RFF REPORT

Paying for State Parks

Evaluating Alternative Approaches for the 21st Century

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PAYING FOR STATE PARKS: EVALUATING ALTERNATIVE APPROACHES FOR THE 21ST CENTURY

Margaret Walls*

Executive Summary

The United States' 14 million acres of state park lands provide enormous social and economic benefits, but state park systems nationwide are hurting. General fund revenues for state parks have declined since the 1990s, and the recent recession exacerbated an already difficult funding situation in many states.

In this report, I analyze a variety of methods currently used to finance the operation of state parks and some new potential options under consideration. The approaches can be grouped into the following categories: (1) user fees and park-generated revenues; (2) contractual arrangements with private firms; (3) dedicated public funds, which can be financed in a variety of ways; (4) philanthropy and partnership arrangements with park conservancies and other nonprofits; and (5) some creative financing approaches often used in cities.

User Fees. State park user fees can include park entrance fees and annual passes; camping and lodging fees; fees for activities such as golfing, boating, and horseback riding; and equipment rental charges. Although user fees will always play a role in state park financing and are appropriate for many of the services parks provide, charging a price rations use and can be inefficient. If there is no congestion and use of the park is "nonrival"—that is, one person's use does not take away the amount left for others to enjoy—then charging an entrance fee inefficiently limits use of the park.

To the extent that parks generate revenues, every effort should be made to keep those revenues within the park system. Allowing state parks to keep the revenues they earn and reinvest them in the system through some kind of "enterprise" funding model provides better incentives for park management. Allowing individual parks to keep some of the revenues is also worth consideration, though some portion should be returned to be used system-wide.

Privatization and Contracts. The private sector has been involved in state parks for decades, primarily through the use of concessionaire agreements to operate particular services within parks. But some have argued for a larger role, whereby private companies take on whole park operations.

Contracting out park operations is neither inherently better nor worse than government provision. In general, contracting with a private firm is preferred if the full costs associated with monitoring and enforcing an efficient contract are less than the internal cost of the government providing the service itself. In situations where measuring and monitoring performance is difficult and there are

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[1] Appendix A to the report provides detailed descriptions and analysis of funding approaches used in eight states. Appendix B goes into more detail about city park conservancies and other nonprofit groups, including examples from different cities. Both appendices are forthcoming in February 2013 and will be linked here as they are available.

relationship-specific assets necessary to produce the service, contracting can be relatively costly. Although it may be straightforward to write and enforce a simple maintenance contract or contract to operate a gift shop or campground, long-run management of an entire park can be complex. To make this decision, states need to consider carefully whether a contract can be structured to provide the proper incentives, including penalties for not meeting specified standards, and how much it will cost the government to write, monitor, and enforce the contract.

Dedicated Public Revenue Sources. In the broad design of an efficient and effective state government tax system, dedicated, or "earmarked," taxes have some shortcomings. Moreover, studies have shown that when such dedicated funds are developed for a particular public good, general fund revenues for that good are inevitably cut. This appears to be true in states that have developed such funds for state parks. Nevertheless, state park systems benefit from some certainty in revenue streams and states are increasingly turning to this approach. Use of dedicated funds for state parks has grown since 1990. States use revenues from sales taxes; real estate transfer taxes; hunting and fishing licenses; boat, snowmobile, and off-road vehicle registration fees; motor vehicle registration fees; oil and gas and other mineral severance taxes and lease royalties; and proceeds from state lotteries. States are also considering other kinds of dedicated fees such as plastic bag fees.

A tax with a broad base, such as a general sales tax, has several virtues. For one thing, it allows the tax rate to be relatively small, which keeps the deadweight loss the tax imposes on the economy low and the average financial burden on a household minimal. For another, everyone in the state pays for the parks. This helps to get "buy-in" for state parks and prevents the development of particular constituencies that dictate the use of state park funds. The latter can be a problem with fees on off-road vehicles, hunting and fishing licenses, and the like. In addition, these narrow taxes are not capable of generating large amounts of revenue.

Philanthropy and the Nonprofit Sector. Private philanthropy does not play a large role in funding state parks, but it is becoming increasingly important for city parks in major cities in the United States. New York City's Central Park is the exemplar: the Central Park Conservancy, which raises money from corporate and individual donations, provides 85 percent of Central Park's nearly $48 million annual budget. Other parks in New York City also rely heavily on donations, as do some parks in Chicago, Atlanta, Houston, Philadelphia, San Francisco, and other major cities. California has an active state park foundation, but it does not raise funds directly for state park operations. New York's state parks agency has some long-standing partnership agreements with nonprofits and conservancies. But other than these two states, the role of the nonprofit sector in state parks is limited. A few states have state park endowment funds, which take donations, but they are very limited in number and small in size.

Some efforts to increase voluntary contributions to state parks and the role of the nonprofit sector more generally would probably be worthwhile. It is unlikely that state general fund revenues for parks are going to increase in the near future in most states, and state park systems therefore need to consider all options. States should do careful studies first to adopt an efficient and effective approach, however. Relying on voluntary contributions can be risky. For one thing, they are likely to crowd out government funds (in much the same way that dedicated funds have crowded out general fund revenues). For another, voluntary contributions to a public good suffer from the free rider problem—because everyone can enjoy the benefits without contributing themselves, people are inclined to let others contribute, resulting in a less-than-optimal amount of funding. In addition, when only a limited set of citizens contributes to the parks, this can create a disconnect between the much larger set of users and those who finance park operations. States need to take care if and when they move to a model that relies more on philanthropy.

Other Innovative Approaches and Lessons from Special Park Districts. Cities use a number of other creative financing approaches for some of the goods and services they provide, including parks. These include business improvement districts, tax increment financing, payments-in-lieu-of-taxes, development impact fees, and creating zoning options. Most of these approaches have limited applicability to state parks but they show the range of options that exist and could be worthy of additional study in particular settings.

Special park districts are special purpose governmental units that have administrative and fiscal independence from local governments. They usually have taxing authority and can issue bonds. Often they are multi-jurisdictional, covering a geographic area that includes several counties or municipalities. Most special park districts lie somewhere between a state park and a city park system; although they are located near cities, they tend to provide large natural areas for parks and recreation. Most rely on a combination of dedicated property tax revenues and user fee revenues to fund their operations, with bonds issued for capital projects and the property tax revenues backing the bonds. Special park districts are worthy of study because they have weathered the recent recession fairly well and many provide a successful model for provision of park services. The East Bay Regional Park District, which covers Alameda and Contra Costa Counties and part of Oakland, California, and the Charleston County Parks and Recreation Commission in South Carolina are two particularly successful special park districts.

Yet with all the options available, it is important to understand that no one-size-fits-all approach will work for state park systems given the diversity in their lands and facilities and the differences in size and scope. Moreover, the problems facing many states vary in degree of severity, with some states facing a genuine crisis and others on better footing. Some general guidance and rules of thumb suggest the following:

1. User fee revenues need to stay in the state park system in some kind of enterprise fund approach. But states need to be wary of relying too much on user fees.
2. Contractual arrangements with private firms to operate parks are not inherently bad but neither are they likely to be a solution to state park funding woes. States need to carefully weigh the full costs of efficient contracting with the costs of operating the parks themselves. And they need to guard against private firms cherry-picking the most profitable and popular parks.
3. A dedicated funding source gives a state park agency more certainty in its planning and budgeting but it almost always reduces general fund revenues, sometimes to zero. With that in mind, the source of funds should be chosen so as to provide a sizeable, reliable, and sustainable source of funds on an annual basis into the foreseeable future. To the greatest extent possible, a tax-based system should rely on a tax with a broad base.
4. Some efforts to increase voluntary contributions and the role of nonprofits in state parks may be worthwhile, but states need to have a careful study of the best approach.

