

# EMERALD NECKLACE PARKS AS COMMON PROPERTIES

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Fenway News

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## ABSTRACT: GOVERNING AND MANAGING AN ‘OPEN ACCESS’ COMMONS IN URBAN NORTH AMERICA

This case study analyzes the common property institutional arrangements through which elected and appointed officials, in collaboration with private voluntary organizations, a not-for-profit corporation and citizen volunteers govern and manage the nine parks and connecting parkways that make up the ‘Emerald Necklace’ park system of Boston, Massachusetts. These units constitute a seven-mile-long linear park. They illustrate the challenges of governing and managing common property resources which are, by design, open access, particularly when those resources are distributed across multiple jurisdictions. I argue that the linear design encourages members of civil society organizations to identify with a particular park unit, because this geographic arrangement provides localized separable benefits for many members.

The parks have no owners, in the normal sense that a common property resource belongs to named and known individuals. The Boston and Brookline local government units (LGUs), plus the Massachusetts Department of Conservation and Recreation, own the land and roadways that run through or along the parks, or connect them. They also maintain the parks and parkways.

During normal operating hours (dawn/dusk) the nine parks in the Necklace are, by design, *open access resources*. No user is ever carded by an official when found jogging, sun bathing, playing team sports, bird watching, leaf peeping in the fall or otherwise enjoying park resources. Anyone can enter at will and use the parks during operating hours; large numbers of people do. To sustain the parks, officials and citizens focus on regulating uses.

Local, national and international visitors come to this park system because it embodies a major landscape design effort conceived and directed by Frederick Law Olmsted, the man chiefly responsible for the design and initial operation of New York’s Central Park

KEY WORDS: urban linear park      civil society organizations      collaborative governance  
open access resource      resource mobilization      park sustainability

## I. Introduction

This paper focuses on the institutional underpinnings of a major urban linear park situated in Boston and Brookline, Massachusetts (see map, following page). Its origins date back to New England's colonial era; the paper describes events that unfolded between 1634-present. The park, building on three historical (original) elements, now contains nine distinct geographic units totaling some 1,100 acres (500 HA) and measuring seven miles (11.4 km) end to end (Emerald Necklace: 17 April 2013 download). Boston parks overall total about 2,000 acres (c. 890 HA) (Zaitzevsky: 1). First of the historical elements, the Boston Common, was, from the seventeenth to the early part of the nineteenth, a true common modeled on the common pastures of countless English villages in 'the Mother Country.' A contiguous public garden was later added<sup>1</sup>, and then, as developers filled the adjacent 'Back Bay,' a grand avenue containing a central pedestrian mall.

Added eventually to these three units were six parks, designed and constructed in the second half of the nineteenth century by the pioneering American landscape architect, Frederick Law Olmsted. Citizen support for green spaces in the burgeoning metropolis of Boston, and progressive municipal governments in Boston and Brookline powered these developments. Brookline was the one suburban community that successfully resisted pressure to incorporate with Boston, through an 1873 vote favoring continued independence. As one author put it, 'By the early 1890s, metropolitan commissions had been established to administer water, sewage and parks, thus removing much of the incentive for annexation' (Zaitzevsky: 18).

Boston and Brookline share ownership of the Emerald Necklace parks with the Commonwealth of Massachusetts. The Commonwealth controls the parkways connecting the parks and the roads fringing and transecting them. The parks are clearly bounded so that the system meets one of Elinor Ostrom's criteria for long-lasting common property resources.

Distinguishing the Emerald Necklace parks from many common property resources is their character as *open access resources*. This was a deliberate feature in the design of this system, as it is with public parks generally. Their sustainability depends on regulating use rather than on controlling access. So long as users respect the access and use rights of others, large numbers of people can derive benefits from these public spaces. But effective monitoring and enforcement of use rules take on significantly greater importance in efforts to maintain open access parks.

Boston and Brookline, while generally well-to-do communities, can no more hire untold numbers of policemen than can the average town. For this reason, popular involvement in monitoring park use and in setting 'generally accepted' norms of behavior among users sharing a park plays a big role in sustaining the parks as attractive public entities. Governmental efforts

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<sup>1</sup> The Public Garden, constructed on 'made land' (a portion of the old Back Bay), began its existence in 1839 as a public botanic garden, created by a group of amateur Boston area gardeners. In 1859 the Massachusetts legislature passed an act declaring the Public Garden forever a public property; thus did it escape 'development' by speculators (Zaitzevsky: 15).

depend for success on complementary popular efforts. This paper argues that the linear design of the Emerald Necklace park system encourages such efforts.



MAP 1. Original Olmsted plan of Boston Park System from 1894. Source: Wikipedia, ‘Emerald Necklace.’

The linear park measures seven miles from Boston’s Common (dark area coming south off Charles River at right) to Franklin, the outlying ‘country park’ furthest from downtown Boston but still within the city (large park area in lower right of map). The Emerald Necklace encompasses more than 1,100 acres (500 HA) and places linked recreational spaces within easy reach of much of the Boston population (approximately 625,000 in 2011; quickfacts.census.gov). Some 300,000 people live within the Parks’ watershed. That watershed drains into the Muddy River, which runs from Jamaica Pond north to the Charles River through other units of the Emerald Necklace, e.g., Olmsted Park, the Riverway and the Back Bay Fens (Wikipedia: 2013)

Population density, over the city’s 48.4 square miles, averages 12,765 people per square mile ([www.city-data.com/city/Boston-Massachusetts](http://www.city-data.com/city/Boston-Massachusetts)). The demand for ‘green space’ is intense. Some 400 years after Boston first established its Common, these nine parks and parkways still afford, in the heart of a highly urbanized metropolis, ‘rural’ relaxation and recreation to countless Bostonians and out-of-town visitors.

