

Coastal protected area management and multi-tiered governance: the Cape Cod Model

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Abstract Policy tools that allow for the coordination of various authorities at different levels of government are important for coastal protected areas. Frequently, multiple authorities manage these areas with varied and sometimes conflicting goals. This study examines a regulatory model implemented on the Cape Cod National Seashore in the US that uses federally-approved zoning to regulate private uses for protection of natural coastal resources. Local authorities implement the zoning which is designed to support national resource protection goals making this a prime model of cross-level governance for conservation. I use case study analysis to evaluate the program's effectiveness by focusing on implementation and compliance in the context of multi-jurisdictional (i.e., national to local) relations. The analysis and subsequent discussion highlight the difficulties associated with implementation of intergovernmental mandates. Also, theoretical perspectives on compliance give insights about the implementation challenges of this model. The model's limitations have implications for policymakers considering similar schemes implemented by split and hierarchical authorities with different, and possibly conflicting, coastal management goals.

Keywords Cross-level governance · Intergovernmental mandates · Regulatory jurisdiction · Protected seashore · Public domain · Zoning relief

Introduction

Multi-jurisdictional authority over natural resources is frequently the cause of consternation. This problem is particularly acute with regard to management of marine and coastal resources because the multitude of laws and regulations applied by various levels of government in these areas (Pew Oceans Commission 2003). Therefore policymakers and planners look to techniques that can address issues of multi-jurisdictional management. Zoning is increasingly considered for use in areas falling under multiple jurisdictions including sensitive coastal and marine areas (Kenchington and Agardy 1990; Bohnsack 1996; Courtney and Wiggin 2002).

While there has been some literature on ocean zoning (Sanchirico, 2004), most exploring zoning of marine protected areas,¹ little research has specifically explored how zoning is used as a tool for multi-jurisdictional governance in coastal areas.² Traditional landside zoning exerts public control over private property and/or private use rights, but increasingly zoning is applied to biosphere reserves, parklands, fisheries and marine protected areas (e.g., Courtney and Wiggin 2002; Day 2002; Doherty 2003). In most of these cases, resources are publicly-owned, held in public-trust by state or federal authorities. Therefore, federal public land management models that use zoning to protect resources of the public domain—such as those of national parks and seashores—make valuable case studies (Courtney and Wiggin 2002). But can zoning

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¹ Such as the Great Barrier Reef Marine Park (Australia), the Lundy Island Marine Nature Reserve (England) and the Florida Keys National Marine Sanctuary (USA).

² A notable recent exception is Heylings and Bravo (2007).

schemes applied by local governments serve national coastal conservation goals?

As part of a larger research effort on the application of traditionally land protection tools to marine and coastal environments, this study examines a unique institutional arrangement and draws conclusions about what influences program performance. The program researched in this study, coined the Cape Cod Model (O'Connell 2003; Ahern et al. 2004), aims to limit the impacts of private uses and development within the Cape Cod National Seashore (CCNS). The model uses local zoning bylaws to protect public resources that receive federal protection.

This paper presents and critically assesses the Cape Cod Model. The results of this study show that compliance with decentralized cross-level governance³ is temporally sensitive and dependent on changes in institutional capacity. Also, goals of municipal zoning may conflict with conservation goals of protective zoning. Study conclusions have implications for the overlay of federal jurisdiction in areas where use rights already exist on the local or regional level (for example, where spatial claims exist for aquaculture or mineral extraction) and where federal authorities are interested in delegating control (such as for growth management). While all aspects of the CCNS model may not be directly relevant to such situations, lessons from this case study are important as policymakers develop governance systems for coastal areas of national conservation interest that use zoning to regulate development and resource protection.

Zoning and decentralization

Zoning is a helpful tool in the context of conservation of common-pool resources such as public lands and coastal resources for two reasons. First, it provides a mechanism for intergovernmental cooperation when jurisdictions are split and hierarchical. With traditional town zoning (of private property) municipal governments can develop zoning regulations that translate regional, state or national goals, such as smart-growth or coastal zone management principles, into clear and operable rules (Talen and Knaap 2003; Norton 2005). Secondly, zoning can involve local stakeholders in the management of activities thus promoting the advantages of self-rule and a sense of "ownership" (in feeling, if not in fact). Typically when towns design, revise, or decide to divert from zoning bylaws, the process allows for the input of local resource users and considerations of local scale. Numerous authors have pointed to these factors as

fundamental components in resource management whether zoning restricts development (e.g., Talen and Knaap 2003) or shapes protection (e.g., Portman 2007).