Many state park problems go beyond money. Some systems have not kept up with changing demographics and preferences. Governance and management structures in many systems seem to stifle creativity and innovation. Finding sustainable funding for parks is only one part of the problem and should be considered in conjunction with the larger question of what a state park system should look like, what programs and services it should provide, and how it should be managed.

PAYING FOR STATE PARKS: EVALUATING ALTERNATIVE APPROACHES FOR THE 21ST CENTURY

Margaret Walls

Introduction

The 14 million acres of state park lands in the United States provide enormous value. Approximately 720 million people visit them each year, and a recent study estimated the social benefits of the recreation they provide at more than $14 billion per year (Siikamaki 2011). This figure is far in excess of the $2.3 billion it costs to operate them (National Association of State Park Directors (NASPD) 2012). Most state park systems are struggling, however. Having faced budget problems, aging infrastructure, and a burgeoning deferred maintenance backlog for several years, the recent recession dealt a devastating blow to many state park systems. General fund revenues for state parks have been slashed, and state park agencies have cut costs by limiting park operating hours at many parks, reducing services offered at others, and, in some cases, closing parks altogether.

In this study, I evaluate a variety of financing options for state parks, including user fee expansion, self-financing arrangements, privatization options, and dedicated public funding systems. I summarize the approaches used in several states and analyze their strengths and weaknesses. I also compare what is going on at the state level with some of the approaches used for city parks. While not all cities have solved the funding problem for their parks, several are further along in experimenting with new approaches, including partnerships with conservancies and private firms. I assess the pros and cons of these options. I also include discussion of special park districts, which are special purpose local governmental units that have their own taxing authority.[2]

Today's fiscal environment suggests a harsh reality for state parks. General fund revenues are unlikely to be sufficient in most states to fully meet current state park financial requirements (much less the costs of any new parks and acreage). This leaves states with tough decisions on the expenditure side of the ledger: should they close some parks and/or how do they lower costs in a smart way, i.e., without comprising the amenities and services that parks provide? On the revenue side, states need to decide what mix of revenue options make the most sense—user fees, various kinds of dedicated taxes and other revenue sources, voluntary contributions, corporate sponsorships and other private sector involvement, and partnership arrangements—with local governments, park conservancies and foundations, and private industry. Each of these options has some advantages and disadvantages.

Background on State Park Financing

State park systems vary widely across states. Some have highly developed infrastructure, including lodges, restaurants, and golf courses, while others are limited to nature-based amenities such as trails and campgrounds. Kentucky, for example, has a total of 17 lodges in 51 state parks, but 23 states have

[2] Appendix A to the report provides detailed descriptions and analysis of funding approaches used in eight states. Appendix B goes into more detail about city park conservancies and other nonprofit groups, including examples from different cities. Both appendices are forthcoming in February 2013 and will be linked here as they are available.

no lodges at all. New York has zoos, ice skating rinks, 32 golf courses, historic inns, and a multitude of attractions and offerings. In some states, historic properties are part of the state park system; in others, they are not. And while the average state has 3,214 improved campsites in its state parks, New York has more than 15,000 and Michigan nearly 13,000 (Walls 2009).

This makes comparisons across states difficult. One must take particular care in comparing total operating budgets because the services and amenities provided vary enormously, as does annual park visitation and use. For example, California, which has the most state park acreage in the lower-48 states at 1.6 million, also has the largest state park operating budget at $365 million in FY2011 (NASPD 2012). This figure is 4½ times the operating budget of the Texas state park system, which has the second-most state park acreage in the lower 48 at 615,000.[3] But the California system serves far more visitors; thus, the cost per visit is $5.70 compared to Texas's cost per visit of $10.30. The median operating expenses across all parks in FY2011 was $31 million, $3.25 per visit.[4]

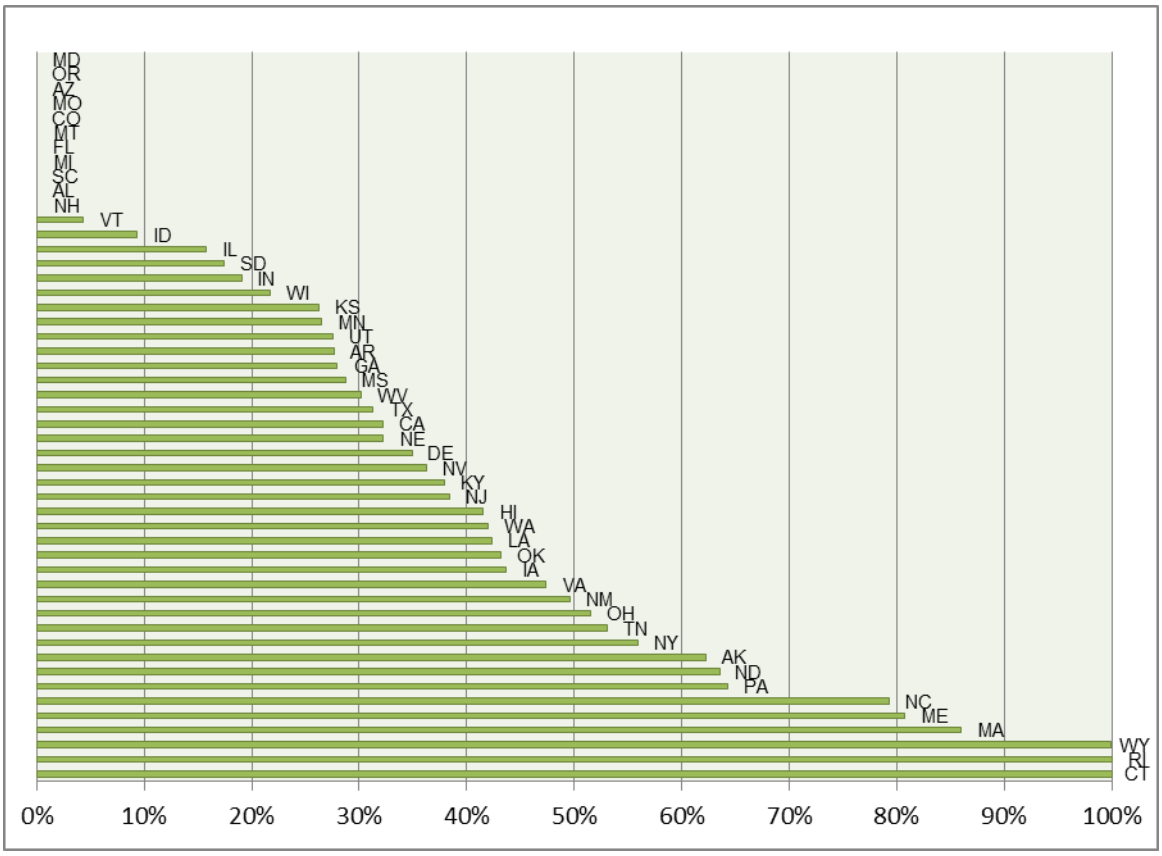
State park operating costs are covered by a combination of park-generated revenues, general fund revenues, dedicated funding sources, and some miscellaneous revenues (which can include some federal funding). In FY2011, on average, park-generated revenues covered 39 percent of total operating costs, general fund revenues 34 percent, and dedicated funds approximately 20 percent. But these percentages vary widely across states. Eleven states receive no general fund revenues at all. In these states, dedicated funding covers nearly 48 percent of all operating costs (NASPD 2012). Figure 1 shows general fund revenues as a percentage of the total operating budget by individual state.[5]

[3] New York has the most acreage of all states if the Adirondacks and Catskills Reserves are counted in the totals, but these are managed by the state's Department of Environmental Conservation and not the Office of Parks, Recreation, and Historic Preservation and are thus not generally reported as state park acreage (and are not included in NASPD annual reports). Nonetheless, they provide significant recreational opportunities.

