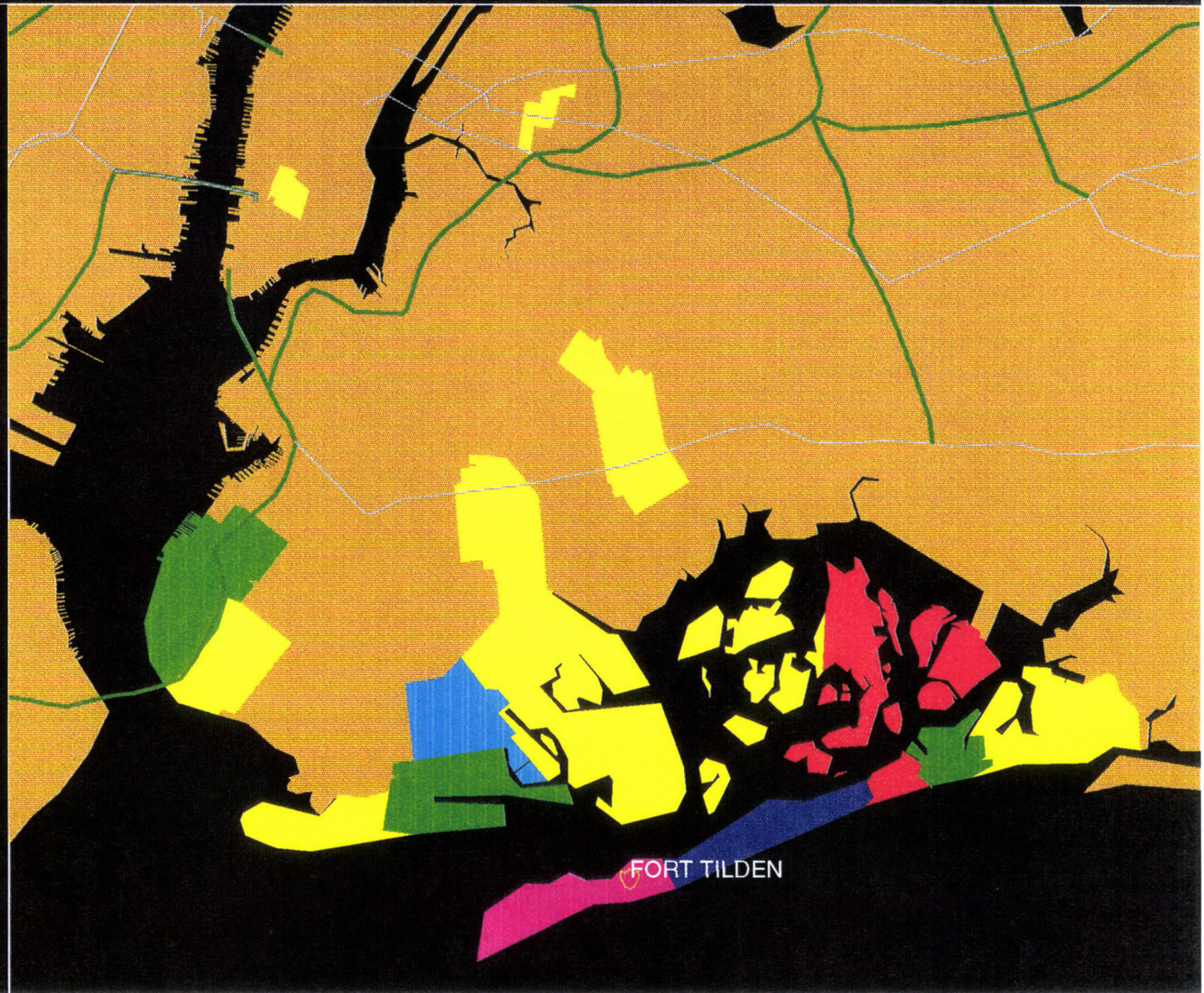
2

4

5

9

28



FORT TILDEN PARK

TEN MILE RADIUS

DISPOSABLE INCOME

18137-23617

23617-26759

26759-29985

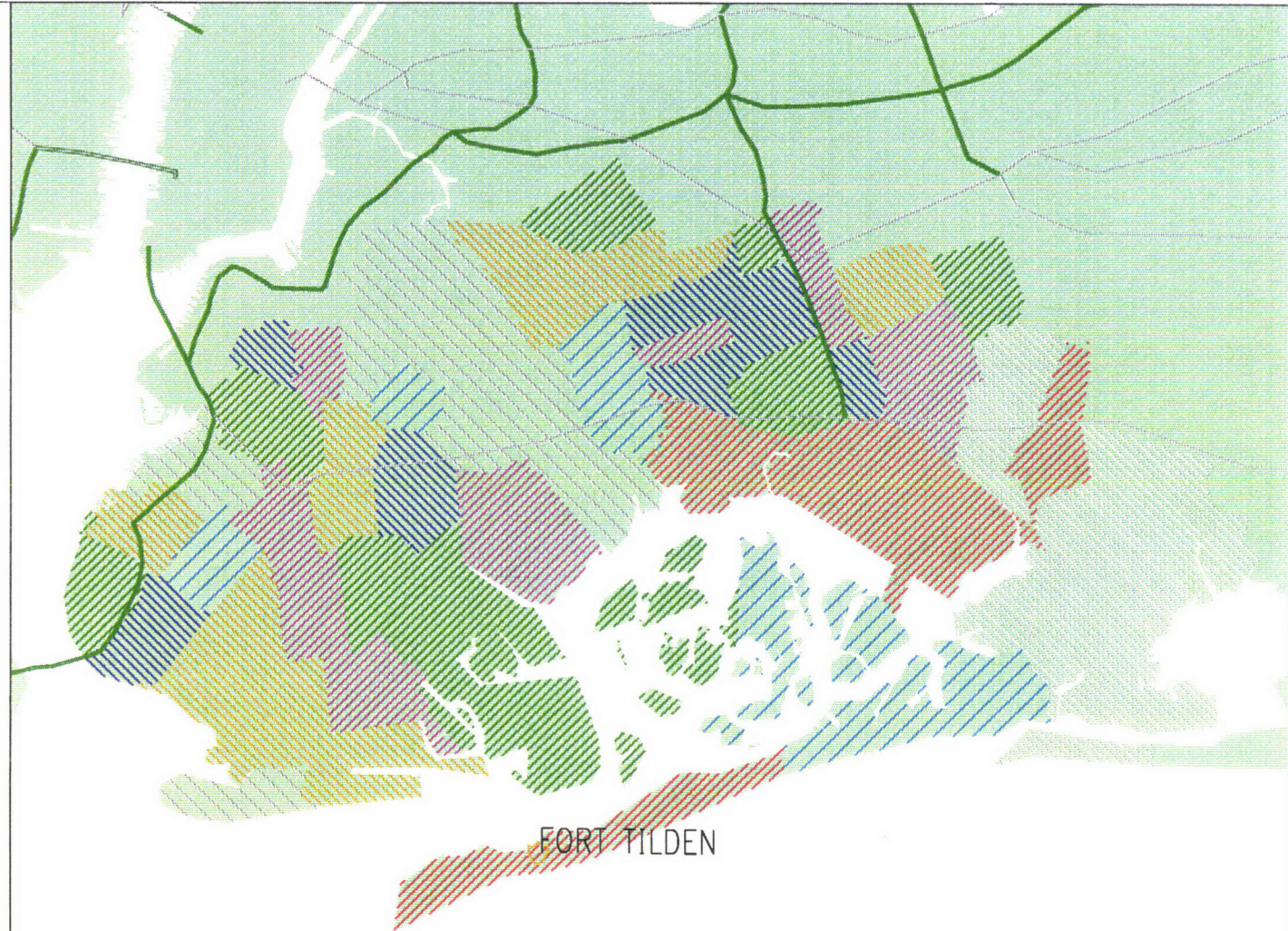
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33481-34940