Frequently ownership of resources influences how intergovernmental policies develop. The interplay in arrangements between large resource systems being owned by centralized institutions yet managed by local governing bodies has been studied in various contexts (Gibson 2001; Sarukhan and Larson 2001). Fairfax and colleagues (2001, 2004, 2005) writes extensively about local and private stewardship for conservation under federal models of public land ownership and management, and how such arrangements evolved. From a historical perspective, she asserts that assumptions maintaining that public land policies hinged on centralized "land retention" by the federal government are inaccurate (Fairfax et al. 2005). Today institutional arrangements that contribute to protection and conservation goals frequently consist of various types of public and private actors working together in increasingly intricate "mosaic" systems of governance. She points to the Cape Cod Model as evidence of such an arrangement (Fairfax 2001; Fairfax et al. 2005).

Ostrom (2001) developed a set of eight design principles for long-enduring systems of governance based largely on case studies of common-pool resource institutions frequently managed at the national or regional level.⁴ For resources that are parts of a larger system, "nested-enterprises" are recommended. These are hierarchies of governing bodies that allow for autonomy of user groups to devise their own rules (Ostrom 2001) constituting a type of cross-level governance that involves members of the community. Internationally there is a trend toward community-based protection of coastal and marine resources and decentralization (Pollnac et al. 2001). Generally, zoning is a decentralized management tool but in some cases, especially in the US, there are questions about the degree to which codes, ordinances, and other regulation at the local level actually support widely accepted growth, management, and resource protection principles (Talen and Knaap 2003).

Some environmental policy research supports far-reaching delegation of authority to attain overarching goals, yet other literature points to clear advantages in centralized control (Schwartz and Tomz 1997; Rabe 1999). Community-oriented or co-management approaches can be a mixed alternative to an "either-or" scenario and have had some success for implementing sustainable coastal zone management (Ostrom 2001; Siry 2006). These approaches encourage partnerships among local government, related stakeholders, and communities. The Cape Cod Model can be characterized as a decentralized arrangement because responsibilities shift from

³ My use of the term cross-level governance, a type of co-governance, refers to multi-tiered, intergovernmental institutional arrangements among authorities that have jurisdiction at the local, state or national level.

⁴ Mascia (2000) has applied Ostrom's principles to marine protected area design and management.

the national government to local governments. However, the model also has a strong element of centralized oversight. Empirical studies on these types of hybrid arrangements are important, especially as applied in the coastal zone.

In regards to multi-level interactions for general resource management, Young (2006) identifies patterns that arise from cross-level interactions among “scale-dependent co-management systems”. Spatial scales can be significant for natural resources regimes. One problematic pattern is that authority differentials develop such that rule-making authority is held by those who have little or no ability to guide or control behavior of those who are nominally subject to their authority (Young 2006). In a decentralized regime, decisions may be made on the ground once authority has been delegated that contradict overarching goals. In such cases, the centralized authority must intervene and moderate in ways that encourage cooperation in support of regulatory goals, a critical test for inter-governmental management policies.

What follows in this paper is a presentation of the Cape Cod Model and how it functions. Then I describe the research design. I present the results, followed by discussion on intergovernmental (cross-level) policy mandates related to theories of regulatory compliance in a multi-jurisdictional context. I conclude with implications for similar programs that aim to protect coastal resources on the local level in ways that serve regional or national goals.

The Cape Cod Model

For the CCNS six towns with lands falling within the park’s boundaries agree to manage the use of parcels referred to as “improved properties”. These are privately owned parcels subject to compliance with federally approved local bylaws. Despite original acquisition prerogatives from the time the park was established, the National Park Service (NPS) has not acquired these parcels; private owners maintain them and the towns where they are located—Chatham, Eastham, Orleans, Provincetown, Truro and Wellfleet—regulate them using local zoning (see Table 1).

Within the CCNS, NPS controls development by suspending condemnation of improved properties as long as the towns manage their use and potential redevelopment in ways protective of the purpose of the park. When the government established CCNS in 1961 with the passage of the Cape Cod National Seashore Act⁵ (hereafter, the “Act”), roughly 600 privately owned parcels were within both park and town boundaries.

⁵ Cape Cod National Seashore Act, Pub. Law 87–126, 75 Stat. 284 (Aug. 7, 1961; codified at 16 USC §§ 459b–459b-8).

Table 1 The number of improved properties by town as reported by the CCNS (Cape Cod National Seashore 2001)

| TOWN | Improved properties |
|--------------|---------------------|
| Chatham | 19 |
| Eastham | 115 |
| Orleans | 1 |
| Provincetown | 1 |
| Truro | 219 |
| Wellfleet | 257 |
| TOTAL | 612 |

Although most sources report approximately 600 improved properties, there are conflicting counts from various sources, including from the towns themselves. One reason for discrepancies is that the towns change zoning district boundaries from time to time without informing CCNS so that the towns’ reporting of properties within Seashore District boundaries may differ from those of the park service.