[4] All of these statistics were calculated using numbers reported in the FY2012 annual report of the National Association of State Park Directors (see NASPD 2012).

[5] Although three states (Wyoming, Rhode Island, and Connecticut) report that 100 percent of their costs are covered by the general fund, these states all earn revenues in their parks. They return these revenues to the general fund and thus choose to report in the NASPD survey that their expenses are covered by the general fund. This suggests that some caution should be applied in using the numbers in Figure 1. The NASPD annual survey is a useful source on state parks because it compiles all state park statistics in one place and has been published since the 1970s, thus allowing a look at trends, but states can put together budget figures in different ways.

Figure 1. Percentage of FY2011 Park Operating Expenditures from General Fund Revenues, by Individual State

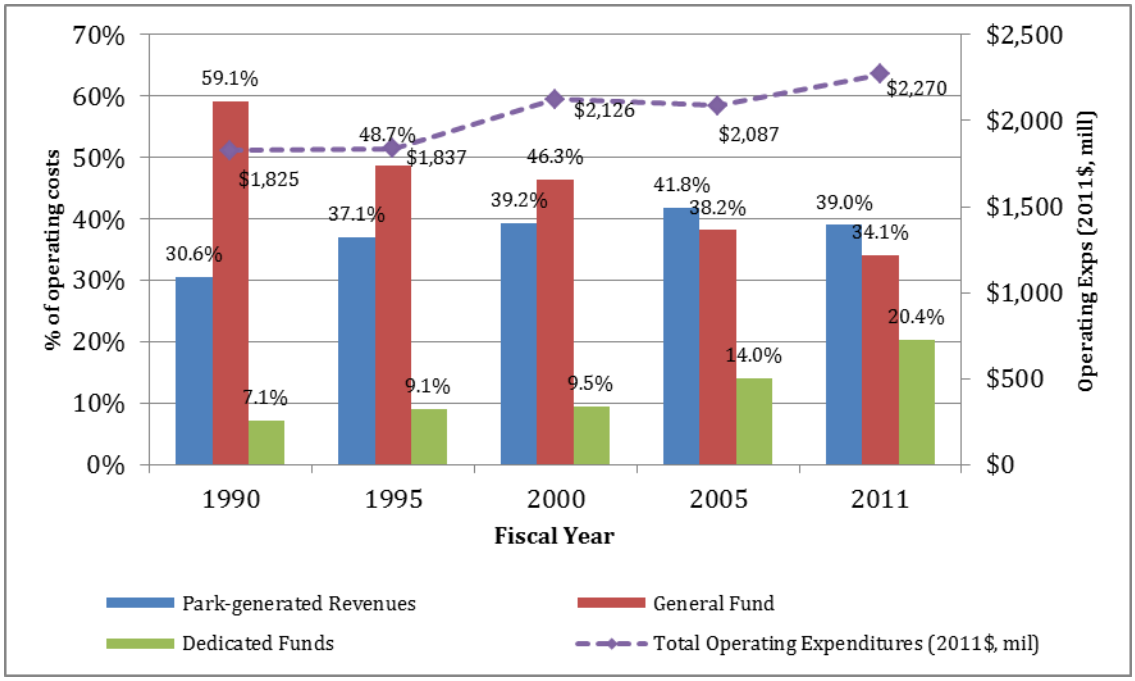


Source: National Association of State Park Directors (NASPD), Annual Information Exchange, FY2010-2011.

General fund revenues as a share of total operating expenses have declined over the past two decades. Figure 2 shows the average percentage coming from each of the three main funding sources for selected fiscal years since 1990. General fund revenues have declined from 59 percent in FY1990 to 34 percent in FY2011. Most of this decline has been made up by an increase in dedicated funds. Park-generated revenues have provided a roughly constant share of park funding since FY1995. Nationally, since FY2005, park-generated revenues have supplied the largest source of funding, greater than both general revenue funding and dedicated funding. Figure 2 also shows total operating expenditures in inflation-adjusted 2011 dollars, which have increased slightly since FY1990.[6] Expenditures peaked in FY2007 (not shown on the graph) and have declined since then. These national figures over a two-decade period mask some dramatic movements for some individual states over particular time periods.

[6] Operating costs have risen (in real terms) since the late 1970s when NASPD first started publishing its annual report (Walls 2009c).

Figure 2. Total State Park Operating Expenditures and Sources of Funds



Source: National Association of State Park Directors (NASPD), Annual Information Exchange. Various years.

User Fees

State park user fees include park entrance fees and annual park passes, camping and lodging fees, fees for activities such as golfing, boating, and horseback riding, and equipment rentals. Although user fees will always play a role in state park financing and are appropriate for many of the services state parks provide—camping, lodging, equipment rental, and the like—charging a price rations use, and in some cases this is inefficient. If there is no congestion and use of the park is "nonrival"—i.e., one person's use does not take away the amount left for others to enjoy—then charging an entrance fee inefficiently limits use of the park.[7]

In addition, as states ratchet up user fees in an attempt to cover an increasing share of park operating costs—and many states are doing this—they need to be careful. They need a good understanding of the demand curves at individual parks and how much they can raise prices for particular services at particular times of the year without significantly reducing park use. Moreover, increasing prices without improving park offerings may be problematic. Some state park systems are badly in need of upgrades and improvements, which may limit the extent to which user fees can be increased to cover basic operating costs.

[7] Pure public goods are nonrival in consumption and nonexcludable, i.e., it is impossible, or prohibitively costly, to charge a price to keep someone from enjoying the good or service. National defense is the canonical example. Many goods are somewhere along the scale between being purely private and purely public; this is true of state parks, which provide some purely rival services such as campsites and some more nonrival ones such as trails. Governments providing a nonrival but excludable public good need to figure out the best way to finance it: charge a price, which inefficiently rations use, or use a tax that typically produces distortions elsewhere in the economy (Stiglitz 2000).

One thing is clear: to the extent that parks generate revenues, those revenues should stay in the park system and not be returned to a parent agency such as a Department of Natural Resources or to the state's general fund. Making the state park agency, or even the individual park, the residual claimant for any net park-generated revenues provides incentives to manage efficiently. The 2004 Federal Lands Recreation Enhancement Act, which allows user fees to be charged at federal recreation sites, keeps revenues earned with the sites and allows them to be used for capital improvement projects, maintenance, park programs, and other activities that benefit visitors (US Department of the Interior and US Department of Agriculture 2012). The enterprise fund model for local governments works similarly. Accounting and financial reporting under enterprise funds occurs separately from that of general revenue funds. They can be used for a wide array of municipal services that are partially covered by user fees; water and sewer services are two common examples. By law, money in an enterprise fund is only allowed to be used on expenditures of the fund; it may not be used to support ongoing municipal operations or to cross-subsidize the general fund.