34940-39885

39885-41594

41594-80668



FORT TILDEN PARK

TEN MILE RADIUS

PROPORTION BLACK
RACE (percent)

0-1

1-3

3-11

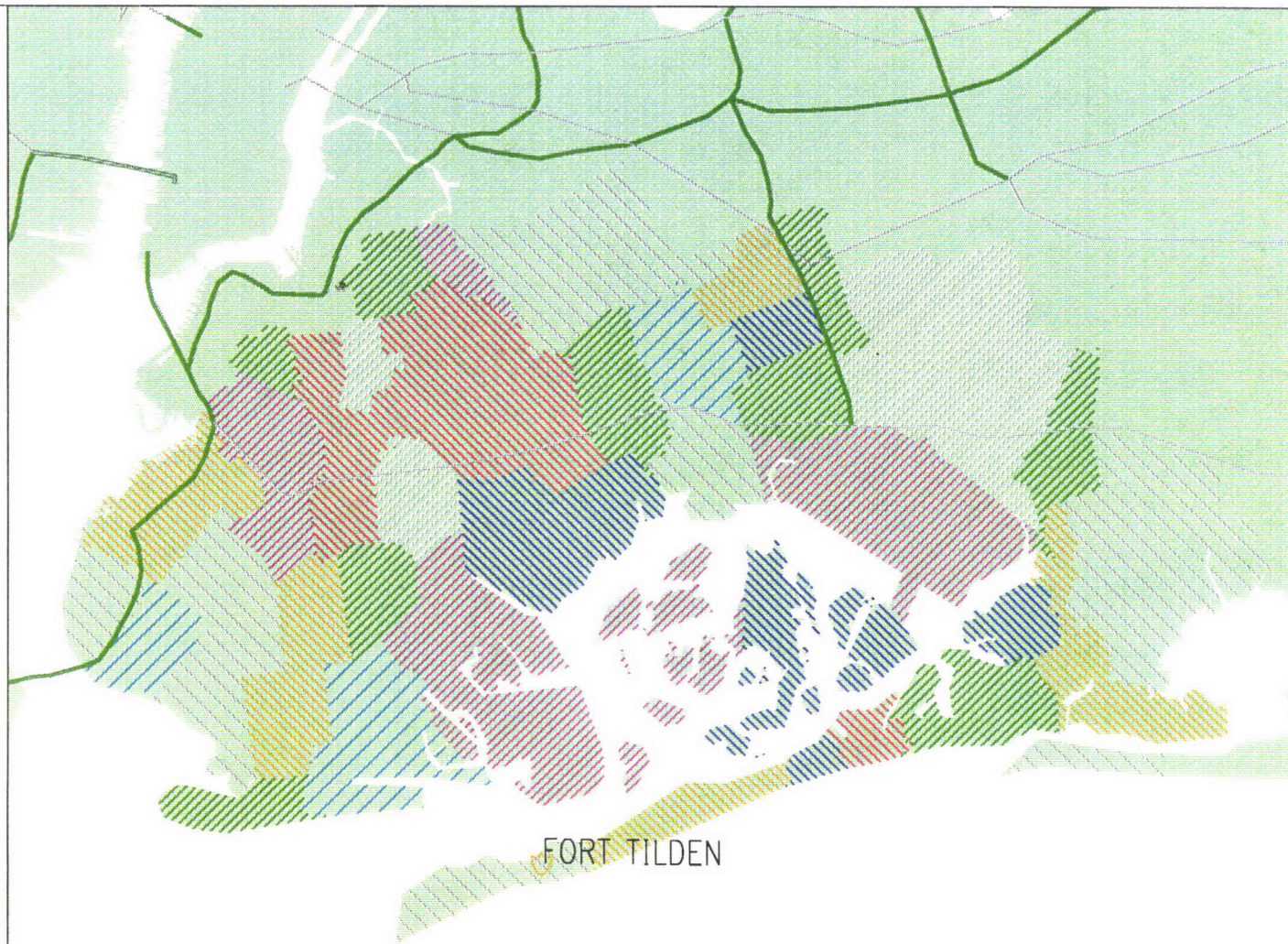
11-19

19-30

30-55

55-90

90-96



FORT TILDEN

FORT TILDEN PARK

TEN MILE RADIUS

PROPORTION HISPANIC
(percent)