The Act directed the Secretary of the Interior to develop standards to manage these properties with two main functions: (1) to support the prohibition of commercial and industrial uses, and (2) to promote the preservation and development of the area comprising the seashore in accordance with the purposes of the Act. Section 4 of the Act defines “improved properties” and describes the circumstances under which the Secretary has authority to acquire the properties by condemnation. Section 5 directs the Secretary to promulgate the standards.

The Code of Federal Regulations, Title 36, Part 27 promulgated in July 1962, codifies standards for zoning. Here, “improved property” is defined as “a detached, one-family dwelling, the land on which it is situated, and accessory structures...”. The regulations also require each of the towns to establish a Seashore District, determine property setbacks and limit enlargement of residential and accessory structures. The main objective of the regulations is to maintain the “essential character of the dwelling and premises as a private residence.” 36 CFR § 27.3(e) (1962). Regarding variances and exceptions, and most relevant to this research, the regulations establish that town bylaws:

“..shall contain provisions which constitute notice to applicants for variances and exceptions that... the Secretary of the Interior is authorized to withdraw the suspension of his authority to acquire by condemnation, ‘improved property’ that is made the subject of a variance or exception which, in his opinion, fails to conform or is any manner opposed to or inconsistent with preservation and development of the seashore as contemplated in the said [Cape Cod National Seashore] Act” (36 CFR § 27.4(b)) (1962).

The statute gave the towns 1 year to adopt bylaws consistent with the federal standards or their improved

properties would lose protection from condemnation. All six towns responded to this order and established zoning bylaws for their Seashore Districts⁶ that comply. Eastham further limits expansions to 50% of the habitable space that existed in 1959.⁷ Wellfleet has further restrictions in its National Seashore Park District that 30% of the total upland area in the improved property must remain in its natural state and that the built footprint on a lot can cover no more than 5% of a lot's area. Other town restrictions beyond the standards set by the Secretary of the Interior that have been adopted by towns in their Seashore Districts involve flood management controls and preservation of significant historical architectural styles.

Within CCNS boundaries, the NPS has jurisdiction over approximately 178 km², of which approximately 112 km² are in non-tidal (upland) areas (see Fig. 1). Provincetown has the largest percentage of town area also designated as parkland and Chatham the least (see Table 2). Truro has the largest amount of parkland within town limits. Considered together approximately 37% of the Cape Cod towns' area is within CCNS boundaries. Collectively four towns: Eastham, Provincetown, Truro and Wellfleet contain 103 km². (approximately 92%) of the park's upland area.

The CCNS is a significant factor on the Cape that influences many aspects of life for its residents and visitors. The land area it covers is substantial and the tourists it draws are essential to local economies (Ahern et al. 2004). Yet not all town governments are equally concerned about the issues related to improved properties. Although Provincetown has a large percentage of town land within the park, it has only one improved property. Chatham and Orleans have small percentages of land within the CCNS and one and 19 improved properties respectively. Three towns, Eastham, Wellfleet, and Truro, account for over 95% of all the improved properties (see Table 1). Planners and town officials in these three towns are much more familiar, and concerned, with the requirements of the federal regulations regarding improved properties than their counterparts in the other three.

⁶ The Districts have different names. Seashore Districts are the areas within the CCNS in Truro, Eastham and Provincetown. Wellfleet zoning refers to CCNS area as the National Seashore Park. Chatham and Orleans have Seashore Conservancy Districts and Conservancy Districts respectively.

⁷ This bylaw is particularly contentious and in Spring 2006 Eastham town planners proposed relaxing this requirement arguing that it favors originally large structures. Small residencies with sufficient lot size are severely restricted in comparison. The town selectmen did not approve the proposed change.

The Cape Cod model and other programs for managing residential structures within the park⁸ have become increasingly controversial. Based on media coverage, these controversies are of interest throughout the outer Cape and beyond (Rozhon 2006). Some owners of in-holdings, believing the NPS's regulation unfairly restricts private property holders' rights to enjoy and exploit unique resources (e.g., exclusive vistas, prime real estate, expansive lots, immediate access to the park's amenities), favor more lenient regulation (Kahn 2000; Dooley 2001b; Rozhon 2006). Others, including some improved property holders who have not been affected by restrictive zoning and review and who see the arrangement with NPS as protecting public interests, support stricter, more comprehensive regulation.⁹ Parties on both sides of the debate take issue with how the regulations are implemented pointing to principle problems of efficacy and inconsistency (Cape Cod National Seashore 2001; Rozhon 2006).