Many state park systems could benefit from an enterprise model, but it appears that very few use it. New Hampshire is one state that does (New Hampshire Department of Resources and Economic Development, Division of Parks and Recreation 2012). It is the only state that fully covers its operating costs with park-generated revenues. Wyoming adopted an enterprise fund in 2000; 80 percent of the park system's fee revenues go into an enterprise account, and those funds can be used for capital construction projects but not annual operating costs. Evidence shows that the fund has helped keep Wyoming's maintenance backlog at a reasonable level (Wyoming Department of State Parks and Cultural Resources 2012). Maine has an enterprise fund for a single park, and Idaho and Indiana have limited enterprise funds for individual parks. Several states are looking into the approach, including Colorado, Montana, and California. California passed a trailer to its budget bill in mid-2012 that created the California State Park Enterprise Fund and the State Parks Revenue Incentive Subaccount within an existing fund that the state parks system had. However, language in the bill states that expenditures from the funds must be appropriated by the legislature, thus it remains to be seen whether California will move to a true enterprise model.

Privatization

Privatization is a term that triggers many emotions. For some park advocates, it stirs fears of property sell-offs and the transfer of publicly owned resources to the private sector to do with as it wishes (Tittel 2012). For property rights advocates and proponents of small government, privatization is often seen as the cure-all for state park financial and management problems (Fretwell 2011; Gilroy 2010).

The private sector has been involved in state parks, as well as many federal recreation sites, for decades, primarily through the use of concessionaire agreements to operate gift shops, restaurants, equipment rentals, and other services. Some private companies also run park programs and events. But with state parks struggling, some privatization advocates have pushed for a more all-encompassing arrangement in which private companies take on concessions for whole park operations. Several states are exploring this option (Gilroy and Snell 2012).

Contracting out park operations is neither inherently better nor worse than government provision. In general, contracting with a private firm is preferred if the full costs associated with monitoring and enforcing an efficient contract are less than the internal cost of the government providing the service itself. In situations where measuring and/or monitoring performance is difficult and where there are

relationship-specific assets that are necessary to produce the service, contracting is relatively costly.[8] Several empirical studies of local government services have found that governments are less likely to contract out and more likely to produce in-house when performance is hard to measure and when there are relationship-specific assets central to the service being provided (Brown and Potoski 2003a, 2003b; Levin and Tadelis 2010; Walls et al. 2005; López-de-Silanes et al. 1997).

This point about the cost of contracting is often lost in discussions over state park privatization. Often, privatization advocates, including concessionaires eager for more business, point out the myriad cost savings from contracting out park operations—usually labor savings that result from using nonunionized and seasonal workers—but fail to count the cost to the government associated with contracting. Moreover, it is important to emphasize the need for a complete contract that covers all contingencies. While it may be relatively easy to set up a contract with a concessionaire to provide basic operations and maintenance of a state park, especially one that has minimal infrastructure and provides limited services, writing a contract that provides incentives for operation of park programs, stewardship of the lands and resources, and management of special facilities such as historic buildings, not to mention capital improvements and other park enhancements, may not be as easy.

Thus two key questions for states are whether a contract with a private operator can be structured to provide the proper incentives, including penalties for not meeting specified standards, and how much it will cost the government to write, monitor, and enforce that contract. These costs need to be compared with the government's own costs of operations. In some cases, the private contracting option might bring about long-run cost savings; in other cases, it might not. One thing states need to guard against is "cherry-picking"; that is, contracting out the most popular and profitable parks in the system and leaving the government to figure out what to do with the remaining sites. These may be sites that have value but cannot feasibly charge user fees sufficient to cover expenses.[9] Since virtually no state park system fully covers its operating costs through park-generated revenues at the present time, it is hard to believe that contractual arrangements with private firms will yield cost savings sufficient to turn this statistic around.

Dedicated Revenue Sources

In the broad design of an efficient and effective state government tax system, dedicated, or "earmarked," taxes have some shortcomings. For one thing, they fail the principle of being "economically neutral" (National Conference of State Legislatures 2007); in other words, tax policy is effectively used to make budget and policy decisions since taxes are linked to the provision of particular services. Economists have long argued against this kind of linkage, stating that the decision over the optimal level of a public good should be separate from the tax chosen to finance that good. Another problem is that dedicated taxes build rigidities into state policy decisions. Over time, as preferences and needs change in a state, it may be better for the legislature to have flexibility in its budgeting and policy decisions; earmarked taxes limit that flexibility.

But flexibility, in part, created the problems that many state park systems face today. With swings in general fund revenues from year to year, state park advocates have pushed for the use of dedicated

[8] A relationship-specific asset is one that has significantly less value outside the contractual relationship than within it. When that is the case, one party in the contract may be able to "hold up" the other—i.e., once the investment has been made by one party in the arrangement, the other may be able to take advantage of the asset specificity to appropriate some of the rents (Williamson 1979; Hart, Shleifer, and Vishny 1997). Because both parties know this, it can be difficult to write an acceptable contract.

[9] Historical properties often fall into this category.

funding sources to get around these problems. As a result, dedicated funds have risen in importance over the past twenty years. As shown above in Figure 2, dedicated funds covered an average of only 20 percent of total state park operating costs in FY1990, but they covered 39 percent in FY2011.

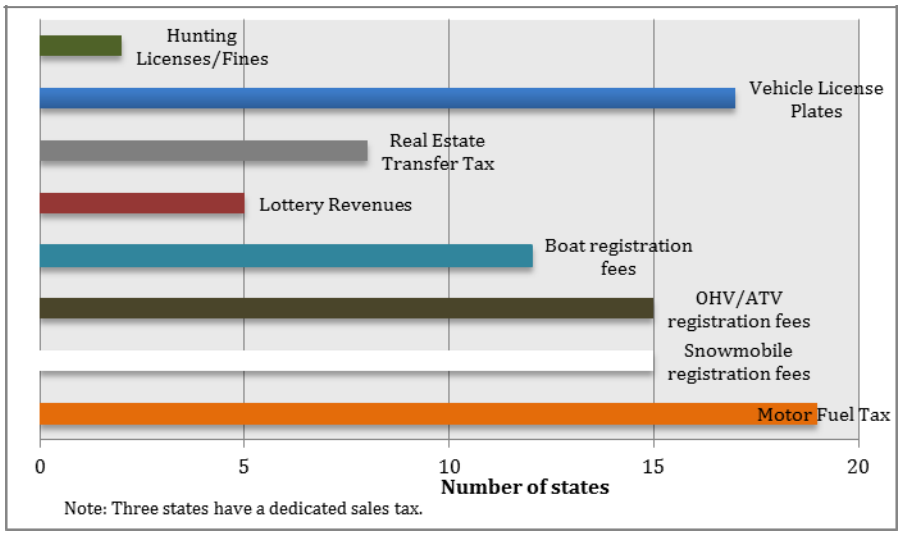
States draw on a variety of sources for dedicated funding. These include some share of motor fuel tax revenues (usually, an estimate of the portion paid by off-road vehicles and boats); registration fees for recreational vehicles, off-road vehicles, and/or snowmobiles; hunting and fishing license fees; state lottery proceeds; public land lease revenues and/or severance tax revenues from oil and gas and other minerals; real estate transfer taxes; and general sales taxes. Some states use fees assessed during motor vehicle registrations to either provide voluntary donations to a state park fund or sell annual park passes. Two states are considering the use of a plastic bag fee to raise money for state parks. And although state parks do not receive funding from property taxes (i.e., annual taxes based on assessed property values), special park districts rely heavily on that funding source. Figure 3 shows the number of states that reported receiving some revenues in FY2011 from eight different kinds of dedicated funding (NASPD 2012).[10]

Virtually every state that has adopted a major dedicated funding mechanism for state parks has seen its general fund revenues drop in response. In some states (Colorado, Maryland, Missouri), general fund revenues have been cut to zero. Several studies have shown that this is an outcome with earmarked taxes in general, whether they be for education, environmental programs, transportation, or other programs. Total funding either stays the same, implying that dedicated tax revenues simply replace general fund revenues one-for-one, or rises only by a small amount, which still suggests a drop in general fund revenues (Dye and McGuire 1992; Evans and Zhang 2007; Novarro 2002; Crowley and Hoffer 2012). Moreover, not all state park systems that rely heavily on general fund revenues are in bad shape. Some continue to have support from their state legislatures and receive relatively consistent year-to-year funding. These include New York, North Carolina, Kentucky, and Tennessee, among others.[11]

[10] The NASPD survey does not include sales taxes on its list, but three states use sales taxes to fund state parks.