Frederick Law Olmsted (1822-1903), after trying a range of trades eventually settled after the Civil War on landscape architecture as his permanent career. He designed the Emerald Necklace linear park. Someone else named it.<sup>2</sup> The necklace analogy implied that each unit in the overall structure was a green jewel. Strung together, by park and parkway planning and construction, the jewels constituted an ‘Emerald Necklace.’

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<sup>2</sup> Although Olmsted is commonly credited with proposing the name, he actually suggested ‘the Jeweled Girdle.’ That name disappeared when someone else suggested ‘Emerald Necklace.’ (Martin: 346.)

Nearly four centuries of continuous operation for the oldest, ‘historic’ park – the Common – raise an obvious question. The other parks – the Public Garden and Commonwealth Avenue mall, plus the six designed parks and parkways, pose the same question over shorter periods of operation varying from 150 to 110 years: what leads multiple actors to coordinate their operations to govern and manage sustainably year after year a linear park system?

To answer, we must begin with the actors: governmental agencies and civil society organizations. Agencies include several police forces, municipal park agencies in both Boston and Brookline (a suburb located within western Boston, which contains part of the Emerald Necklace system), municipal water and sewer commissions in Boston and Brookline, the Massachusetts Department of Conservation and Recreation (DCR), the Commonwealth highway department – Department of Transportation (Mass DOT) – and, latterly, a federal level river engineering agency, The Army Corps of Engineers (U.S. ACE).

But civil servants, bureaucrats, planners, engineers, police and rangers can’t run the parks alone. They require citizen/user support to function properly. Citizens have established private voluntary organizations whose members fill this gap. Many of these organizations focus on a particular ‘jewel’ of the necklace. We will examine, among other issues, how these organizations overcome free rider problems to produce, with governmental agencies, the public good of ‘park quality.’

## **II. Historical Background**

The beginnings of the linear park system originated in the 1630’s, when European settlement began on the Shawmut Peninsula, now the heart of Boston, Massachusetts. Boston residents and developers gradually filled ‘Back Bay,’ a large brackish cove of the Charles River on the landward side of the Shawmut Peninsula (Boston harbor occupied the ocean side), to ‘make land’ on which to expand the growing city. By gradually filling the Bay, developers extended Boston’s boundaries to the west and south. They simultaneously eliminated a public health hazard, the stagnant waters of the unfilled Back Bay into which the citizens of Boston and Brookline emptied household waste (sewage, trash) (Martin: 335-36; Zeitzevsky: 82).

In the post-Civil War era – 1865-1900 – citizens and municipal leaders in many American cities, Boston included, initiated park movements. Successful ones acquired land, decided on a park design, mobilized funds, often through special legislation and bond issues that voters had to approve to finance land purchases and costs of park construction, and then maintained the park.

In Boston, city commissioners, citing New York’s new Central Park as a compelling example (Zaitsevsky: 33-47), began acquiring land in the Back Bay (some of it still under water) and further west, towards Brookline. Contracts with Olmsted to design the Emerald Necklace parks soon followed, with the Back Bay Fens being the first (Zaitsevsky: 54). In the end, Olmsted and his firm accepted commissions to design, build and landscape six additional parks. Among these were several on the Muddy River, a minor tributary of the Charles. Another was established as

Harvard University's Arboretum and connected with a large park in southwestern Boston named after the colonial patriot, Benjamin Franklin (born in Boston in the 18<sup>th</sup> century). Olmsted designated it 'the country park;' it contained enough area to accommodate field sports and other recreational activities.

The proposed tenth and final link in the Emerald Necklace, Dorchester Way, was planned to connect Franklin Park to Boston Bay south of the city, but was never constructed. Instead, "In 1897 Columbia Road was widened and joined to the Dorchester Way and the Strandway, linking Franklin Park with Marine Park in South Boston" (Zaitsevsky: 3) and completing the Emerald Necklace system.

### **III. A Theoretical Framework: Ostroms on 'Nature of Goods'**

In 1977 Vincent and Elinor Ostrom published an article clarifying what they termed 'the nature of goods.' They distinguish four types of goods: private, toll, public and common. In this article, the last two are of greatest interest.

#### **A. Examples of Public Goods and Problems They Pose for Collective Action**

As is well understood, public goods are those to which it is difficult (impossible) to control access, while consumption of those goods is non-rivalrous (non-competitive). That one person enjoys the benefits of security in a public space, or a beautiful vista in a park, in no way detracts from the capacity of others to enjoy the same goods (Ostrom and Ostrom: 9-12, Fig. 1, p. 12).

*Free riding* can impede production of the goods in question. Potential beneficiaries realize that if a desired public good is produced they will enjoy it, whether or not they contribute to financing its production and maintenance. Some will refuse to contribute voluntarily to production and maintenance of the public good, preferring instead to ride free on the efforts of others (Ostrom, 1990: 42-43, citing Robert Bates, 1988).