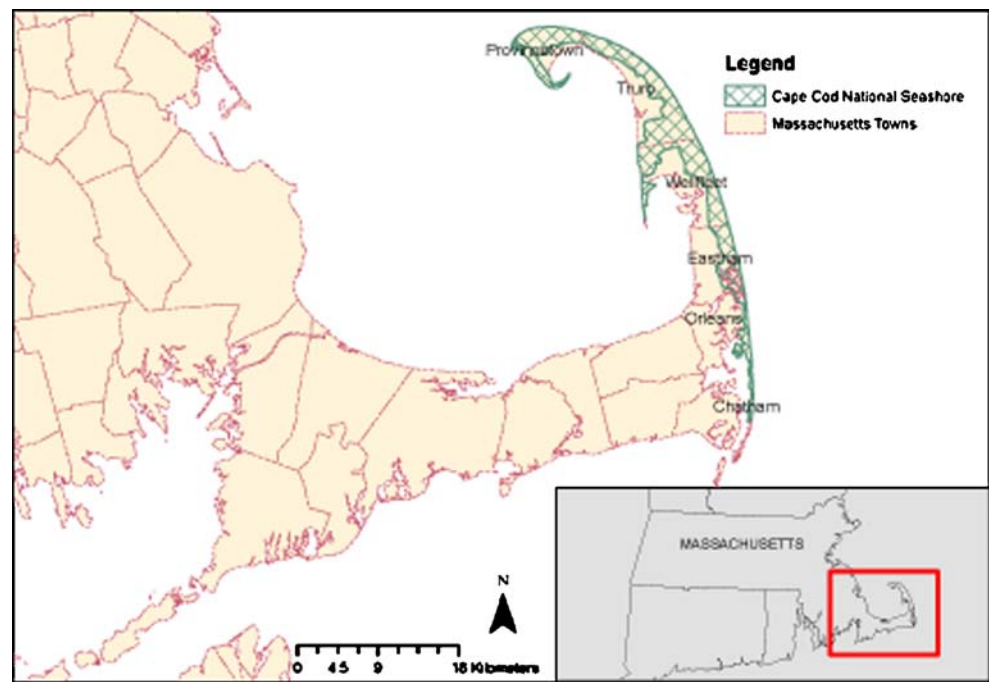
Some perceive current zoning bylaws for the Seashore District as inappropriate in view of changes to the character of development on the Cape, outdated in relation to advancements in the land use regulation field, and incongruent with the provisions of the Act (National Park Service 1998; Cape Cod National Seashore 2001). Property values have increased on the Cape as they have throughout the region. A rise in standards of living over the past four decades has allowed more people to buy second homes. Seasonal dwellings have become year-round residences as baby boomers flock to Cape Cod for their retirement (Ahern et al. 2004).

Pressures continue to mount for further development and for expansion of once modest Cape Cod cottages. Modern additions or replacements of improved properties increase the intensity of use and they impact water resources, views, and the Cape's rural character in general (O'Connell 2003;

⁸ Namely the use-and-occupancy of "dune shacks" which are distinctly not improved properties. They are maintained under use-and-occupancy agreements with the NPS. They have not been renovated or significantly changed since the park's establishment and some of them were without electricity or sewer connections when the CCNS was established. Upon acquisition by NPS, many owners were paid the appraised value of these structures. However, when property rights were in dispute, some owners elected to take full compensation in the form of a right to use and occupy the properties for up to 25 years or for the rest of their lives. Originally, there were more than 100 such properties. All but about 25 of these have expired or were ended voluntarily over the years (National Park Service 1998). Those remaining are contentious and frequently the subject of media attention both for and against pending NPS action (Longcope 1989; McLaughlin 1992; Berry 2003).

⁹ For example, some would like zoning restrictions to specifically address the protection of water quality, view corridors, and landscaping (Dooley 2001b).

Fig. 1 The location of the CCNS and the six towns



Ahern et al. 2004). Not only is the loss of natural and aesthetic resources of the Cape a concern, but also the loss of historical and cultural resources. The Historic American Building Survey has documented more than 70 privately owned buildings within the park as worthy of preservation; local historic commissions have documented many more (National Park Service 1998).

In the early 1980s, the National Park Service developed and revised a set of zoning bylaw guidelines for the towns' seashore districts as part of a CCNS Land Protection Plan. This followed criticism in the local media of the NPS's treatment of the improved properties, indicating that development was violating the spirit and intent of the Seashore's legislation. The use guidelines provide detailed direction for compatible development, but adherence to them remains voluntary for all of the towns (Cape Cod National Seashore 2001). Another initiative began in 2001 to revise zoning (Dooley 2001a) and there was even a plan for the federal government to purchase improved properties with \$2.84 million earmarked for CCNS as part of President Clinton's \$900 million "Land Legacy" program (Leaning 1999). However, these initiatives did not come to fruition. Thus, the model functions more or less according to practices established in 1959, based on zoning adopted in 1962.