[11] This is not to say that these state park systems have not experienced declines in general fund revenues over the last few years, but they have been smaller than in other states, and general fund revenues still cover a large percentage of their total operating costs (NASPD various years).

Figure 3. Sources of Dedicated Funds



Source: NASPD. Annual Information Exchange 2012.

Sales Taxes

Among dedicated funding sources, sales taxes have much to recommend them. In comparison with other taxes, they are likely to have a low deadweight loss relative to the tax revenues generated.[12] This is because a general sales tax applies to all goods and thus it is hard for consumers to substitute away and avoid the tax; this means the distortions are small and resulting deadweight losses likely to be small as well. In addition, the broad base of sales taxes means that a substantial amount of revenue can be generated with a relatively low tax rate. This keeps the burden on households low. Missouri, Arkansas, and Minnesota have sales taxes for state parks. The tax rates in these states range from one-tenth to three-eighths of one percent, so an average person pays only between $20 and $30 per year to fund state parks.[13] Another advantage of the sales tax approach is that it invests all citizens in their state parks since everyone pays sales taxes (Bryan 2012). This can help create broad support for the parks and limit the influence of any single interest group. In Missouri, the sales tax for state parks is taken back to voters every ten years. Each time, it passes by a wide margin. In the most recent vote, in 2006, 73 percent of voters voted for it, and it passed in all but three counties (Bryan 2012; Murphy 2012).[14] Interestingly, Missouri has a separate sales tax of one-eighth of one percent for conservation purposes, which does not go back for a vote. This tax has received more attention in the state legislature; in the past nine years, there have been 51 serious legislative attempts to divert that money to the general fund or for other purposes (Murphy 2012). No similar attempt has ever been directed at the state park tax.

[12] Taxes distort consumer choices and thus lead to deadweight losses, or efficiency losses, in the economy. Ideally, from an efficiency perspective, we would like to keep these losses as small as possible.

[13] The sales tax revenues do not fully fund parks in any of these states. All three have park-generated revenues, and Arkansas and Minnesota still receive general fund revenues (Missouri does not). Minnesota also has dedicated funding from state lottery proceeds and some other smaller funding sources.

[14] According to Murphy (2012), even in those counties, it received 45 percent voter approval.

Revenues from RVs, Boats, Off-Road Vehicles, and Hunting and Fishing Licenses

Using ATV, snowmobile, and RV revenues; gasoline taxes from off-road vehicles; motor boat licensing revenues; and hunting and fishing license revenues taps into potentially willing groups of contributors to state parks and thus is an application of the "benefit principle," in that people who tend to use parks more pay more. However, from an economic efficiency standpoint, these systems have some problems. For one thing, one would expect these products to be what economists call "luxury goods"; that is, goods with relatively high price elasticities of demand—especially RVs, ATVs, snowmobiles, and boats. Rules for optimal commodity taxation suggest the government should target goods with relatively inelastic demands.[15] They also have a narrow base, indicating that the tax rates need to be relatively high to raise adequate revenues. Finally, taxes on narrowly defined products such as ATVs tend to develop constituencies who apply political pressure to dictate the use of the revenues. In many state park systems, in fact, revenues from snowmobiles or ATVs are often placed in special funds and used only for purposes related to those goods, such as development of off-road vehicle trails, and not for general state park operations. This is a particularly narrow form of earmarking. These systems have generated outcries from affected groups and even lawsuits when the revenues appear not to be used as intended.[16]

Another problem is that any single one of these revenue sources is unlikely to raise very much money; thus, the state incurs all of the transaction and administrative costs associated with tax collection for only a limited amount of revenue. And if the state chooses to have multiple fees and funds, this only adds to those costs.

Real Estate Taxes

Some states collect a fixed, usually small, percentage of the property sales price in each real estate transaction, a tax that is usually called a real estate transfer tax. In some states, a portion of those revenues go to a fund for state parks (and often other outdoor-related programs). Maryland's Program Open Space is funded by real estate transfer tax revenues, and since 2007 a portion of those funds has gone to cover annual state park operations. In some other states—New York, Florida, and Pennsylvania, to name three—transfer tax revenues finance land acquisition for parks and capital projects but not park operations.[17]

Transfer taxes are sales taxes, but because they are collected only on a single product, residential housing, they may create some distortions and efficiency losses. Some studies have found that to be the case. Kopczuk and Munroe (2012), for example, find that transfer taxes limit residential mobility, dampen house prices, and generate significant deadweight losses relative to revenues raised. Revenues are also subject to year-to-year swings in the real estate market, which can be substantial in some states. Nonetheless, in comparison with narrow earmarked taxes such as ATV and snowmobile fees, hunting and fishing license revenues, and the like, real estate transfer taxes can generate a substantial amount of revenue from a relatively small tax rate. In Maryland, the transfer tax rate is

[15] This is known as the "inverse elasticity rule," in the case of goods that are independent in demand, and the "Ramsey rule" when demands are interrelated, from the early contribution of economist Frank Ramsey (1927).

[16] Off-road vehicle advocates in California have complained for years that funds collected in a special fund to be used for off-road uses have instead been shifted to general state park operations (Coffin 2012). In Washington, recreation groups sued the state because money in an off-road vehicle fund and recreational boating facility capital fund was transferred to general state park operations (Washington State Parks and Recreation Commission 2012).

[17] Maryland's Program Open Space funds also go to land acquisition. In Florida, the Florida Forever program is funded by bonds backed by a document stamp tax, an excise tax assessed on each real estate transaction. State parks receive 5 percent of Florida Forever funds; the program funds a wide array of other conservation programs and provides grants to local communities.

one-half of one percent of the home sales price. The median home sales price in the state in 2011 was approximately $229,000, for an average transfer tax payment of $1,145 (Maryland Association of Realtors 2012).

Lottery Revenues

The number of states with lotteries and overall lottery ticket sales have grown in recent years, and lotteries as a source of state revenues, along with gambling, appear to be a fixture in state financing (Dadayan and Ward 2011). Lottery proceeds in some states go to education and in others to the general fund. Three states, Colorado, Oregon, and Minnesota, dedicate a share of lottery revenues to state parks.[18] In contrast to the tax systems discussed above, lotteries are essentially a voluntary mechanism for funding state parks. People who purchase lottery tickets are donating to state parks (and whatever other public goods are financed with the lottery proceeds), though they may not fully realize that when buying a lottery ticket. As a voluntary mechanism, lotteries have been found to be more efficient than other voluntary schemes (Morgan 2000). Studies have shown that offering the chance to win a prize encourages more giving.

But a lottery is generally an inefficient way to finance a public good in comparison with a tax (Borg and Mason 1988; Clotfelter and Cook 1987), primarily because a significant portion of collected revenues is paid out in prizes—usually 50 percent or higher. Moreover, many states spend a large share of lottery proceeds on advertising and promotions in an effort to keep people buying tickets. Evidence suggests that in recent years, as states have struggled to find revenues in a down economy, more effort than ever has gone into lottery promotion. States are devising more ways for people to play (online and through smart phone apps, for example) and introducing different kinds of lottery games (Crawford 2011; Dadayan and Ward 2011).