0-5

5-7

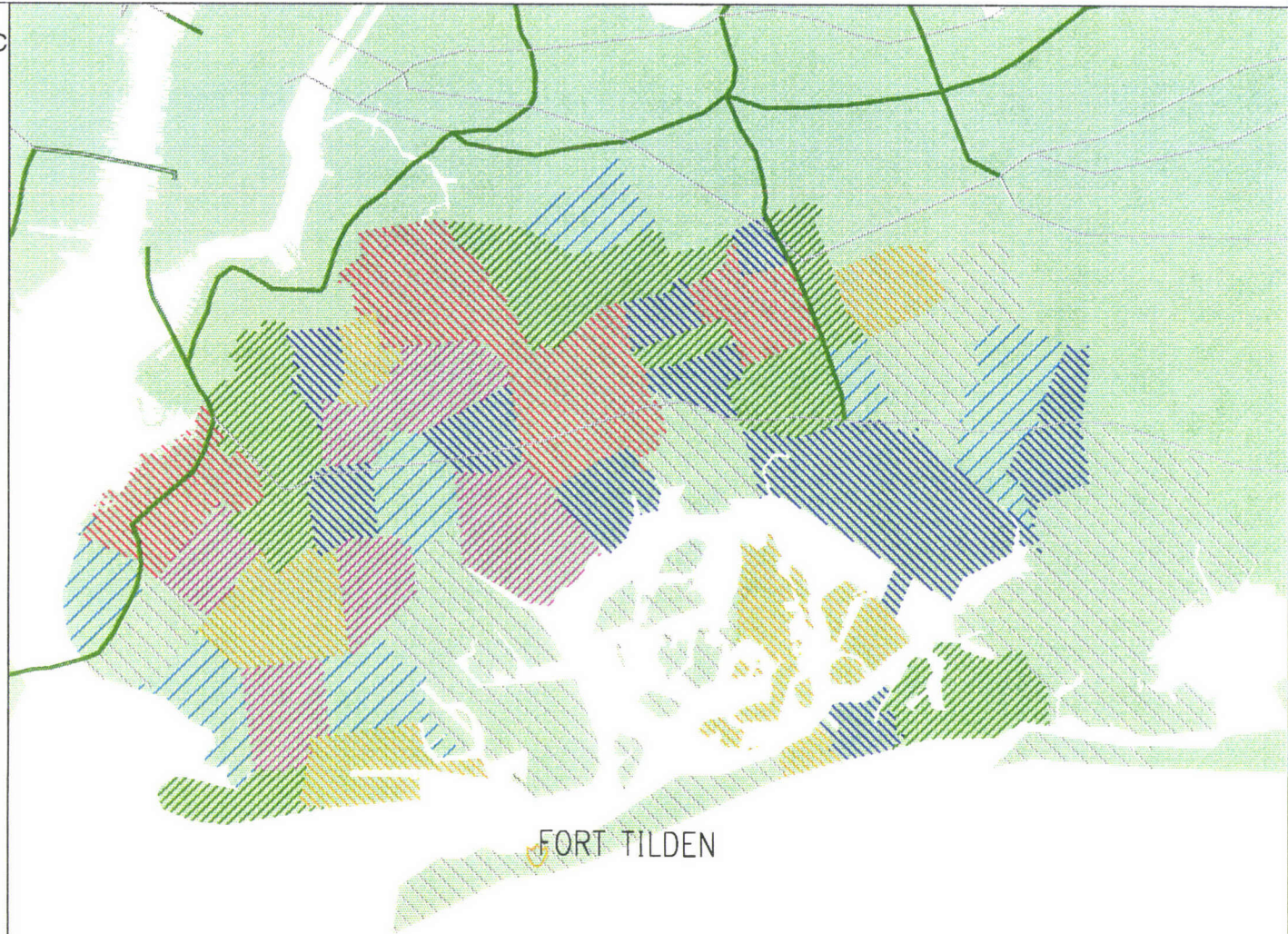
7-9

9-13

13-19

19-34

34-71



FORT TILDEN

FORT TILDEN PARK

TEN MILE RADIUS

PROPORTION ASIAN
RACE (percent)

0-1

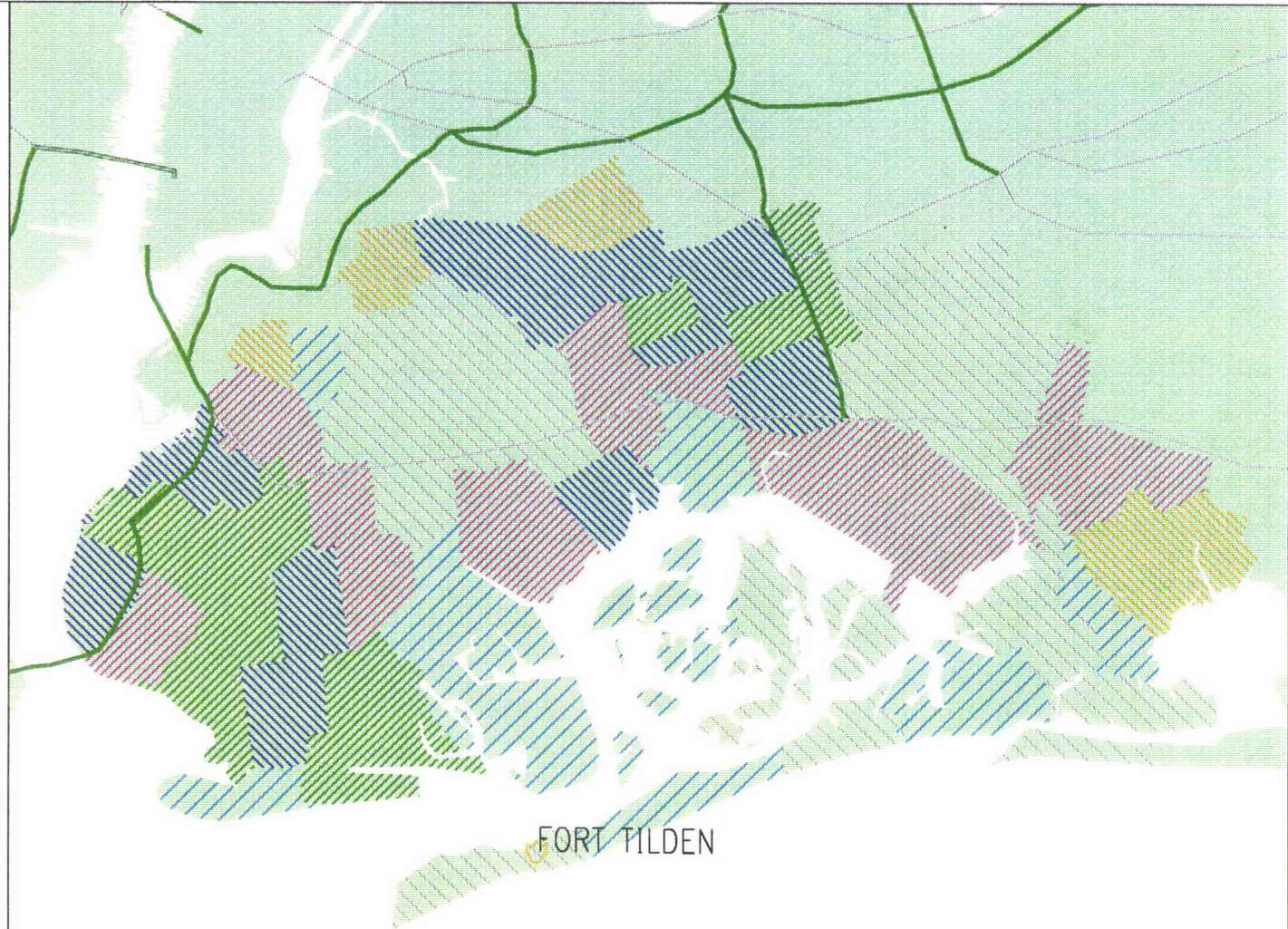
1-2

2-3

3-6

6-11

11-22



APPENDIX B

This appendix contains the complete report by Emilia Canahuati, Ila Deiss, and Erika Goodman, the team from New York University that conducted a plant census and gardener survey as part of the Gateway Gardens Project, under the supervision of Dr. Rebecca Joseph of the National Park Service's Applied Ethnography Program. The census and survey were developed by Dr. Joseph with assistance from Steven Parish.

Due to the limited time and budget of the project, the plant census and gardener survey were conducted only at the Floyd Bennett Field and Ft. Tilden sites in the Jamaica Bay/Breezy Point Unit of Gateway. The plant census and survey were not done at the third community garden site at Gateway, at Miller Field on Staten Island. However, the number of tomato plants at Miller Field in 1996 were counted: 1219 plants were found early in the growing season. Added to the 4606, plants counted in the census for Ft. Tilden and Floyd Bennett Field, this brings the total number of tomato plants grown at Gateway to 5825. The researcher's impression was that tomatoes were relatively more popular at Miller Field than the other sites: perhaps this is supported by the report of one Miller Field gardener that he preferred growing greens, but planted tomatoes because they were so important to other gardeners. The ethnic background of gardeners at Miller Field—which seems to have a core or concentration of Italian-American gardeners, many of whom reported that they canned tomatoes—may also favor the selection of tomatoes as a primary crop.