A historical context of innovation

When Congress established the CCNS, it was a completely new kind of national park "conceived as a mosaic of private and public interests and properties" (Ahern et al. 2004).

Until the late 1950s, the federal government established national parks mostly on largely uninhabited western territories, such as Yellowstone, which was established in 1872. Others resulted from land donations by wealthy families, like the Grand Tetons and the Virgin Islands National Park (Caulfield 1989). In fact, there were few national parks of any kind in the eastern United States until the late 1950s (O'Connell 2003).

It was largely "outsiders" on Capitol Hill who led the drive to establish the National Seashore on Cape Cod. Many Cape Cod residents feared losing control over their community to federal officials. It is possible that without the innovative scheme proposed for incorporating current residences within park boundaries to be managed locally, the Act would not have passed in Congress (O'Connell 2003). The establishment of the park ushered in a new era characterized by the inclusion of human development and local interests in federal protected areas.

There are now other natural and historic protected areas with similar arrangements. Other examples are Fire Island National Seashore in New York where 17 pre-existing communities remain inside park boundaries, and the Boston Harbor Islands National Recreation Area which is managed as a consortium by partnering federal, state, city, and nonprofit agencies.

Nevertheless controversy abounds regarding the shared governance between local and federal authorities on Cape Cod that some regard as a tenuous institutional arrangement. A recent New York Times article construes the requirements issued by the Secretary of the Interior in 1962 based on reports by the improved property owners

Table 2 The amount of upland CCNS area by town

| Town | Total upland area in Town (in square kilometers) | Upland area within CCNS (in sq. km.) | Approximate percentage of area within CCNS (%) | |
|------------------------------------|---|---|---|------|
| Chatham | 63.3 | 3 | 4.8 | |
| Eastham | 41 | 12.1 | 29.6 | |
| Orleans | 55 | 6.1 | 11 | |
| Provincetown | 26.6 | 20.4 | 76.8 | |
| Truro | 56.7 | 38 | 67.1 | |
| Wellfleet | 55 | 32.4 | 58.9 | |
| Cape Cod National Seashore 2001 | TOWN TOTALS | 297.6 | 112.0 | 37.7 |

themselves as not legally binding allowing wealthy owners to push the limits of Park Service (NPS) guidelines or ignore them altogether. “[W]hat some owners of the 600 properties are just realizing now is that the actual authority for the zoning of the in-holdings rests not with the NPS but with the individual towns, and each town has different standards.” (Rozhon 2006). The NPS itself is critical of the arrangement: “CCNS’s zoning standards have not been effective in protecting the seashore from what many believe to be insensitive development that could be inconsistent with the provisions of the Act.” (Cape Cod National Seashore 2001) From these criticism it seems that federal oversight is lacking. One letter from a disappointed abutter complained that the review of CCNS has become a forum of “no-objection” referring to the CCNS being a rubber stamp for variances and exceptions. It is to these assertions that this research pertains.

Methodology

To examine the effectiveness of the Cape Cod Model, I explore the implementation of certain aspects of the zoning bylaws. I used an embedded case study method (Yin 1994) and then refined my approach using a policy implementation research model (Werner 2004). The core mission of policy implementation research is to describe, assess and explain what is happening and why. Cases that consist of requests for variances and exceptions brought by improved property owners to the town zoning boards are the unit of analysis. To collect data on these cases, I reviewed park planning documents, local town plans and bylaws, conducted key informant interviews with town and CCNS officials, and reviewed the zoning relief requests and decisions.

My study focuses on two questions: (1) Is the requirement that CCNS be notified of special permit applications being complied with? (2) Do the comments received from CCNS affect final zoning and planning board decisions? These questions are based on the assumption, as is the Cape Code National Seashore Act (1961) itself, that limiting

structural expansions of improved properties protects park resources.

The justification for addressing these questions is based on the following: For the first question, because the zoning standards regulating these properties in each town are slightly different, I limited my study to one particular aspect of the zoning bylaws for Seashore Districts shared by all the towns. This is the requirement to notify the CCNS of the request for a variance or special permit.¹⁰ The second question examines the outcome of zoning board decisions in relation to CCNS comments and recommendations. A number of sources indicate that although CCNS is notified of variance requests, CCNS either communicates no objection to the request or objections are ignored by the towns (Walsh TE (1982) Letter Re: Construction on Rockwell Ave. Personal Communication, September 14, 1982; Rozhon 2006). I reviewed 12 petition cases in the Town of Wellfleet to determine: (a) how often CCNS objects to what is proposed, and (b) whether these comments affect the final outcome.