Lotteries also often place a disproportionate burden on lower income households who tend to purchase comparatively more lottery tickets. In addition to this kind of inequity associated with lotteries, there is also the other kind when lotteries are used to fund state parks: only a subgroup of citizens are paying for the parks—those who buy lottery tickets—and they may not be the same people who benefit from using the parks.

Motor Vehicle Registration Fees

A few states have used the motor vehicle registration renewal process as a means of garnering donations to state parks, often associated with a specialized license plate, or of selling annual park entry passes. Specialized plates do not raise a lot of money for parks, but some of the annual pass programs do. Montana was the first to use the approach for passes. It has a $6 per vehicle fee and uses an "opt out" approach during the registration process; that is, the fee is automatically assessed unless the individual elects to opt out of paying it. The Montana system is viewed as a success; several other states have considered the approach, and at least two have adopted it. Washington introduced its Discover Pass in 2011; a $30 fee, good for two vehicles, provides entry to all state parks for a year. However, the state takes an "opt in" approach, and participation has been far lower than predicted when the program was set up (Schmitt 2012).[19] Michigan's Recreation Passport program, adopted in

[18] The Heritage Fund in Arizona receives $10 million per year of lottery revenues to be spent on state parks and other conservation programs, but the money was swept into the general fund starting in FY2011.

[19] The fee was originally going to be for a single vehicle, but the legislature changed it to cover two vehicles. This also contributed to the revenues being lower than expected. The governor announced in 2011 that general fund revenues for state parks would go to zero in 2013, and the annual pass program was supposed to provide enough revenues to make up for that loss. The state park system is struggling to solve its funding problems.

2010, is also run through the registration renewal process (the fee is $10 per vehicle), and while the state's approach is "opt in" (something the state park director argued against (Olson 2013)), the registration system does not let an individual proceed through the registration process until he or she chooses one way or another. By contrast, in Washington, the Discover Pass is presented at the end of the process and included with several other donation options. In other settings, such as employee retirement savings programs, quite different participation rates have been found using "opt in" versus "opt out" approaches (Thaler and Sunstein 2009). How choices are presented can greatly affect outcomes. In Michigan so far, 27.3 percent of vehicle owners have chosen to purchase the pass, slightly below the goal of 30 percent (Olson 2012). California put an $18 per vehicle registration fee for funding state parks on the ballot in the November 2011 election, but it did not pass. There has been a movement to put a $14 fee on the ballot in Arizona, but it failed to get sufficient signatures and has been dropped (Cross 2012).

For purposes of selling annual park passes, the vehicle registration process has a few things in its favor. From the buyer's perspective, purchasing a pass during the registration process may have lower transactions costs than buying at a state park or going online to the state park system website. Likewise, the administrative costs to the government associated with collecting the fees may be lower. Most importantly, the state park system reaches more potential people since all vehicle owners will have to make a decision whether to buy a pass. This is the main reason states have chosen to adopt this approach.

An annual park pass may have some efficiency advantages over a single-day entry charge. Because the pass holder can go to as many parks as he wants as many times as he wants during the year, the marginal price is zero; as I explained above, a zero price is appropriate when parks exhibit nonrival characteristics, which they often do. On the other hand, if certain parks are congested on certain days, the annual pass removes the ability to charge a higher price on those days to manage congestion.[20]

Oil and Gas and Other Mineral Revenues

Michigan and Pennsylvania dedicate a portion of the royalties, rents, and bonus payments on mineral and oil and gas leases on public lands to state parks and other outdoor programs and activities. In Michigan, lease revenues provide an important source of funding. The state collects the revenues into two trust funds; the interest earnings on those funds are then used to help pay for state parks (and other natural resources). In this way, the state ensures that the revenues earned from nonrenewable resource extraction provide benefits in perpetuity.

Since oil and gas and other mineral resources are not distributed uniformly across the country, lease revenues are not available to all states. Moreover, even states that have such resources are not always willing to open up public lands for leasing. Recently, Pennsylvania has begun leasing state forest lands and Ohio has opened up state forests and even state parks. Both of these states (Pennsylvania in particular) have abundant shale gas resources and expect substantial revenue streams from the leases. However, these moves are not always popular with citizens; the push to open up state park lands in Ohio has been particularly contentious.[21]

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[20] In theory, charging an additional fee for entry during congested periods is feasible, but it seems likely that a state parks agency would face some political difficulties. Nonetheless, economists have long argued for lump-sum fees coupled with marginal congestion charges, i.e., a "two-part tariff," for the financing of "club goods"—public goods that are nonrival but excludable (Buchanan 1965; Sandler and Tschirhart 1997).

[21] At the federal level, a portion of offshore oil and gas lease revenues has been deposited into the Land and Water Conservation Fund (LWCF) since 1968. The LWCF provides funding for land acquisition for national parks and other federal lands, as well as

Beyond lease payments, severance taxes are collected on oil, gas, coal, and other mineral extraction in 36 states. In some of these states, the revenues are an important component of the state budget. For example, in 2007, severance tax revenues as a percentage of total tax collections were 64 percent in Alaska, 40 percent in Wyoming, 22 percent in North Dakota, and 16 percent in New Mexico (Zelio and Houlihan 2008). Some states have used severance tax revenues to build up a trust fund (Wyoming and New Mexico are two cases), with the earnings used for a variety of purposes. This is similar to the approach with lease revenues in Michigan and makes sense for nonrenewable resources. Only Florida and Colorado, however, devote any severance tax revenues to state parks (and in Colorado, it is a very small amount). Colorado's are from oil and gas, but Florida's are primarily from phosphate rock mining.

Estimates of US oil and gas reserves and forecasts of future production have recently been sharply ramped up. The International Energy Agency's recently released *World Energy Outlook* made media headlines with its forecast that US oil production would surpass Saudi Arabia's by 2020 and the United States would be North American energy independent by 2030 (International Energy Agency 2012; Norris 2012; USA Today Editorial Board 2012). These predictions are mainly the result of rising shale gas, tight sands, coalbed methane, and other unconventional oil and gas resources. If the predictions are accurate, some state governments could earn significant revenues from both leases and severance taxes in the future. It is possible that states may be able to invest some of these revenues in a dedicated state park fund. Some have argued that there is a kind of "fairness" logic in this—that when profits are earned from resource extraction, it is appropriate for the land to earn a "dividend" in return (Outdoor Resources Review Group 2009).

Plastic Bag Tax and Other Environmental Taxes

Two states, New York and Hawaii, are considering the use of a statewide plastic bag fee to provide funding for state parks. In New York, the movement has gained some momentum; three bills have been introduced in the legislature in the past year. Such fees, which are used in an increasing number of cities across the United States, primarily provide a financial incentive to reduce the use of plastic bags, which are a source of litter in urban areas, particularly in streams and rivers. In some cities, they have been shown to dramatically reduce plastic bag use, so by one measure, they are a resounding success.[22] On the other hand, for purposes of providing a consistent source of tax revenues, their incentive effects are their downfall. As plastic bag use drops, so do the revenues raised. This feature of environmental taxes makes them unreliable as a source of revenues for park operations (or any other program, for that matter). Such fees can be popular as they often tie the tax of a "bad" to the provision of a "good." But any proposal to use such fees needs to undertake a careful ex ante study of the likely revenue impacts over the long run before committing to the approach.

In New York, the plastic bag fee has been tagged the "Pennies for Parks" initiative, and bills introduced in the legislation have adopted that nomenclature (Alliance for New York State Parks 2011). According to park advocates in New York, putting "park" in the name of the dedicated tax is an essential component of its ultimate success (Kulleseid 2012; Ash 2012). They feel that this lessens the likelihood of the tax revenues being swept into the general fund in the future when state budgets get tight. This problem has occurred in several states in recent years. States whose funds are created by an

grants to states for parks and recreation. Although $900 million per year is deposited into the LWCF, far less than this is appropriated by Congress each year (Walls 2009b).