Observations later in the season indicated not all of the tomato plants put in the ground early in the season at Miller Field gardens survived, because of the severe drainage problem that developed in sections of site in 1996, which was also generally a poor growing year.

THE GATEWAY GARDENS
at the Jamaica Bay/Breezy Point Unit,
Gateway National Recreation Area

a report for the National Park Service

prepared by

Emilia Canahuati, M.Ed.
Ila Deiss, M.P.A
Erika Goodman, M.P.A

under the auspices of the
Program on Negotiation and Conflict Resolution *at the*
Robert F. Wagner Graduate School of Public Service
New York University

and the supervision of
Dr. Rebecca Joseph
Applied Ethnography Program Manager for the Northeast Division *of the*
National Park Service

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SECTION I
INTRODUCTION



The Gateway Gardens located at Floyd Bennett Field and Fort Tilden were created by the National Park Service 19 years ago to provide a space for community members to enjoy the outdoors and to learn the fundamentals of organic gardening. Currently, 585 plots are available at Floyd Bennett Field and 77 at Fort Tilden. Each plot measures 10 by 15 feet.

A unique asset to the Jamaica Bay/Breezy Point Unit (JB/BPU) of the Gateway National Recreation Area (NRA), the gardens attract individuals from a range of cultural and socioeconomic backgrounds. African-Americans, Koreans, Greeks, Whites and Hispanics are just some of the many groups that use the gardens on a regular basis. At a time when inclusion is often a stated goal of federally-funded programs, the gardens have been particularly successful at fostering cross-cultural and intergenerational relationships. In the words of one gardener, "this is the place where you forget how to hate."

Moreover, the gardens are one area of the park in which the three primary goals of the National Park Services' mission are simultaneously met — recreation, education, and preservation. At JB/BPU, gardeners develop a greater understanding of environmental issues, produce crops used for daily sustenance and are afforded the opportunity to strengthen their families communities.

The following report presents the findings of a team from the Program on Mediation and Conflict Resolution at New York University which spent two months, July 1996-August 1996, documenting the uses of the community gardens and the values connected with them. Using ethnographic research methods, the researchers conducted fieldwork on and off site, as needed. Data collection and analysis focused on the following questions in order to ultimately improve the day to day operations of the gardens:

1. What formal and informal rules and relationships affect gardening practices at JB/BPU?
2. What are gardeners growing? How much? For what purpose?
3. What needs are identified by gardeners as critical to protection of their social and economic investments in their plots?

The research was carried out under the supervision of Dr. Becky Joseph, Applied Ethnography Program Manager for the Northeast Division of the National Park Service.

The second section of this paper provides an overview of the gardens. The third section highlights the many benefits which the gardens offer the park. The fourth section provides an update on the newly developed garden association and recommendations for improving its operations. The final section contains our research methods and a description of the data.

This report part of a larger study to investigate how the gardens are a resource value to the National Park Service. In addition to our work, Dr. Steven Parish, Consultant, conducted in depth interviews with gardeners. He looked at ethnographic issues and ecological trends. Dr. Parish will submit a final report which will synthesize both parts of the study.

SECTION II

OVERVIEW OF THE GARDENS



Visitor Statistics

The gardens open in early June and officially close on October 31. The two gardens combined cover less than 1/2 of a square mile of land. They attract over 600 individual visitors each summer, including plot holders and their guests. This year, plot holders and their helpers visited the gardens 3 to 4 times a week, making the gardens one of the best used areas per square foot in the park. Specifically, in the 1996 season:

- More than 19,000 visits were made to the gardens¹;
- 584 plots were assigned at JB/BPU;
- 161 plot holders were helped in their gardens on a regular basis by a friend, relative, or co-worker.²

In addition, plots were reserved at both Fort Tilden and Floyd Bennett for special uses such as a program which serves those with cerebral palsy and projects initiated by public schools classes

Statistics on Subsistence Gardening

Visitor statistics alone can not convey the full story of how many lives are positively impacted by the gardens. Unlike other park programs, plot holders are likely to use the gardens for the cultivation of food which is then shared with friends, neighbors and family. In fact, the vast majority of plot holders indicated that a portion of their produce needs were met by the gardens. For example:

- 54% of gardeners reported that from July-September they received most or all of their produce from the gardens;
- 99% of gardeners reported that at least some of their produce needs were fulfilled by the gardens from July-September;
- On average, gardeners share produce with seven other people;³
- 36,848 pounds of tomatoes were grown at Gateway during the 1996 season.⁴

¹ Figure is based on the 73% of gardeners who were surveyed. Actual figure may be 27% larger.

² Figure is based on the 73% of gardeners who were surveyed. Actual figure may be 27% larger.

³ Figure is based on 20 interviews. This number is not statistically significant.

⁴ Figure is based on 86% of garden plots surveyed. Actual figure may be 14% larger.

- Over 140 plots contained bean plants this summer; over 195 plots contain pepper plants.

Other Relevant Facts

In prior years, all 662 of the available plots were assigned and a waiting list was required. This year, however, many plots were not assigned. A number of gardeners believed that this change was a direct result of the new \$25 fee for leasing a plot.

Gardeners' reactions to the \$25 fee ranged dramatically. Some believed that it weeded out those who were not serious about tending their plots. Other gardeners complained that they were being forced to pay more for fewer services. It is important to note that the economic situations of gardeners vary significantly. Thus, the fee may pose a greater burden to those with lower incomes. We were concerned that an imposition of a fee might reduce socioeconomic diversity. This diversity helps maintain the stability of the gardens, preventing the gardens from becoming the exclusive domain of just one or two groups. A decline in the participation of poor gardeners would have serious management implications.⁵

Despite the fee, 6% of the assigned plots were abandoned. Although we do not have data on why the plots were abandoned or when plot holders ceased to garden,⁶ we do know that extreme weather conditions made this a particularly difficult gardening season. Even the most well-intentioned gardeners might have become disillusioned. Specific statistics are provided below:

- In 1996, 13% of the plots at Floyd Bennett were not assigned; 1% of the plots at Fort Tilden were not assigned;
- 6% of assigned plots were abandoned at Floyd Bennett; 12% of the plots were abandoned at Fort Tilden⁷;
- 45% of the plot holders whom we interviewed had more than one plot.
- On average, multiple plot holders had 2 plots. The largest number of plots held by an individual was 10.

It is interesting to consider that this year there might have been more individuals leasing multiple plots than in the past. The large number of unassigned plots at Floyd Bennett Field made it easier in 1996 for gardeners to lease a second plot than in prior years.

⁵ Do to limitation in the scope of this project, we do not have data on the socioeconomic break down of the gardeners for either 1996 or previous years. Thus, any discussion of the socioeconomic implications of a fee is subjective.

⁶ We hope that future researchers may look at these issues. Do to time limitations we were unable to collect information on theft.

⁷ For purposes of this study "abandoned" means that by mid-season a plot was no longer being harvested, weeded, or tended to.

SECTION III

THE GARDENS AS A RESOURCE TO THE NATIONAL PARK SERVICE



The gardens are a recreational resource used extensively and intensively by diverse groups of urban residents. The primary purpose for which the Gateway National Recreational Area was created is “to preserve and protect for the use and enjoyment of present and future generations an area possessing outstanding natural and recreational features.” The gardens help the Gateway National Recreational Area achieve its goals.