To overcome this obstacle, communities collectively establish use rules and impose taxes on their citizens to raise the funds necessary to finance production of the desired goods – secure public spaces, non-toll roads and bridges, parks and the like. In some cases –the Emerald Necklace park system among them – private voluntary groups and other entities mobilize resources to supplement initiatives of public government agencies.

Public goods found in Emerald Necklace parks include recreational spaces and scenic views, both 'non-subtractive goods,' i.e., except in circumstances of extreme crowding, one user's enjoyment does not impinge negatively on another's. Most users find space appropriate for their pursuits, be those walking, jogging, dog-walking, airing infants in carriages, outdoor conversation, sun-bathing, bird-watching, practicing martial arts, tennis, or team sports such as baseball, basketball, football and lacrosse. Relaxing vistas abound.

Boston and Brookline as park owners, the Commonwealth of Massachusetts and now the federal Army Corps of Engineers, use tax funds to finance their Emerald Necklace operations. The state's Department of Conservation and Recreation (DCR) owns the parkways and roads that adjoin, connect or transect individual parks. The DCR maintains Emerald Necklace walks and paths within 150 feet of adjoining roadways, and removes snow in winter.

The two municipalities collect and dispose of fallen leaves and litter, trim and remove damaged trees, replace them and, beginning in 2013, participate in restoring the course of the Muddy River which connects several of the parks before it empties into the Charles River. These state and local jurisdictions also help fund the Emerald Necklace Conservancy, a not-for-profit corporation that also mobilizes funds through voluntary contributions.

### **B. Examples of Common Properties and Problems They Pose for Collective Action**

Many common properties, from wildlife to surface waters and aquifers were pretty thoroughly abused in the United States during the first three centuries of the polity's existence. Controls on access to and harvesting of these open access resources were non-existent. In consequence, a multitude of actors by implication accepted the Hausa description of such situations<sup>3</sup> and took as their rule of action: 'capture the available resource before someone else does.'

Unrelenting overharvesting depleted nature's bounty. Users enjoyed access to renewable resources without constraints on harvesting. Watersheds, exploited as farmers saw fit and subject to few or no collective controls on soil use, lost untold tons of topsoil through hydraulic erosion. Old-growth forests in the humid eastern section of the country were cleared for farmland [Williams: 4-11]. Rivers commonly suffered a variety of abuses as people and businesses used them as cheap means to dispose of an appalling variety of wastes.

The nadir of American river abuse arguably occurred when the Cuyahoga River, which empties into Lake Erie in northern Ohio, became so polluted with petroleum wastes and flammable chemicals that the toxic mix burst into flame where the river flows through the city of Cleveland. The last Cuyahoga River fire occurred on June 22, 1969. "Last" because the Cuyahoga had burst into flame not just once but *thirteen times* during the 101 years from 1868-1969 (or, as a rough average, 'flaming water' every eight years).

Closer to home, the Boston community from colonial times forward (1630–1990 roughly) treated the Charles River and Boston harbor, into which the Charles River empties, as a convenient alternative to a proper metropolitan area-wide sewage collection and treatment system. After decades of ineffectual attempts to address the problem through political means, in the 1970s a

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<sup>3</sup> The Hausa, a West African group, when sitting down to a group meal around a common bowl, use the injunction 'Wasoso!' to start the meal. It means, in rough translation, 'Get while the gettin' is good!' The clear implication is that those will go hungry who don't quickly appropriate what they want of the food in the common bowl.

state judge rendered a decision in equity that laid the groundwork for gathering information about the actors involved, and their respective contributions to Bay pollution.<sup>4</sup> The process culminated, finally, in the 1983 judicially-imposed solution compelling Boston and surrounding communities to raise the funds and take steps necessary to treat their sewage at the second stage level. The relatively harmless product of that two-stage process is now pumped far off-shore into the Atlantic, where it further disperses (Haar: 154-58).

Given enforceable remedies against polluters (themselves, in most cases), Boston metropolitan communities have largely restored the Charles River and Boston harbor to sustainable common property resources. Both, with focused help from their human stewards, are cleansing themselves and now afford to appreciative users many pleasures – river and harbor edge hiking, sailing, wind-surfing, swimming, fishing, water-borne commuting and sight-seeing.

### **C. Emerald Necklace Common Property Water Courses**

Of immediate interest to the Emerald Necklace linear park system as common property resources are two local watercourses, the Muddy River and Stony Brook. These two small rivers drain most of the watershed within which the park units now lie. To the end of the 19<sup>th</sup> century home owners and businesses within the watershed regularly availed themselves of the opportunity to dispose of waste by ‘dumping it in the river.’

In the late 1800s the waste load had long since overtaxed the streams’ capacity to purify themselves through biological processes. The lower reaches of both, which emptied into the tidal waters of Boston’s still unfilled Back Bay, emitted odors so obnoxious that habitation along the Bay shore became impracticable. On Frederick Law Olmsted’s proposition, seconded by the city’s engineer, Boston municipal council members commissioned Olmsted to incorporate sewage evacuation solutions into the design of the Back Bay Fens park (Rybczynski: 342-43). Olmsted’s design of the Back Bay Fens duly combined sewage management with park creation.

### **D. Common Property Aspects of Emerald Necklace Parks**

Common property resources are by definition those to which it is difficult or impossible to control access, and ‘rivalrous’ in consumption. The uses the Emerald Necklace Parks serve are mainly non-consumptive and non-rivalrous. But exceptions to this assertion highlight the common property character of these parks.