Results

I reviewed 36 cases of zoning relief requests although many more have been made. The completeness of town and CCNS records limited my choice of cases for review as it did my ability to estimate how many total variance requests have been made over the years. Some of the towns keep meticulous records of improved properties (e.g., Wellfleet) whereas others (e.g., Chatham) keep poor records.

¹⁰ In zoning bylaws, a “variance” is a waiver of the zoning standards allowing what would otherwise be a nonconformity. A “special permit” refers to the allowance of uses stipulated in the zoning bylaws as requiring a special use permit or exception and for which property owners must meet specified standards usually described in the bylaws. Because variances and special permits trigger a similar notification requirement, I use the general term “variance” to refer to either of such requests. (For the town of Truro, that had few identifiable variance requests, I included review of some cases that required building permits).

Table 3 The number of petitions reviewed by town

| TOWN | Number of cases reviewed |
|--------------|--------------------------|
| Chatham | 3 |
| Eastham | 10 |
| Orleans | 0 |
| Provincetown | 0 |
| Truro | 9 |
| Wellfleet | 14 |
| TOTAL | 36 |

The number of variance applications examined in each town depended mostly on the number of properties clearly identifiable (usually with the help of local town planning staff) as improved properties that had made such requests (See Table 3). The only town for which I reviewed significantly fewer cases than I was able to identify was Wellfleet. There the zoning board secretary identified some 30 improved properties for which variances had been requested. For improved properties in Eastham, Chatham and Truro, I depended on the town planner to direct me to relevant cases. Improved property owners in Orleans and Provincetown (one in each town) had never requested variances. For cases in Wellfleet, I selected 14 cases (out of roughly 30) from different periods, the earliest being from 1963 and the most recent from November, 2006.

After reviewing town files, I cross-checked findings at the planning department of the CCNS headquarters. CCNS keeps records as well and has at least one file for each property reviewed.¹¹ As mentioned, I followed up on the substance of CCNS comment and how negative comments affected outcomes only for petitions in Wellfleet. Since the Town of Wellfleet keeps very good records, these could be readily cross-checked at the CCNS headquarters.

Notification requirement

The towns had notified CCNS staff of receipt of a petition for a variance for 31 (86%) of the 36 cases reviewed. While I did not find specific notifying letters in all 31 cases, the fact that CCNS staff issued a letter or fax to the town, constituted proof that CCNS knew of the petition. The way towns notify the park varies by town and also by accepted procedure over time. In some cases, the town was notified as an abutter. Because the Cape Cod National Seashore surrounds the improved properties, it may be notified of an impending zoning relief case due to other regulations. For example, local Boards of Health require notification of abutters when property owners propose changes to septic systems. The Massachusetts Wetlands Protection Act

requires that owners of property within a certain distance of wetlands notify abutters of any project proposals (Notice of Intent under Massachusetts Wetlands Protection Act M. G.L. 131, codified at 310 CMR 10.00).

For five cases no evidence of notification was found. There were variance petitions in town files, but I found no response from the Seashore and no record of CCNS staff input into the towns' decisions. I cross-checked this with the CCNS files. These findings (or lack thereof) suggest that CCNS did not know of the petition.

The ratio of cases of failure to notify CCNS is small, especially considering a margin of error resulting from faulty recordkeeping or an inability to find any record of notification that did occur. It seems that the zoning bylaws are usually being complied with in this regard and that for the majority of variance requests CCNS is given opportunity to comment.

National seashore comment and impact

CCNS responses issued during the early years following the park's establishment were written by the Park Superintendent, Acting Superintendent, or Deputy Superintendent. In recent years, comments from the park regarding variance petitions come solely from the CCNS planning office, usually from the Head Planner and/or Program Assistant. I reviewed comment letters and faxes, but for some cases, the files contained only a note providing record of a telephone conversation or some other informal sign-off. I assumed that CCNS communicated these comments in some form to the town.

I examined the impact of the CCNS response to the 12 cases in Wellfleet for which the CCNS had received notification of a pending variance application. All of these cases are either variance or special permit requests that came before Wellfleet's Zoning Board of Appeals (ZBA). The oldest case is from 1989; the most recent from November, 2006.

CCNS determines consistency of non-conforming uses and structures with park preservation through comparisons of what is proposed to what existed in 1959 (which are essentially "grandfathered" uses and structures). All of the Wellfleet variance petitions are for expansions of building footprints. CCNS approved six of 12 cases that Wellfleet's ZBA also approved. CCNS objected to one petition and the town similarly disapproved. CCNS objected to another and the petitioner withdrew the request. For one third (4/12) of the cases, the ZBA approved the variance request despite disapproval by CCNS. Based on this small sample, if in one-third of the cases, towns ignore or override CCNS objections, the model is not very effective.