- More than 19,000 visits are made to the gardens each season.
- Gardeners invested close to \$20,000 to maintain and improve their plots in 1996.
- The gardens bring together culturally, economically and generationally diverse groups of individuals who would not normally interact.
- The gardens increase visitors’ awareness of the natural environment and appreciation of ecological systems.

RECREATION

Recreation and relaxation are important uses of the gardens. The gardens at JB/BPU attract hundreds of visitors each season, including plot holders and their friends, family and co-workers.

For many plot holders, particularly those who are retired, the gardens provide an opportunity to socialize, to exercise, and to enjoy the out-of-doors. During the warm months the gardens offer many elderly visitors a meaningful structure to the day. As one senior plot holder said, “I come to the gardens twice a day, once in the morning and once in the afternoon. My plants need me.” This sense of purpose during the growing season can not be overstated. The gardens provide an opportunity for retired people to remain active and productive members of a community.

Socializing is a frequent occurrence at the gardens. Many long-term friendships developed as a result. In one instance, for example, two men working side by side at adjacent plots become such close friends that they introduced their wives. Now each Christmas the foursome help wrap gifts at JB/BPU. Situations like this one are not unusual. Through the gardens, individuals learn about other programs offered at JB/BPU as well as those offered in the community. Thus, the gardens serve as an entryway to other park programs.

For gardeners who are still in the workforce, the gardens offer refuge from the hectic pace of the outside world. As one gardener said, “This is my therapy. After ten hours of work, it is the only thing that keeps me sane.” Many gardeners noted that they have gained a sense of spirituality as they learn to commune with the earth.

Although often considered a solitary activity, the gardens provide many individuals with the opportunity to build and strengthen family ties.

- Out of the 220 individuals with whom we conducted interviews 64 indicated that another member of their family had a plot at JB/BPU.

- More than half of the gardeners with whom we spoke worked their plots with another family member. In this situation, the gardens provide a time away from the hassles of the day, from the television, and from the errands, for families to listen to each other.

Finally, plot holders perceive that many health benefits are associated with the gardens. Particularly for those with physical limitations, the gardens allow plot holders to exercise at their own pace. Other gardeners speak of the benefits of being outside and breathing “clean” air.

PRESERVATION

In 1996, plot holders invested over of \$20,000 on the gardens.⁸
--

Plot holders play an important role in insuring that the gardens are both preserved and improved for future use. To a gardener, the quality of soil matters. It is not surprising then that, on average, each gardener invested \$92 this season on their plots. The majority of this outlay was for fertilizers. Moreover, plot holders told us that they would have invested even more money to improve the soil if they had been guaranteed the same plot each year. In informal discussions, gardeners indicated that they felt a sense of stewardship to the land. When one leases a garden plot a mutually dependent relationship with the earth begins.

In addition to the dollars spent by visitors on the gardens, there are many other indications that gardeners are concerned with soil preservation. Specifically, we found that several gardeners had contacted outside agencies to secure donations of manure and compost which were to be used by all plot holders. At Floyd Bennett Field, gardeners voluntarily created and maintain a compost pile for use by the community.

Moreover, we found that marigolds were being grown in 82 plots. Many of these plot holders indicated to us that they used the marigolds as a pesticide. The large presence of marigolds is particularly impressive when one realizes that few gardeners grew any other type of flower. Thus, gardeners were making a conscientious effort to find safe and organic methods for controlling the insect population.

Finally, in developing a set of guidelines for the gardens, the largest debates were not over whether to allow pets in the gardens or whether volunteering should be required, but rather over the use of wood chips and black plastic. Clearly, gardeners wanted to insure that the integrity of the soil was preserved.

It is expected that as the Garden Associations continues to develop that even more emphasis will be placed on organic gardening and composting. This is because a structure will be in place to insure the efficient transmittal of information.

⁸ The number \$20,000 is based on data collected from only 73% of the gardeners. Actually dollar amounts are likely to be 27% larger.

EDUCATION

The gardens at JB/BPU provide the park with an opportunity to educate visitors on ecological issues.

The gardens were a buzz this season with news that the bee population was dwindling. Everyone was concerned with whether plants would now be properly pollinated. People who had never thought about the delicate balance of the environment were suddenly aware of how the demise of one small insect could change the eco-system. In effect, the gardens provide a laboratory for individuals to learn first hand about the natural world.

We found that there were four primary ways in which gardeners learned about ecological issues. First gardeners attended workshops offered by the park in prior years.⁹ Second, plot holders learned by experimentation. Third, gardeners taught each other about plants and soil quality. And fourth, plot holders read books and other materials on gardening.

Workshops. Impressively, we found that gardeners continued to use strategies and techniques which they learned at JB/BPU workshops throughout their gardening careers. When one considers that the average Gateway gardener has worked a plot at the park for 5 years, it is clear that these workshops have directly benefited JB/BPU as well as the gardeners.

Experimentation. While the average JB/BPU gardener has 16 years of experience, 83 of the 220 gardeners with whom we spoke had been gardening for two years or less. New gardeners, many of whom are urban dwellers and have little experience with the natural world, tell us that they were amazed to find that zucchini could grow so quickly or that potatoes grew in the ground. The gardens dramatically increased their understanding of the plant world. Moreover, both new and experienced gardeners experimented with fertilizers and different seed strains. They were teaching themselves what worked. Many looked to books and other materials for information on how to improve their gardens.

Word of Mouth. If one adds up all the years of gardening experience that individuals at JB/BPU have, the sum would be over 3,400 years. Thus, it is not surprising that gardeners teach each other about how to water plants evenly or the benefits of recycling nutrients. It is not unusual for plot holders to share information, gardening pointers and advice.

It is interesting to note that community gardens have often been the first introduction that urban people have to learn first hand about the natural world. As Superintendent of the Gateway National Park, Jose Rosario pointed out, he might not be in his current position today had he not become involved in a community garden on an abandoned lot in Brownsville, Brooklyn.

⁹ This year JB/BPU did not offer educational workshops for gardeners.

DIVERSITY

On any given day one may walk through the gardens at Floyd Bennett Field and hear Chinese, Korean, Spanish, Italian, or Greek being spoken. These languages are among many that we documented as being in use at the Park. Equally impressive, individuals from African American, Hispanic, Orthodox Jewish, Greek, and Native American communities all were found to participate in the JB/BPU gardening program. At Fort Tilden two plots have been designated for a group of individuals with Cerebral Palsy. For those with physical limitations special arrangements are made for easy access to the garden.

For discussion purposes, we noted three ways in which diversity was realized: 1) Preservation Of Culture And Heritage; 2) Interactions Between Different Groups, and; 3) Expressions of Identity.

1) Preservation Of Culture And Heritage

The foods we eat, how meals are prepared, and gardening styles used are all culturally based. Quite impressively we found that many JB/BPU gardeners used their plots as a means of preserving family and cultural traditions. Please see examples below.