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<sup>4</sup> This master-in-equity fact-finding process to clean up the Charles River and Boston harbor shares many common features with the judicially-instigated collective action to prevent salt-water intrusion in the freshwater aquifers of the Los Angeles basin to which Elinor Ostrom devoted a full chapter of *Governing the Commons* (E. Ostrom, 1990: 103-42).

To grasp the common property aspect of parks, we can think of *park quality* as a renewable resource.<sup>5</sup> That quality can be degraded in two ways. First, users can behave in ways that reduce others' enjoyment of the park, e.g., through vandalism or behavior that creates a public nuisance. Second, parks require regular investments in maintenance because otherwise, normal usage and the wear and tear of changing seasons gradually degrade their quality – benches need paint, grass requires mowing, trees pruning, fallen leaves raking, paths a certain amount of upkeep, and worn playground equipment replacement. To 'renew' the renewable resource of park quality and avoid degrading it then, park managers and users must respect certain norms of behavior.

This does not happen automatically. Parks do not maintain themselves, and users do not always monitor and police themselves. Yet many people can simultaneously pursue their interests in the parks if all users do respect certain norms of behavior. Vigorous exercise on sports fields, e.g., the Roberto Clemente field in the Back Bay Fens, needn't conflict with milder forms of exercise, e.g., sitting, talking, walking, jogging, strolling infants in baby carriages; most of the latter occur on the pathways and walks that transect or edge the parks. Park users informally coordinate their actions to stay out of each other's way. No jogger runs on summer sun bathers.

If, however, the dog owners who congregate every morning on the artificial turf of the Roberto Clemente sports field to provide their pets a little 'off-leash' time fail to pick up after their dogs, players of lacrosse, soccer, football and baseball who use those same grounds later in the day may encounter unpleasant hazards that must be dealt with if they are to pursue their games with undivided attention. Similarly, people who can't be bothered to dispose of their waste in trash bins liberally distributed throughout the Back Bay Fens and instead litter the grounds with paper, plastic plates and receptacles, soda and water bottles and the like, degrade the picturesque scenery that draws many people to the parks. If people (like me) sometimes illegally let their puppies play unleashed in fenced playgrounds reserved for children, they court conflict with mothers, who in the cosmopolitan Fens neighborhood are often from other cultures and sometimes not comfortable with dogs around their kids.

Other threats to park quality include graffiti. These may be of perceived utility to individuals using them to mark their territory, but for many others they degrade the pleasure of seeing a statue or a building in pristine shape. Likewise, individuals who derive pleasure from destroying turf in park sports fields, or who use a park as a dumping ground for household waste or other noxious substances, or even feel entitled to damage park trees in order to saw out grain-rich burls from the trunks (see below, *Policing*) at the risk of endangering the health of the tree similarly degrade the experiences of many other people who use the parks. The same holds for those who

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<sup>5</sup> Oakerson and Clifton use the concept of 'neighborhood quality' in arguing that neighborhoods, despite being composed of individual-owned properties, can be viewed (like parks) as common property resources. (Unpublished ms.)

engage in prohibited drug activity, or public drunkenness and other common forms of disturbing the peace.

So some uses can impinge on others. Those willing to violate use rules<sup>6</sup> can degrade the park experiences of others. Problems arise when some users impose costs on others. This sets a problem for park owners and users: they must facilitate mutually compatible uses and suppress others.

Muddy River and Stony Brook are both rivers and thus, by definition, flow resources. They pose more conventional common property resource problems. In the past they offered the same kinds of temptations to polluters that the Cuyahoga, Ohio and Charles Rivers did and to some extent still do. To emphasize the obvious, rivers are by definition flow resources; if they have a current, they will, sooner or later, wash pollutants downstream, generating negative spillovers for downstream residents and users, but by the same token removing the noxious substance from the polluter's immediate area without effort on the his/her part beyond dumping.

### **E. Managing Sewage in the Emerald Necklace**

In the case of the Muddy River and Stony Brook, Olmsted, in collaboration with the Boston city engineer, designed into the Back Bay Fens park a system of conduits to channel waste into a sewer system and then directly into the Charles River (Rybczynski: 343). The Boston Water and Sewer Department continues to maintain and upgrade this system, essentially by treating sewage and regularly testing water in the storm water system for any evidence of human waste. Boston and Brookline local governments collaborate on this problem; when they identify a 'misconnection,' that is, a household waste system connected to the storm sewer system rather than the sewage sewer system, they inform house owners and subsidize a correction. Misconnections date to the late 19<sup>th</sup> century, when separate systems (storm and sewer) were installed in both the town and the city. Those constructing a new building sometimes inadvertently connected the household waste line to the storm pipe rather than the sewage pipe.

From the perspective of this discussion concerning common property aspects of the Emerald Necklace units in a linear park system, those parks are for the most part *not* flow resources. The Muddy River does thread its slow way through some of them, but the park acreage is clearly bounded and stable. Pollutants deposited in parks – whether paper litter, containers or other substances, graffiti and the like – will remain where they are placed unless somebody removes them. For users 'just passing through' there's little disincentive to drop litter on the ground to be rid of it. The likelihood of being sanctioned for such behavior is pretty limited since policing of

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<sup>6</sup> The Back Bay Fens use rules specifically prohibit allowing dogs to run off leash on park lands, whether in or outside of playgrounds; dog owners are enjoined to 'pick up after their pets.' Littering, while not specifically prohibited by the official signs that announce park rules, is generally frowned on.

the parks is not intense. But, for those who live in the vicinity of the parks, degradation of ‘their park,’ and ‘their environment’ can very well serve as a positive incentive to dispose properly of their litter, and to make sure that it stays ‘disposed of (see *infra*, ‘Friends of the Public Garden’).