CCNS staff may be reluctant to communicate strong objections or to deny a request outright knowing that they

¹¹ Usually the existence of a file at CCNS headquarters indicates that the town notified at least one request for a variance.

have little recourse if the ZBA overrides CCNS comments. (In one case, objection letters written by abutters called into question impacts of an expansion to seashore resources much more so than did CCNS comments). In accordance with the statute and regulations, improved properties that do not conform to Seashore District zoning standards, in the opinion of the CCNS (officially the Secretary of the Interior), will have their Certificate of Suspension of Condemnation revoked or their eligibility for such a certificate denied. This is the punitive action available to the federal authority. However, CCNS does not have funds to acquire these properties. According to the statute, acquisition of properties requires the Secretary of the Interior to pay “to the owner of right so terminated an amount equal the fair market value...” (75 STAT 289, § 4(a) (8)). Improved property values in this area have risen into the millions of dollars and available funds for acquisition have at the same time dwindled.

Properties that do not comply with the federally approved zoning bylaws of the six towns and have their Certificate of Suspension of Condemnation (CSC) revoked will go onto a list of properties subject to acquisition. According to CCNS staff, this is a long list that includes many different types of acquisition priorities waiting for funds to become available. CCNS has revoked only one CSC in the past 12 years. This was in the town of Wellfleet in 2001. CCNS officials know it is unlikely that acquisition of this condemned property will actually take place in the foreseeable future.

Discussion

I judge the effectiveness of the Cape Cod Model based on its ability to achieve the objectives stated as “promot[ing] preservation and development [of property within the boundaries of the CCNS] in accordance with the purposes of the said Act.” (36 CFR § 27.4(b)). The apparent implementation deficit is a result of the failure of the Secretary of the Interior to acquire properties that do not meet the Seashore District zoning standards. This situation is rooted in trends set during the Reagan era, and continued under the current administration, when major cuts in federal funding for environmental program implemented on the state level transform federal statutes into unfunded mandates (Kelemen 2004). Enforcement is always costly (Stone 1998), but especially so when it depends on acquisition of property based on rising fair market values.

Compliance approaches used for intergovernmental policy mandates can help frame a discussion on effectiveness of the Cape Cod Model. Compliance paradigms have been described in the literature as either instrumentalist or normative. The instrumentalist approach assumes that the

regulated community is composed of calculated actors. In this category, the classic paradigm maintains that deterrence is based on the probability of detection and severity of the penalty versus the potential for illegal gains (Crawford et al. 2004). For the Cape Cod Model, the penalty is the revocation of the Certificate of Suspension of Condemnation. However, this is not enough of a deterrent to maintain conformance since the next step, actual acquisition by NPS is unlikely. At the same time, the incentive to expand one’s house, increase its net-worth, and maintain a highly valued life-style surrounded by natural vistas and amenities, is great indeed and causes property owners to seek zoning relief. Sympathetic local authorities are willing to approve these requests.

Presenting a normative model, Kuperan and Sutinen (1998) develop a comprehensive socioeconomic theory of compliance. They argue that moral obligation and social influence can improve compliance and reduce the need for enforcement. These factors involve the perception of legitimacy of the enforcement institution and its rules and could promote compliance and conformance in situations where deterrence is lacking. A third integrative compliance model incorporates both instrumental and normative perspectives. The integrative approach acknowledges that actors are willful agents that act rationally in complying with higher authorities however, they do not exist independently from surrounding social environments (Beach 2005).

Institutional arrangements designed on the community level can depend more on the imposition of social pressure, voluntary conformance and less on enforcement for compliance. But the Seashore District zoning standards from four decades ago do not reflect current local concerns or contemporary approaches to land use management (Cape Cod National Seashore 2001) and therefore are perceived as top-down or out of touch with local conditions. This may account for some of the lack of support the local community, what Beach (2005) refers to as the “social environment”, affords them. The old standards fail to reflect changes in development patterns on the Outer Cape including the rise in property values and shifting demographics (Ahern et al. 2004).

A clear distinction exists between compliance features of coercive and cooperative intergovernmental policy mandates. The former treats local governments as regulatory agents charged with following rules to obtain compliance as prescribed by higher-level governments to higher-level policy objectives. The latter tries to enhance local government interest in and ability to work toward compliance among regulated entities that supports higher-level policy goals. For the preferred cooperative intergovernmental mandate to function well, local government must have a modicum of commitment to policy goals, in other words a normative commitment (May et al. 1996). When goals

diverge under the coercive policy mandate, the higher-level government applies sanctions, such as the acquisition of property. In this case, these sanctions apply to individual property owners.