[22] In Washington, DC, plastic bag use dropped from 22.5 million bags per month prior to a 2009 law that imposed a 5-cent fee to about 3 million per month as of January 2010 (National Conference of State Legislatures 2012).

amendment to the constitution fare better; it is essentially impossible for the legislature to transfer funds in those cases.[23]

Can Payments for Ecosystem Services Fund State Parks?

The forests, grasslands, wetlands, and other natural areas in state parks can provide a range of benefits to society beyond recreation. Natural landscapes can offer flood protection, purify drinking water supplies, safeguard bird and wildlife habitat, sequester carbon, and regulate the climate. These public benefits from nature are often referred to as "ecosystem services," and in recent years the concept of payments for ecosystem services (PES) has arisen as a way to capture these values. Wunder (2007) defines a PES scheme as a "voluntary, conditional agreement between at least one 'seller' and one 'buyer' over a well defined environmental service—or a land use presumed to produce that service." The agreement is conditional in that payment should be made only if it can be verified that the environmental service is continually provided.

There are few truly successful PES programs, but sellers in the markets that do exist are typically private landowners, and buyers may be the government, a conservation organization or other nonprofit, or private individuals or firms. In the case of state parks, the situation would be reversed: state government is the seller, so a demand for the ecosystem services would need to be identified for PES to work. One possibility is local government; if state park lands protect drinking water supplies or provide flood protection for nearby communities, local governments may be willing to pay for these services. New York City has acquired land and easements to protect its drinking water source in the Catskills/Delaware watershed. Milwaukee has similarly purchased easements for flood protection. There are other examples, but none that use state park lands. Private buyers subject to regulations may also purchase ecosystem services. Wetlands mitigation requirements under the Clean Water Act are one example. Many observers envisioned a federal climate policy having a similar effect; if carbon offsets could be used to meet requirements under a cap-and-trade program, this could lead to a demand for conservation of forested and other natural lands.

There are many hurdles to making PES work for state parks, however. First, as should be clear from the examples above, they are generally for newly conserved lands because the benefits need to be additive to what is already provided. It is hard to see existing state park lands being able to qualify unless they are under threat of closure and sell-off to private owners. Second, ecosystem services are highly location-specific; some state parks may not be located where they provide flood protection, water quality enhancements, and drinking water protection for a significant population that would be willing to pay for those services. Despite these drawbacks, it may be worth further exploration into the possibilities for PES schemes as financing for state parks.

[23] Arkansas, Colorado, Michigan, Minnesota, and Missouri all adopted Constitutional amendments.

The Potential for State Park Philanthropy: Lessons from Cities?

Philanthropy does not currently play a major role in funding state parks. Only a handful of state park systems have a state parks foundation (though many have "friends" groups for individual parks) and very few have trust funds or other means by which private donations can be made to parks. This stands in contrast to city parks, which have in the past two decades begun to tap into charitable giving in a big way. Park advocacy organizations, foundations, and conservancies play a major role in many cities.[24] This movement started with the Central Park Conservancy, which was founded in 1980 to address serious deterioration of facilities and infrastructure in Central Park. Gradually, over time, the conservancy has taken over more and more of Central Park operations. The organization now provides approximately 85 percent of the park's nearly $46 million annual budget. Its net assets in FY2011 were approximately $215 million, the bulk of which has come from individual and corporate donations.[25]

New York has several other examples of conservancies and partnerships where private donations play a key role. Brecher and Wise (2007) tallied 51 park-related nonprofits in New York City in 2007, 42 of which work in a single park and 9 that provide citywide functions. Other active city park conservancies exist in Pittsburgh, Houston, Louisville, Seattle, Atlanta, Philadelphia, and St. Louis, among others. Sometimes these conservancies work for multiple parks, and sometimes they represent a single signature park. In the San Francisco Bay area, conservancies raise significant funding for two national parks: Golden Gate National Recreation Area and the Presidio. Similar arrangements exist in New York City. In 2001, the National Park Service organized the 22 national park sites in the New York City metropolitan area (including the Statue of Liberty and Ellis Island sites as well as the Gateway National Recreation Area) under a single umbrella called the National Parks of New York Harbor. Four years later, the National Parks of New York Harbor Conservancy was founded and is now the primary private partner for those parks. In Boston, the Boston Harbor Islands National Recreation Area, a collection of 34 islands and peninsulas in Boston Harbor, is under the National Park Service umbrella but gets only 25 percent of its funding from the federal government. In 2011, the Boston Harbor Island Alliance, the area's nonprofit fundraising partner, raised $10.3 million in corporate and individual donations, government grants, investment income, and other sources (Boston Harbor Island Alliance 2011).[26]

In a 2009 Resources for the Future survey of 44 urban park directors, respondents reported a total of $143 million raised for their parks in the most recent fiscal year. More than half of this total came from New York City alone, but eight cities reported between $2 million and $12 million, and only five reported receiving no funding (Walls 2009a). The survey found that most of these funds were used for capital projects and park and recreation programs; very few respondents reported funds raised for operating and maintenance purposes.

Among state park systems, New York has probably the longest-standing and most sophisticated sets of relationships with conservancies and nonprofit organizations. There is a tradition of such

[24] Appendix B provides more details on urban park conservancies and partnership arrangements, along with the results of a survey of such organizations conducted in 2009.

[25] Information available from the Central Park Conservancy's website, www.centralparknyc.org. Financial information available from the organization's IRS Form 990 and in its annual report, also on the website.

[26] The success of the Boston Harbor Islands National Recreation Area has led to pursuit of a similar approach in the Houston-Galveston, Texas, area for the proposed Lone Star National Coastal Recreation Area, which would cover approximately 700,000 acres of tidal marshland and adjacent brackish wetlands along the Galveston Bay coast. See http://houstonwilderness.org/index.php/nationalrecreationarea for more information.

arrangements in the state; some of the organizations existed before the state park system, and New York has the oldest state park system in the country. The premiere example is the Palisades Interstate Park Commission, which has jurisdiction over 20 state parks and 8 historic sites covering 110,000 acres of land. The Palisades Park Conservancy fundraises for the park commission. The commission and the conservancy partner with the state Office of Parks, Recreation, and Historic Preservation to help maintain the state parks in the region, including the flagship Bear Mountain State Park, which has a zoo, a swimming pool, a lake, ice skating rink, and a recently renovated historic inn. All employees at the parks in the Palisades are state government employees, and the bulk of funding comes from the state. Operations and maintenance are covered by the state, while the conservancy raises funds for enhancements to the parks (Ash 2012). The commission and conservancy are also active in acquiring land in the region.

New York has a number of other partnership arrangements at its state parks, though most are smaller in scope than the Palisades. Robert G. Wehle State Park on Lake Ontario, one of the newest parks in the system, receives annual funding support from the Robert G. Wehle Charitable Trust, and a five-person committee of private citizens that monitors the trust's performance provides significant input into decisions about the park (New York Office of Parks, Recreation and Historic Preservation 2010; Ash 2012). Land for the park was sold to the state by Mr. Wehle. The Caumsett State Historic Park Preserve on Long Island is managed by the state parks agency in partnership with the Caumsett Foundation, which raises funds for upkeep and restoration of historic buildings, trail maintenance, and park programs. Historic sites are notoriously costly to operate and are often a drain on state park systems' financial resources, but the Caumsett State Historic Park is considered a relative financial success (Ash 2012).