These shared spaces somewhat simplify the job of mobilizing civil society groups: people in such groups know each other, interact in common areas and, over time, construct norms of behavior to address problems that they identify. Furthermore, while access to Emerald Necklace parks is open, public regulations ostensibly ‘open’ the parks at dawn and ‘close’ them at dusk. In principle, they are empty at night. In practice people commonly use parks as shortcuts to their destinations. Sometimes they party or play music during nighttime hours. But these kinds of behavior are limited in the negative spillovers they create for others and so generally proceed unmolested.

Drug-related activities – commerce and consumption – are illegal, just as they are elsewhere in Boston and Brookline. Destructive use of park property by anyone is likewise forbidden and sanctioned if it occurs and is identified.

#### **IV. Monitoring and Policing the Emerald Necklace Parks**

Five different municipal and state agencies monitor activities in the Emerald Necklace parks. These include the Boston Park Rangers, the Boston Police Department, the Brookline Police Department, the Commonwealth of Massachusetts Fisheries and Wildlife Department, the Massachusetts State Police, and the Boston Emergency Medical Services organization.<sup>7</sup>

Citizens contact the Park Rangers to report individuals engaging in ‘suspicious activity.’ That term covers making campfires or camping in wooded areas, e.g., in the outlying Franklin Park; or being discovered near fresh trash deposits (bottles and the like) which implies illegal dumping behavior; or engaging in drug-related activity. Anyone operating a four-wheel drive vehicle in off-road areas qualifies as ‘suspicious,’ as do persons who amuse themselves by using their vehicles to gouge ‘donuts’ in sports fields by turning their vehicles at full throttle in tight circles in those areas to tear up the turf.

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<sup>7</sup> It has proven difficult to achieve formal authorization to interview Boston police officers and park rangers. Boston has a set of very strict protocols governing communications between officers and the press. NB: this writer serves as a volunteer journalist for a Fenway neighborhood newspaper; efforts as a journalist to obtain permission ‘through channels’ to interview officers were systematically ‘stone-walled.’ I am indebted for information on Emerald Necklace policing presented here to the Boston Parks & Recreation Deputy Commissioner Jacque Goddard. My personal observations complement her information (I regularly visit the Back Bay Fens and the Riverway, occasionally the Common, Public Garden, Commonwealth Mall, Jamaica Pond and Harvard Arboretum. I ventured once to Franklin Park.

These kinds of suspicious activities, other sorts of vandalism, e.g., defacing statues, buildings and other surfaces with graffiti, as well as violation of conditions attached to Boston Parks & Recreation permits authorizing groups to use parks for special events are the most frequent violations that Park Rangers encounter. As an example of vandalism, a resident of Boston's Dorchester neighborhood was arrested in 2012 when he used a power saw one Sunday morning to remove a burl from large old tree located in Evans Way park, one of the entrances to the Back Bay Fens. When apprehended he had already harvested a dozen burls (prized by woodworkers for their elaborate grain) from trees in city parks for use as raw materials in his home woodworking shop (Boston Police Department).

The Park Rangers number only twelve full-time officers<sup>8</sup> and so depend on citizens and park users to alert them to 'suspicious activity.' The Boston mayor has established a 'hotline' telephone number for that purpose.

The Park Rangers handle permitting for special events in the parks. They interact frequently with the civil society organizations mentioned below, as well as with the Emerald Necklace Conservancy.

## **V. Boston Parks & Recreation Department: Activities and Resource Mobilization**

As noted, Boston Parks & Recreation and the Brookline Parks Department handle park upkeep. This requires considerable labor input, in addition to ample supplies of mechanized equipment for refuse collection, leaf clearing, tree pruning, felling, chipping and maintenance. The two local government units, as park owners and conditional on approval by their citizens' representatives, allocate tax funds to park upkeep and improvement.

The 2013 approved budget for the Boston Parks & Recreation Department totals \$16,827,314. This amount covers 'administration, maintenance, design and construction, and cemetery operations.' An additional amount of approximately \$8,000,000 derives from a series of trust funds and special allocations that finance or co-finance certain Parks & Recreation activities.

These budget amounts are not broken down by individual park, so one can at best calculate only a notional figure of the public municipal funds devoted to Emerald Necklace parks by dividing the budget and trust funds total (\$24,800,000) by total Boston parks acreage (2,000 = \$12,400/acre), and then multiplying that figure times the Emerald Necklace parks acreage (\$12,400 X 1,200 = \$14,880,000). Some of the Emerald Necklace acres are situated in Brookline and financed by that local government unit, so the notional figure probably somewhat overestimates amounts allocated to Boston sections of the Emerald Necklace. Nonetheless, we

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<sup>8</sup> The annual budget for the twelve, and all their support (with one exception), is \$900,000. The exception is another \$150,000 which goes to fund horses for a small mounted unit and four to six part-time rangers to maintain them.

can crudely estimate that Boston in 2013 will devote roughly \$14,000,000 to Emerald Necklace activities, with the money allocated variously to operations and capital investment budgets.