The Cape Cod program lacks opportunities for renewed commitment to the protection of park resources so important for a cooperative intergovernmental mandate. As mentioned above, several times since 1962, CCNS tried unsuccessfully to revise binding Seashore District standards (in 1980, 1985 and in 2001). If intermittent zoning revision processes with adequate input from local communities had been federally mandated from the onset, they would have occurred.

The results also hint at some conflicts in zoning goals. The general overall zoning implemented by the towns within the CCNS is not designed for park protection. Although Seashore District zones aim to preserve resources of the park area, this is only one zone among many that govern the use of private property within town borders. Towns seek to separate uses many of which are not related to conservation (such as private residential and public infrastructure uses). When extraction and preservation are equal goals, implementation deficits such as those encountered in this case study may be more likely to arise, especially when zoning for conservation is part of a broad-scoped zoning framework and implemented by institutions with non-conservation oriented agendas. With implementation challenges stemming either from conflicting goals, cross-level mandates or both, normative commitments to regulation are especially important.

Some policy analysts highlight the advantages of decentralized governance for conservation pointing to stakeholder support and local knowledge of resources, and of changing circumstances on the ground (Young 2006). But others recognize that local governing entities also fall prey to intense political and economic pressures that can negatively influence their role in conservation that should serve wider, long-term, and even intergenerational goals (Schwartz and Tomz 1997; Rabe 1999). In order to maintain the advantages of decentralized governance and management and to avoid its disadvantages, local stakeholders must remain involved and supportive of broad public goals. In setting up multi-tiered systems for cooperative resource management, policymakers must ensure that the role of the central authority remains viable and supported both financially and substantively.

Conclusions and implications

As the US national system of parks evolves to include many different kinds of protected areas, a diverse array of stewards including local communities and private entities will take part. Due to the multi-jurisdictional nature of the

coastal zone, multi-level authorities will increasingly regulate public and private uses for coastal protection, and policymakers will most likely consider cross-level governance arrangements similar to that employed on Cape Cod.

In addition to its implications for national protected areas, this analysis has implications for the restriction of landside development in coastal watersheds using zoning for other concerns. For example, research confirms that when impervious surfaces cover more than 10% of a watershed, the rivers, creeks, and estuaries they surround become biologically degraded leading to irreversible declines in the health of coastal waters (Beach 2002; Pew Oceans Commission 2003). To address this problem, regional or state authorities mandate local “smart growth” zoning ordinances that limit impervious lot surfaces in certain areas. Strong central authority is needed to implement these regional goals. To reduce conflicts intervention by a central authority should aim to facilitate collaboration and to achieve normative commitments whenever possible.

In such multi-tiered, intergovernmental arrangements, policy makers should anticipate local political pressures. For improved properties of the CCNS, those who have authority in local government are sometimes making decisions that favor property owners’ rights over park-users’ rights to public resources. As with regulatory capture in regional fisheries management, this leads to short-term allocation considerations overriding long-term conservation imperatives (Sutinen and Upton 2000).

Fluctuations in funding cause a program to fall short of goals especially if punitive responses rest upon acquisition. Policymakers designing compliance tools and deterrents that use the threat of acquisition must expect changing resource costs, particularly rising values due to scarcity. The perception of CCNS having little or no ability to actually acquire improved property compounds the enforcement deficit by encouraging entities to seek zoning relief. Also, it keeps CCNS officials from objecting outright to requests for variances and special permits because they know that further, follow-up action is prohibitive or impossible.

Local zoning designed to implement national, regional, or state goals for conservation or for resource extraction and use should undergo revision at pre-designated time intervals. Pressures on resources change as do their values to society; techniques and practices must be adjusted and updated. Such revisions should be predetermined, obligatory, funded, and managed by a central authority with input from local authorities, other co-managers, and owners of property or use rights.

Finally, conflicting goals of development and protection should be acknowledged in zoning revisions and standards designed to support each. Zoning of a protected area for

conservation (under varying levels of protection) is distinctly different from town zoning aimed at development. In a protected area, goals and objectives of zoning should be more homogeneous in nature just by virtue of zoning being specifically designed for a park or reserve even if implemented through a cross-level governance arrangement. But if protection goals do conflict with other zoning goals, priorities must be established.

The original proponents of the Cape Cod National Seashore most likely predicted some of the significant changes in development patterns that have occurred in New England and on Cape Cod. Therefore, they worked hard to establish the park. Yet legislation that created the policy for park in-holdings did not adequately incorporate mechanisms that address long-term implementation. Use of this model for protected areas, whether resources are terrestrial, coastal or marine, requires foresight, periodic opportunities for adjustment and a strong central agency with clearly prioritized conservation goals.

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