Greek Spinach. Perhaps the most interesting plant which was documented as being grown at Gateway is called Vleta. It is a traditional Greek spinach. In informal interviews, we learned that Greek gardeners originally wrote to friends in Greece for the seeds of these plants as they are not available in the United States. Now, however, gardeners harvest the seeds each year, saving them for the next planting season. In addition, gardeners share the Vleta seeds with others who are far from their native Greece and wish to grow and prepare a traditional food.

Native American Corn. While the corn that was being grown on a plot held by a Native-American woman was not an unusual strain, it was the way in which it was planted that caught the attention of the researchers. Unlike other gardeners who had planted their corn in even rows or randomly put corn plants where ever they might fit, this plot holder made certain that her corn grew in a circle. It was explained to us that this was a native-American tradition and that JB/BPU provided the woman with the opportunity to share this part of her heritage with her children.

Southern Crops. Okra, turnip greens, and collards were often a major crop of transplanted Southerners, many of whom were African-American. More often than not these plot holders told us that they had first learned to garden on the farm of a relative in Georgia, Tennessee, and the Carolinas. "As one Southern plot holder said, "I might have long forgotten the lessons about gardening my father taught me until I came here. You don't even realize that you value these things until you are old."

A Little Bit of Italy. From tomatoes to oregano and peppers, many Italian gardeners used their plots at JB/BPU as a way to preserve traditions from the old world. Growing traditional plants and spices, however, is often only the first step in preparing Italian foods. Many gardeners reported that they canned tomatoes or made sauces out of them which were then shared with family and friends.

2) Interactions Between Different Groups

Through out the gardens examples of age and cultural diversity exist. People naturally interact with each other, helping one another with gardening activities, developing friendships, and learning from each other. This diversity flourishes without park intervention. It is the very fact that people choose to work together rather than are forced to which is so wonderful. The following are examples of gardener interaction.

- On August 14, 1996, the Floyd Bennett Garden Association held democratic elections for their executive committee, two men and one woman were elected. Without any quotas or special effort to encourage diversity, a multicultural committee was elected. The executive committee is comprised of an indigenous Hawaiian, a retired European American, and a West Indian.
- Individuals from different cultural backgrounds exchange ideas about gardening, trade recipes, and share plants and seeds. We identified castor oil plants, for example, in four plots at Floyd Bennett Field. These plants all came from the same source.
- Those with neighboring plots often help each other with watering and basic care of the gardens. Proximity of plots rather than demographic characteristics were the primary determinant of how and why relationships are formed. At Fort Tilden, younger gardeners often assist their older counterparts, who may have more physical limitations, with gardening activities.

3) Expressions of Identity

A rare feature of the JB/BPU gardens is that they present a place where many people have the opportunity to freely express themselves. This element is particularly important when diversity is concerned. After all, an environment in which people of many different backgrounds are forced to conform to a narrow standard is not truly diverse. It fails to celebrate difference.

We found that people were proud of their gardens. Of the 220 people whom we approached to complete a survey only one declined to speak with us. Rather, plot holders welcomed the opportunity to do a little bragging about their hard work or green thumbs. Many decorated their plots with carefully crafted flower gardens, fish ponds, or

handmade scare crows. Anthropologist Steve Parish referred to the plots as being folk art.

For others the gardens were a place to show their cultural pride. We documented a number of different flags adorning the plots, including Scottish, American, Puerto Rican and POW flags.

In addition to the wide variety of “art” and “cultural” objects which are used in the gardens. Plot holders varied in the gardening styles which they chose to employ. Some gardeners used raised beds, others square foot gardening. Still others preferred to randomly plant seeds or to lay down black plastic to slow the growth of weeds.

Finally, a great variety plants were found to be growing at Floyd Bennett and Fort Tilden. From horse radish to catnip to zinnias and lemonbalm, the gardens were a potpourri of color, scents and flavors.

SECTION IV

FUTURE MANAGEMENT OF THE GARDENS



Development of a Gateway Garden Association

In April of 1996, the Park Service held several meetings to discuss management of the gardens. Faced with a shrinking budget and a growing number of responsibilities, Park Service personnel wondered how the gardens might best be maintained. A decision was soon made to explore the possibility of transferring some of the responsibilities for the day to day maintenance to the gardeners.

By June of 1996, both Floyd Bennett Field and Fort Tilden had appointed ad hoc committees, with the assistance of Park staff, to help establish a series of rules and regulations for the gardens. Due to the different needs of the two sites, it was decided that the Gateway Garden Association would have two chapters, one at Floyd Bennett and the other at Fort Tilden. The Association would only meet as a whole when parkwide policies were to be discussed.

The ad hoc committees worked quickly. After only two meetings, the committees posted in late July, a series of proposed rules and regulations. The larger gardening community had two weeks in which to make comments. Both chapters held open meetings during this time to hear the comments and suggestions of their peers. After the comment period, Superintendent Jose Rosario approved the final draft of the policies.

With the first task completed, the ad hoc committees were ready to expand, to undertake new projects. At Fort Tilden, a number of permanent committees were developed including a policy committee and a composting committee. The Floyd Bennett Chapter recruited thirty members and elected an executive committee. While the governing styles of the two chapters differed, both chapters felt that it was important to try to involve all the gardeners early on. The newly developed chapters wanted to make certain that they were acting in the best interests all gardeners, and thus invited participation and comments.

Both the Fort Tilden and Floyd Bennett chapters have many talented members with diverse skills from which to draw. However, if the Association is to be successful, it will need support from the National Park Service. Time and resources dedicated to the development of a strong garden association will pay-off over the long-term. Extra energy by Park Service staff devoted to the gardens over the next year will likely result in a more independent association in the years to come.

RECOMMENDATIONS

The following recommendations for management of the Gateway Gardens may be divided into two categories: communication between park staff and the association and assistance by park staff to the association.

1) Communication Between Park Staff and the Association

- The NPS should enter into a Memorandum of Agreement with the Gateway gardeners Association.
- A memo from the Superintendent should be circulated to Ranger staff so they are fully aware of the garden transformations.
- Develop as soon as possible a contact sheet so Rangers and gardeners know who is responsible for what and where questions should be directed. This will help clarify responsibilities and encourage a sense of accountability.
- Whenever possible rules and regulations should be open for discussion by gardeners prior to being deemed binding.
- Develop benchmarks whereby the NPS and the Garden Association can evaluate the management of the gardens.
- Set up a forum, a quarterly meeting where garden leaders can meet with the NPS management to review activities. Dates for these meetings should be decided as soon as possible.
- The elected garden leaders should be included or informed about meetings concerning the gardens. They can be co-facilitated between Ranger and garden leader.
- A park service staff member should serve as a liaison and resource person for the Garden Association.