In addition to that Parks & Recreation figure come certain other public expenditures, e.g., park policing by agencies other than the Boston Park Rangers (the Ranger budget is included within the overall Parks & Recreation total). We make no attempt in this paper to even guess at a figure for policing. Costs of maintaining roads on the perimeter of the Emerald Necklace parks – a state responsibility – likewise do not figure in our \$14,000,000 estimate.

## **I. Information on Emerald Necklace Civil Society Groups**

The groups in question are self-governing voluntary associations that people who live close to individual parks in the Emerald Necklace (as well as others from more distant locations) have constituted over the years to provide citizen stewardship for particular parks. Some offer programs for park visitors, particularly during the tourist season, and several provide more elaborate summer vacation programs for young children and teenagers. These programs seek to enhance students' awareness of their neighborhood parks, understanding of the challenges parks pose and opportunities they offer. They also seek to intensify student identification with the parks. If some later become volunteer park stewards in their own right, so much the better.

It is worth emphasizing that many of these groups are organized around a single park or, at most, several closely linked ones, e.g., the Boston Common, Public Garden and Commonwealth Mall (Crockford, 17 April 2013). The linear structure of the park system facilitates these civil society groups. They total at least 15 in number; below we provide three examples which illustrate the diversity of their functions and operations.

### **A. Friends of the Public Garden**

Friends of the Public Garden, founded in 1970 by 'concerned citizens' 130 years after the Public Garden was created, focuses members' effort on Boston's first three (historical, pre-Olmsted-designed) parks. These three are (1) the original common, a 50 acre (20 HA) space in the heart of downtown Boston, converted to a public park in 1830; (2) the public garden, and (3) the Commonwealth Mall, a broad, shaded pedestrian walkway down the middle of the city's premiere avenue.

Residents of neighborhoods adjacent to these three parks organized the Friends as a stewardship organization. Precipitating this collective action were residents' shared perceptions that the City of Boston was maintaining neither the 1,700 trees in the three parks, nor the 44 pieces of statuary distributed across the same grounds (Friends of the Public Garden website, information downloaded 26 March 2013). Residents concluded regular maintenance was imperative but the city resisted their efforts to advocate for greater municipal responsibility in preserving the parks.

To redress the situation the Friends organized two stewardship activities. For trees, they began with a professional inventory of all the specimen trees and their current status (healthy, diseased, aged, or dead). Concerning statuary, the Friends focused their efforts on progressively restoring pieces degraded by acid rain, graffiti and simple lack of maintenance.

The annual membership fee for the Friends organization is \$25 but most give at least \$100 a year. Membership currently exceeds 2,000, half of whom live in the vicinity of the Common, Public Garden or Mall. Some 500 others reside in ‘scores of other Massachusetts communities,’ while the final quarter live in 30 other states and the District of Columbia (information in this and the three following paragraphs provided by Friends’ Executive Director Liz Vizza; see Vizza: email)

Most of the money for the Friends operating budget – currently on the order of \$1,500,000 a year – comes from individual contributions. The organization receives no public money and only limited corporate contributions. Ms. Vizza reports the Friends are currently (2013) investing 70% more in the three Emerald Necklace Parks than they did as little as two years ago.

The Director emphasizes, “We hire experts to conduct work in the parks: arborists, sculpture conservators, soils scientists to oversee and evaluate work. All of our work is professional. We have one volunteer component, the Rose Brigade, who for 25 years have cared for the roses in the Public Garden. We also have volunteers on our board who do some parks care– more so in the past, but a number of board members are professionally qualified in terms of landscape care.”

To conduct this work they mobilized a substantial endowment, now reportedly totaling in the single-digit millions. These funds allow them to contract out annual and ad hoc maintenance of statuary, as well as tree care and planting. Members who volunteer are trained to recognize Asian Longhorn Beetles, a current threat to the woodstock. Those members report whenever they discover infestations. To date, this form of citizen stewardship has proven successful, and the woodstock is in good shape.

Statuary stewardship relies more heavily on professional expertise in monitoring and maintenance activities. The Friends organization has contracted for graffiti removal services and, according to Ms. Churubino (26 March 2013), a former Friends board member, professionals remove graffiti within days.

The Friends have managed a more mundane problem: wind-blown litter. Members moving through the area (walking dogs, strolling, jogging) formerly reported damaged trash cans, and a problem with waste materials blowing about the parks. The Friends installed new trashcans with fitted lids, so trash once deposited doesn’t blow out again.

This kind of volunteer monitoring reflects the ‘neighborhood effect’ in motivating residents to play an active role in ‘keeping an eye on things.’ For many Friends, the Common, Garden and Mall double as their front yards, and they willingly invest time, attention and funds to ‘keep the

neighborhood in order.’ Residents of this area are well off and, to maintain the parks, find Friends of the Public Garden a useful institutional vehicle.

## **B. Fenway Garden Society**

In clear contrast to Friends of the Public Garden, in purpose, participation and budget is the Fenway Garden Society. It organizes participatory activities in the Fenway Victory Gardens, seven acres within the Back Bay Fens subdivided into 400 gardens where Society members produce both vegetables and ornamentals.

Following World War II, most Victory Gardens (a wartime initiative), were shut down. The Fenway Victory Gardens survived because Richard D. Parker, an ardent gardener, campaigned to maintain neighborhood gardening. Seven decades later, gardeners continue to prepare, plant, hoe and harvest as the seasons revolve.

To garden people must join the Fenway Garden Society, for an annual fee of \$30. Seniors pay half that. Gardeners and others contribute additional funds including, in 2012, enough for a small endowment. The annual budget (years 2010, 2011) ranged between \$23,000 and \$44,000. Gardener dues totaled \$12,000+ in each year, and contributions \$8,000-\$26,000+. The remainder came from grants, plant sales, and proceeds from a summer neighborhood party, the Fens Fest. The City of Boston supplies free water and trash collection.

Victory Garden members participate in use, governance and management of a common property resource, nested within the larger open access resource of the Back Bay Fens park. Gardeners garden individually. But they share and manage a joint irrigation infrastructure, as well as other elements (compost, etc.), and they govern and manage as a group the common grounds, irrigation system upkeep, and monitoring and control of threats to plants

Fully 71% of gardeners live in or near the Fenway. The rest reside elsewhere in Boston. Monitoring in the gardens focuses mainly on illegal drugs – sales and use – and illicit sexual activity. The Boston police organize occasional evening drag-nets in the Gardens.

This arrangement provides each gardener, in exchange for a modest annual fee, a separable benefit or ‘selective incentive’<sup>9</sup> (Olson: 51), in the form of access to a watered plot of land that the gardener uses as s/he sees fit. Additional separable benefits take the form of free advice on plant types, gardening skills and access to seeds and planting materials offered by other gardeners. This encourages, from the perspective of Emerald Necklace parks, a viable civil

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<sup>9</sup> Olson notes ‘Only a *separate and “selective”* incentive will stimulate a rational individual in a latent group to act in a group-oriented way. In such circumstances group action can be obtained only through an incentive that operates, not indiscriminately, like the collective good, upon the group as a whole, but rather *selectively* toward the individuals in the group.’ In the Victory Garden context, access to a plot is a potent separable benefit for those who wish to garden. Once the group of Victory gardeners is mobilized, other group-based actions that support the enterprise likewise become possible if motivated by separable benefits. See discussion in text for examples.

society group that will advocate for preservation of their Victory Gardens, and of the surrounding Back Bay Fens Park.

### **C. Friends of Jamaica Pond**

This civil society organization centers on the large pond that sources the Muddy River. The Pond serves as an urban location for boating (sail- and rowboats), but also is cold and clean enough to support trout fishing. The DNR stocks it annually. Mr. Gerry Wright helped found in 1983 a predecessor organization, the Jamaica Pond Project. In 2005, with resignation of the former director, Christine Cooper, and agreement of the Courageous Sailing Club to assume responsibility for boating activities on the Pond, the Project was restructured as a largely volunteer organization, Friends of Jamaica Pond. Wright leads this organization; it currently counts some 400 'Friends,' down from a peak of 600. Over fifty percent live in the Boston neighborhood of Jamaica Plain, many others in surrounding communities.

Their operating budget over the past three years has averaged \$10,000, primarily contributed by individuals, some by foundations. They have no endowment. The organization works very closely with the Boston Park Rangers and, for special events, they collaborate as well with the Boston and Commonwealth police organizations.

### **D. Emerald Necklace Conservancy**

Incorporated in 1998 to 'protect, restore, maintain and promote the landscape, waterways and parkways of the Emerald Necklace park system as special places for people to visit and enjoy,' the Emerald Necklace Conservancy is a 501(c)(3) non-profit organization, as designated by the Internal Revenue Service (IRS). 501(c)(3) organizations promote various public goods. The Conservancy encourages and supports collaboration among the parks' owners – City of Boston, Town of Brookline and Commonwealth of Massachusetts – and community residents, park advocates, business and governmental leaders to restore the Emerald Necklace park system to its erstwhile glory and encourage park stewardship over the very long term. Unlike many of the other 'pro-park' civil society organizations noted in this section, the Conservancy has a small paid staff, but many of its activities depend on volunteers.

Encouraging investment in the Emerald Necklace parks is necessitated in part because their governmental owners have spent only inadequate amounts on system parks. Efforts to make up the difference focus on mobilizing voluntary contributions of money, but also labor and technical expertise. These initiatives involve neighborhood residents and institutions in park stewardship and thus lay the foundation for sustainable patterns of support over the long term.

The Emerald Necklace Conservancy in 2013 controls an annual budget of nearly \$800,000; for the past ten years it has organized a mid-summer 'Party in the Park' as a fund-raising mechanism. To date, event ticket sales have mobilized \$2,000,000 of a total of \$2,400,000 for an Emerald Necklace Endowment, the Justine Mee Liff fund (Julie Crockford: 17 April 13).

Restoration of the Stony Brook gatehouse (which now houses the Emerald Necklace office) cost \$1.2 million, of which \$200,000 came from the Liff fund. The fund is dedicated to ensuring that Emerald Necklace Conservancy projects are maintained. In 2013 the Conservancy seeks to mobilize another \$1 million through Party in the Park contributions to fund the Olmsted Tree Foundation. The Foundation will contract with arborists to maintain the Emerald Necklace woodstock (Thomson and Everett: 2).

The Conservancy counts a thousand volunteers who support multiple park activities.

## **VII. Muddy River Management and Maintenance Oversight Committee<sup>10</sup>**

The Muddy River has been neglected and poorly managed for some decades. Activities (and inactivities) from the mid-20<sup>th</sup> Century on have led to this degradation. For example, Boston sold a section of the Muddy after World War II to the Sears Corporation to enable it to construct a large parking lot over the river near its regional distribution operation at the Sears Landmark Center. Culverts installed to carry the buried river's flow under the parking lot were too small. By the 1990s, major rainfalls washed down enough debris to clog the intakes and impound flood waters behind this impromptu dam.