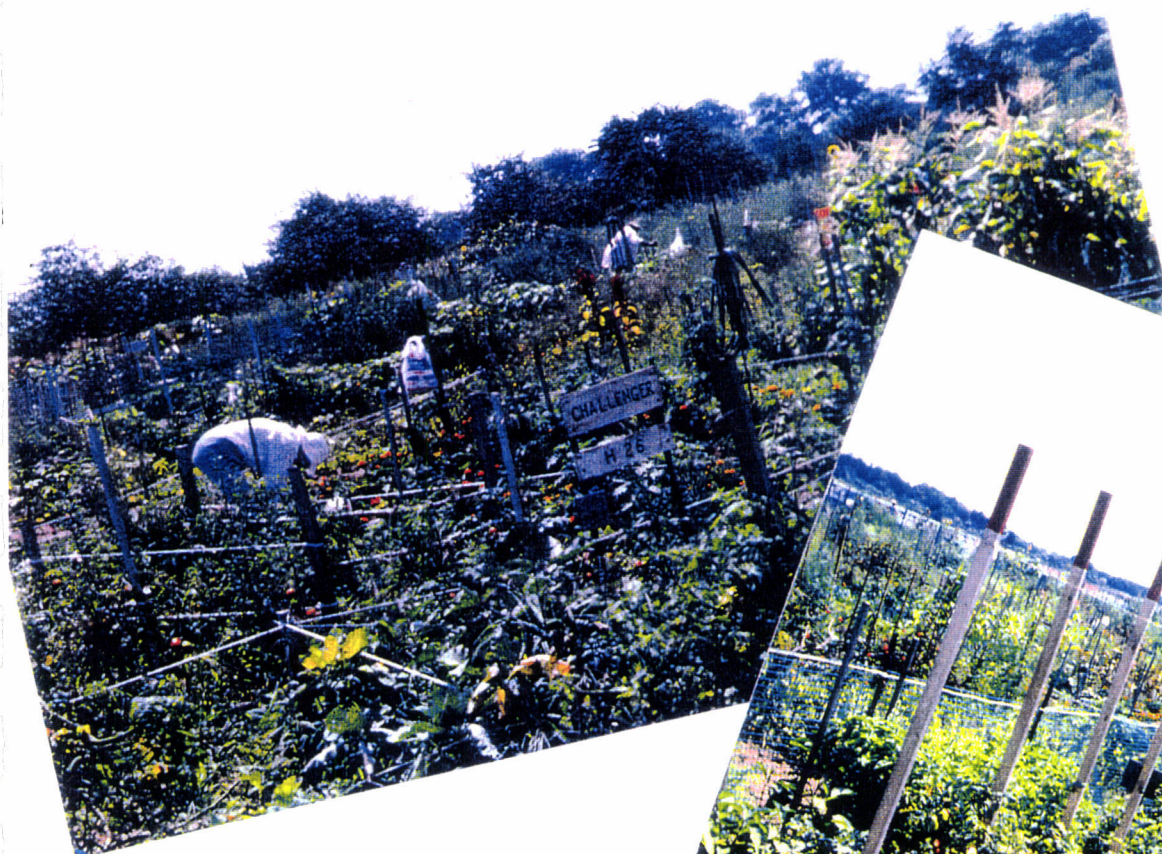
2) Assistance to the Association

- Sit down with garden leaders and review all administrative and maintenance activities that go into running the gardens throughout the year. Develop a schedule to begin transferring those duties and who will be responsible for what.
- Provide assistance, as needed, to gardeners in prioritizing tasks. Please note, one of the first tasks which will need to be undertaken is the creation of a system for designating plots.
- In the first few months of its development, it might be helpful to identify outside resource people to assist the garden association in defining roles and responsibilities.

- Make certain that the members of the garden association have devised strategies for inviting input and suggestions from the larger garden community and for developing new leaders among the gardeners.
- Encourage gardeners to participate in workshops offered by greening organizations throughout the city. If possible arrange for workshops to occur at JB/BPU.
- Set up a system for handling conflicts and disputes as they arise in the association. It is likely that as changes are made within the gardens that conflicts between gardens will arise, as well as between members of the association.
- Gardeners should feel that can have access to the NPS facilities throughout the year for relevant meetings.
- The NPS and the Gateway Gardeners Association should agree on a method for enforcing rules and regulations.
- Encourage gardeners to host harvest fairs or other activities to that can showcase the garden.
- Minutes from the garden meetings should be synthesized and posted on the bulletin board for those who were unable to attend.
- Whenever there are meetings with the gardeners, no matter how informal or small, have an agenda and a set of ground rules.

SECTION V

METHODS AND DATA



Purpose of Study: The purpose of this study was to document the uses of the community gardens and the values and benefits connected to them and to develop a plan to re-engineer management of the gardening program to improve the day-to-day operations of the community gardens.

Methods: The study was divided into three phases: development of a survey; data collection; and observations and informal conversations.

Development of a Survey

Drs. Becky Joseph and Steve Parish designed a two part survey (please see attachment A) to guide the data collection process. The first ten questions on the survey reported on the backgrounds of the gardeners, their relationships with other JB/BPU gardeners, and how the crops were used. (Please see attachment B for a fuller explanation as to why each question was asked.)

The second part of the survey was designed to document what was being grown on each plot. Types of vegetable were recorded as well as the number of plants. In the case of herbs and flowers, we did not record the number of plants. Rather we noted only if flowers and herbs were present and what types. It is important to note that the vegetable count was only for a particular point in time. If gardeners harvested more than once during the season, it is unlikely that we would have included the second harvest in our count. Thus, the figures presented in the study are likely to be low estimates of how much was actually growing this year.

In addition, every attempt was made to contact those individuals who had appeared to have abandoned their plots. It was our intention to discover when and why plots had been abandoned. However, after making over 30 calls to individuals whose plots were severely overgrown, we could not identify a single gardener who was willing to admit to abandoning their plot. As a result, the study does not answer the questions of why or when gardeners ceased to tend their plots.

Finally, an additional question was added to the survey in late August. At this point, we asked plot holders with how many people they share crops. This question was added as it became evident that many more people than just the gardeners were consuming food from the plots.

Data Collection

During this study 220 gardeners were surveyed. Typically a survey took from 10 to 15 minutes to complete. The interviewer read the survey questions to the gardener and recorded the answers to the questions and any additional information.

According to our calculations 541 of the 584 plots which had been assigned were active. As 99 individuals had 2 or more plots, by interviewing 220 individuals we were able to attain information on 494 plots or 73% of all active plots.

As indicated above, the second half of the survey was a count of all the produce which was growing in the garden. Every attempt was made to complete the second half of the survey even when a gardener was not present. For this reason, we were able to

complete the second half of the survey for 464 plots or 86% of all active plots. It is important to keep this in mind when reviewing the data tables presented in the Appendix. The data presented in the Appendix is certainly impressive. However, it is even more staggering when one realizes that the true number of tomato plants is likely to be 14% higher than that indicated by the chart.

Informal Observations

In the course of this study, the researchers held many informal conversations with gardeners and made many observations. These are recorded in our field notes and on the backs of the survey forms. Dr. Steve Parish conducted over a dozen more formal interviews with gardeners which will be presented in a second report.

APPENDIX



Places they buy	Extraordinary Products	Characteristics
Gurney's Seeds Garden's Alive Burpee Parks Stokes Total = 18	Bok Choy Cactus Chamomile (M) for nerves Escarole Eucalyptus (M) Greek Spinach Indian Mustard Lavender Lemonbalm Luffa Mescaline Mint (M) used for asthma Peppermint Pumpkins Rosemary Rutterbager Sesame Shallots Tobacco Vlita Watermelon	-Pin Wheels -Hand Painted Signs -Birds nesting in tomatoes -Came with friends & share responsibilities -whole families work on plots -Fencing -Wooden signage with names -windmills -American Flag -Scarecrows -Black tarp -Raised beds -square foot gardening -Frame tressels for cucumbers -welcome signs -double cropping -memorial plaques -bird baths -fish ponds -wind socks -statue -slate foot path -wood chips
Some gardeners save their seeds from their own vegetables and use them		
Marine Terminal Market=3		
Farmer's Market		
K-Mart		
American Horticultural Soc		
Local garden/nurseries=49		
Woolworths= 6		
Shepherds Garden		
King's County Nursery= 2		
Various places = 23		
Home Depot = 15		
Mill Lane Nursery = 2		
McCrory's = 2		
Foster Avenue Market = 5		
Tamelios = 17		
Pergament = 81		
Michael's		
Green Thumb = 3		
Duties = 11		
Brklyn Terminal Mkt. = 39		
Nostrum		

I. GARDENER INFORMATION

1. How many years have you been a Gateway gardener? _____
2. How do you get to the gardens? ☐ Walk ☐ Bike ☐ Get a ride ☐ Drive ☐ Bus
3. Besides yourself, who works in your garden? Who is the main gardener (circle)?

4. How many times a week do you (and your helpers) work in your garden?
April-June _____ July-September _____ October-closing _____
5. Excluding the \$25 permit, how much will you spend this year on seeds, tools, supplies, etc.? _____
Where do you buy seeds and supplies? _____
6. How much of your kitchen needs are provided from your garden? (All, Most, Some, None)
April-June _____ July-September _____ October-closing _____
7. How many people are there in your household? 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
8. Do any other members of your family or household have their own plots here? ☐ Yes ☐ No
If yes, what are their relationships to you? _____
9. How often do you share/trade with friends, neighbors, other gardeners?
☐ Every time I go to the gardens ☐ often ☐ occasionally ☐ rarely ☐ never
10. How many years have you been gardening altogether? _____
Where else have you gardened? _____

II. GARDEN INFORMATION

Food Crops:

___ Beans	___ Chard	___ Garlic	___ Onions	___ Squash (win)
___ Beets	___ Carrots	___ Lettuce	___ Peppers	___ Strawberries
___ Broccoli	___ Cauliflower	___ Melons	___ Radishes	___ Sweet Corn
___ Brussels Sprouts	___ Cucumbers	___ Mustard Greens	___ Spinach	___ Tomatoes
___ Cabbage	___ Eggplant	___ Peas	___ Squash (sum)	___ Turnips

OTHER (name/#) _____

Herbs:

___ Arugula	___ Cilantro	___ Parsley
___ Basil	___ Dandelion	___ Mint

OTHER (note if medicinal) _____

Flowers/Ornamentals:

___ Geranium	___ Rose	___ Zinnia
___ Marigold	___ Sunflower	OTHER (name/#) _____

Special Features:

☐ Irrigation ☐ Raised beds ☐ Scarecrow ☐ Signage

Characteristics _____

OTHER (describe) _____

DATA ON GATEWAY GARDENERS

	Yrs Gard.	# Who Share Crops	Other Family with Plots	# of People in Household	Dollars Spent on Plot	Visits a Week Oct	Visits a Week Jul-Sept	Visits A Week Apr-June	Number of People Per Plot	Years at Gateway	People with Multiple Plots	
TOTAL	3431	204	64	683	\$20,465	676	805	741	491	1019	99	
AVERAGE	16			3	\$92	3	4	3	2	5		
TOTAL	434	7	5	70	2,166	104	126	114	68	138	2	
AVERAGE	14			2	66	3	4	3	2	4		
TOTAL	2997	197	59	613	18299	572	679	627	423	881	97	
AVERAGE	16			3	97	3	4	3	2	5		

Background

		People with Multiple Plots	Years at Gateway	Number of People Per Plot	Visits A Week Apr-June	Visits a Week Jul-Sept	Visits a Week Oct	Dollars Spent on Plot	# of People in Household	Other Family with Plots	# Who Share Crops	Y r s G a r d .
Gateway		99	1019	491	741	805	676	\$20,465	683	64	204	3431
minimum			1	1	0	1	0	\$0	1		2	1
maximum			20	10	7	7	7	\$500	14		20	70
Fort Tilden		2	138	68	114	126	104	\$2,166	70	5	7	434
Floyd Bennett		97	881	423	627	679	572	\$18,299	613	59	197	2997

Transportation to the Gardens

(Question 2)

	Drive	Bike	Bus	Ride	Walk
Fort Tilden	26	6	0	3	1
Floyd Bennett	178	10	6	7	3
Total	204	16	6	10	4

Those Who Help in the Gardens

(Question 3)

	Kin	Non-Kin			
Fort Tilden	16	4			
Floyd Bennett	120	35			
Total	136	39			

Number of People with Family Members with Plots (Question 8)

	# of People	
Fort Tilden	5	
Floyd Bennett	59	
Total	64	

PRODUCE NEEDS

(Question 6)

<u>April/June</u>	None	Some	Most	All
Fort Tilden	15	14	2	0
Floyd Bennett	39	100	33	9
Total	54	114	35	9
<u>July/Sept.</u>	None	Some	Most	All
Fort Tilden	0	13	11	6
Floyd Bennett	2	79	68	26
Total	2	92	79	32
<u>Oct.</u>	None	Some	Most	All
Fort Tilden	1	18	1	1
Floyd Bennett	26	99	14	14
Total	27	127	15	37

How Often Give Away or Trade Produce
(Question 9)

	Never	Rarely	Occassion	Often	Every Time
Fort Tilden	1	2	9	11	5
Floyd Bennett	7	14	59	64	27
Total	8	16	68	75	52

Flower Census

nestertiums	5			
cosmos	16			
pansy	10			
salvia	3			
begonia	7			
impatience	8			
petunia	10			
zinnia	14			
sunflower	42			
rose	3			
marigold	82			
geranium	3			
TOTAL				

[illegible]

	Vegetable Census												
	beans	beets	broccoli	brussel	cabbage	chard	carrots	cauliflower	cucumb.	eggplant	scallions	fennel	leeks
# of Plants	5248	1033	650	58	745	473	1699	74	1002	939	204	20	57
Avg. per Plot	36	30	9	5	9	18	40	6	7	7	23	5	14
# of People growing	145	35	70	12	79	27	41	12	141	134	9	4	4
maximum # of plants per plot	200	100	70	12	35	100	235	15	40	40	75	7	20
minimum # of plants per plot	1	2	1	2	1	2	3	2	1	1	2	3	6
	garlic	lettuce	melon	mustard	peas	onion	peppers	radish	spinach	sumsquash	celery	broccoli rap	okra
# of Plants	147	2515	206	493	892	2972	2303	1571	195	1410	235	210	309
Avg. per Plot	9	18	11	25	21	33	12	51	15	7	9	19	15
# of People growing	16	138	18	20	41	90	195	31	13	202	25	10	21
maximum # of plants per plot	30	100	50	120	120	140	102	250	50	60	35	56	30
minimum # of plants per plot	3	1	1	4	1	2	1	3	2	1	2	1	4

[illegible]