Boston and Brookline ceased in the mid-1960s periodic dredging of the Muddy's roughly five-mile length. Previously they had dredged the river on a 15-year rotation. It has a 'flat' profile and, with only a slight gradient, very little current. Thus bed load – silt, gravel and rotting vegetable matter – all precipitate in the channel, filling it and restricting its water moving capacity. The cumulative siltation and loss of channel depth, in combination with the impromptu damming at the Landmark Center have, since 1996, occasioned three devastating floods after heavy rains. High waters have endangered and damaged residences, institutions (colleges, museums and schools) and Boston's public rail system, the Massachusetts Bay Transportation Authority (MBTA). Those floods, in a very flat, occluded river valley, occasioned close to \$100 million in damages and triggered an intergovernmental effort to address the problem.

When a river restoration project seemed certain, the Commonwealth established the Muddy River Maintenance and Management Oversight Committee (MMOC) sometime before 1999. It includes 11 citizen voting members while eight local and state governmental organizations have non-voting MMOC representatives.

Since early 1999 members have reviewed and approved a total of 22 official documents, upon passage of each the whole project was contingent. These included environmental reviews, plus Memoranda of Agreement between the MMOC, Emerald Necklace Conservancy, City of Boston and Town of Brookline; annual reports, and certificates authorizing initial phases of the project.

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<sup>10</sup> Information in this section except where otherwise noted was obtained from <http://www.muddyrivermoc.org/html/RestorationLinks/restorationOverview.html> and other sections of the MMOC website.

Many MMOC members have probably attended 200 meetings since the founding. Appointed citizen members are volunteers whose presence gives the public a voice in project design and, going forward, implementation. The Army Corps of Engineers, which oversees the Restoration project, and Charter Environmental, the implementing firm, know Fens residents and relevant civil society and local and state governmental organizations can make their voices heard. Ms. Frances Allou Gerschwin, MMOC Chairwoman, is a practicing attorney specializing in environmental law and so brings a critical legal perspective to MMOC deliberations.

### **VIII. Muddy River Restoration and Rehabilitation Project**

This project, four decades in preparation will, despite the Muddy's short length, cost \$92 million. It costs so much because it involves complicated feats of engineering in a densely populated, heavily used urban setting. The river stretches to be 'day-lighted,' i.e., uncovered and again exposed naturally, as they were in Olmsted's design, include three bridges that provide access to the Longwood Medical Area, home not only of Harvard's Medical School but of several major Boston hospitals. During river 'day-lighting,' bridges that span it must remain open.

Once 'day-lighting' is completed, a second phase will focus on restoring normal flows in the Muddy and reducing the valley's exposure to flooding. Second phase operations will dredge the river from its origin in Jamaica Pond to the Charlesgate, through which the Muddy enters the Charles River, and remove invasive exotic river-edge reeds, *Phragmites australis*. Over time those reeds constricted the river channel as they grew out from the banks.

The Corps will use a suction dredge to scour accumulated sediment for drying and eventual transfer inland, and then create a series of deep pits in the Muddy's channel to serve as sediment traps. Brookline and Boston have committed to emptying these traps regularly.

Simultaneously, a subcontractor will restore vegetation on the banks, to stabilize them and recreate Olmsted's vision for the river. When day-lighting and dredging are completed in 2019, the project will reestablish the pedestrian and carriage (now bike) paths that formed part of the original design. Emerald Necklace park users will enjoy access to the full linear park system while avoiding vehicle traffic.

### **IX. Conclusion**

Activities described above, undertaken by government agencies at the municipal, state and federal levels, and by civil society organizations, all focus on sustaining parks of the Emerald Necklace in good working order. The arrangements among them are complex; some, e.g. the Muddy River restoration project, involve on-going negotiations to address new situations. Others – activities of civil society organizations, in particular – are reasonably routinized and predictable. That said, they provide a vital complement to government initiatives, through informal monitoring and invoking police support as needed. They also provide pressure groups for most of the units in the Emerald Necklace park and parkway system, so that government

agencies anticipate that their decisions will be scrutinized by activists knowledgeable in the affairs of their particular parks.

Different agencies and particularly organizations in this complicated set of institutions function with appreciable autonomy. No ‘czar’ rules the Emerald Necklace parks. Instead, a variety of actors address problems they identify when they use the parks and figure out solutions through their civil society organizations. The governmental agencies, by contrast, operate under legislative mandates and centralized budgeting processes, but nonetheless, freely within the terms of their mandates.

#### **LIST OF INTERVIEWEES**

CHURUBINO, Ms. Penny. Former board member of Friends of the Public Garden organization.  
Interviewed by telephone 26 March 2013.

CROCKFORD, Ms. Julie. Executive Director, Emerald Necklace Conservancy. Interviewed by telephone 17 April 2013.

MOBILIAS, Ms. Kristen. President, Fenway Garden Association. Interviewed 4 April 2013

VIZZA, Ms. Liz. Executive Director, Friends of the Public Garden. Interviewed by email 10 April 2013.

WRIGHT, Mr. Gerry. Director, Friends of Jamaica Pond. Interviewed by email 20 April 2013.

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