California is one of the few states that has an active state park foundation. The California State Parks Foundation (CSPF), founded in 1969, is a member-based organization that is actively engaged in park advocacy-related activities, capital improvement programs in state parks, stewardship activities, education, and youth programs.[27] It provides small discretionary grants to local governments and nonprofit organizations to support its core areas: volunteer efforts, education and interpretation, natural and cultural resource protection, and capacity building. During the state budget crisis of 2011 and 2012, in which 70 California state parks were threatened with closure, the CSPF played a major role in raising funds for parks and working with local governments and park friends groups to raise funds at the local level. It began two new grant programs, one to support nonprofit organizations that had entered into "donor agreements" with the California Department of Parks and Recreation, arrangements in which operation of the park remains with the state but funding gaps are filled by nonprofits or local governments, and another to support nonprofits who entered into agreements with the state park agency to take over operations of a state park. The CSPF does not itself enter into these agreements, however, and does not take responsibility for any state park operations.

The situation in California is rapidly evolving. Many organizations are working toward a new model in which philanthropic organizations and the CSPF provide support for local land trusts, other nonprofit organizations, and local governments to help manage state parks and keep them open. Partnership arrangements and an altogether new approach for state parks may be on the horizon in California.

[27] The CSPF had a FY2011 annual budget of over $12 million. In addition to its member dues, which raised $4.8 million in FY2011, it receives contributions from individuals and corporations and raises small amounts from events and other functions.

It is risky for state park systems to rely too heavily on philanthropy for several reasons. One key question is the extent to which private funding would crowd out government money. Whether government money crowds out or crowds in private contributions has received a great deal of study, across a range of public goods (see, for example, Andreoni and Payne 2003, 2009; Albers, Ando, and Batz 2008). The reverse has received less attention, but in the case of some city parks, anecdotal evidence suggests that crowding out may have occurred. As private donations have risen for parks such as Central Park, for example, local governments have scaled back their funding. Similar to state general revenue fund cutbacks in response to increases in dedicated funds, a surge in private philanthropy for state parks seems likely to end up reducing government funding.

Voluntary contributions to a public good also suffer from the free rider problem. Because people can enjoy the benefits without contributing themselves, they are inclined to let others contribute. This results in a less than optimal amount of funding for the public good. Moreover, only a limited set of citizens contributes to the parks, and this can create a disconnect between the much larger set of park users and those who finance park operations. Complaints that have arisen about some city parks seem to suggest this can be a problem. For example, some Chicagoans have criticized the use of corporate logos in Millennium Park in Chicago, and some New Yorkers complain about the "gold plating" of some amenities in Central Park. Reliance on donations can also lead to a system of "haves" and "have nots" if donations are park-specific. New York City has been subjected to the criticism that parks in some areas of the city have suffered while Central Park and a few select others have flourished (Brecher and Wise 2008).

Perhaps a bigger question is whether state parks can be successful in raising significant voluntary contributions and finding nonprofit partners to help in this regard. The biggest success stories to date involve parks in settings that are relatively close to centers of population. Often they are in a major city, such as Central Park, the Presidio, or Millennium Park. Other times they are large parks located near a major city—the Golden Gate National Parks, for example. The urban setting works for several reasons. First, the parks are heavily used and highly valued as they are close to a large number of people. They are also highly visible, often on a daily basis, so deterioration is easy to spot and problems cannot go unnoticed. Another ingredient for success, one that goes almost without saying, is the ability to tap into a wealthy donor base. In order for conservancies and nonprofits to survive in the absence of a tax base, they must be able to raise substantial and perpetual donations. Using contributions to establish a perpetual endowment has some advantages as the investment earnings create a more consistent stream of annual funding. However, it means that a very significant amount of money is needed to establish the endowment. The proximity of Central Park, the Presidio, the Palisades parks, and others to relatively wealthy individuals with a strong affinity for the nearby public lands has been critical. Smaller foundations and conservancies have not always fared as well. Some organizations have seen donations drop in the recent recession. This lack of security in funding is probably one major reason why most of these organizations focus on advocacy, planning, and one-off projects in parks rather than routine operations and maintenance.[28] It is also worth noting that nonprofit organizations have to spend money to raise money; this is simply a drawback of the voluntary approach.

[28] The Parkways Foundation in Chicago lost a major source of funding and closed down in 2012. Two Houston nonprofits, The Park People and the Houston Parks Board, merged in 2011.

Natural Field Experiments and Charitable Giving

The last 20 years in economics have seen a rise in the use of natural field experiments, studies in which researchers conduct randomized control trials in a natural setting where people do not know they are participating in an experiment. A substantial number of these studies have explored the factors that motivate people to give to charity (List and Lucking-Reiley 2002; Karlan and List 2007, 2012; Landry et al. 2010; Karlan and McConnell 2012). Studies have analyzed various kinds of matching gifts, the role of seed money, how public recognition motivates people, and the effectiveness of lotteries (where donors are eligible to win a prize). The charities have included educational institutions, art museums, environmental organizations, and parks. Findings from these carefully designed and executed experiments have led to great insights into what motivates people to give. (List (2011) summarizes some of this literature and the economic literature on charitable giving more broadly.)

A set of studies by Francisco Alpizar and colleagues may be particularly relevant to state parks as the authors study various approaches to eliciting donations to a national park in Costa Rica (Alpizar et al. 2008; Alpizar and Martinsson 2010, 2012). Their treatments are designed to analyze (i) the difference in giving when donations are anonymous versus publicly acknowledged; (ii) how a donation reference point affects the level of giving, in particular when prospective donors are told how much others give; and (iii) whether reciprocity matters; that is, whether people give more if they are given a gift in exchange for their donation. They find that anonymous donations are about 25 percent below those that are recognized; that providing a donation reference point tends to increase the size of donations; and that giving a gift increases donations but only slightly (not enough to offset the cost of the gift, in their study).

States considering a ramp-up of efforts to elicit voluntary contributions to state parks should think carefully about conducting some randomized control trials to better understand what would motivate people to give. To raise substantial amounts of money through charitable donations and do so consistently over time and efficiently (i.e., at low cost) is no easy task. Carefully designed natural experiments could lay some useful groundwork for an effective campaign.

Other Innovative Approaches in Cities

Big cities have tried some other creative approaches to financing parks, and several other options are under discussion in city park circles. The degree to which these options would work for state parks is probably limited, but I discuss each to show the range of funding possibilities under consideration.

Business Improvement Districts (BIDs)

BIDs are commercial areas of a city that collect “self taxes” from property owners in the area to provide services and programs. Often these services include litter removal, general cleanup, and beautification in the form of landscaping and the like; they can also include policing. But BIDs can also

be used for parks.[29] Bryant Park in Manhattan is one example. The park is managed by the nonprofit Bryant Park Corporation and is fully funded by a combination of annual assessments paid by surrounding businesses and revenues from user fees, concessions, and restaurants. In FY2010, the Bryant Park Corporation had total operating revenues of $8.8 million, less than $1 million of which came from property assessments. Although the assessments do not provide the main source of funding, the park is completely self-financed and receives no general revenues from the city. BIDs are established by legislation, and rules can differ by locale. In the Bryant Park case, for example, assessments are not permitted to exceed three percent of the property taxes collected by the city on those properties. (Bryant Park Corporation and Bryant Park Management Corporation 2010).

Tax Increment Financing (TIF)

Tax increment financing (TIF) is another approach that cities are using to finance a variety of programs and services. Cities issue TIF bonds to provide public amenities and services; these bonds are backed by the increment in property tax revenues expected to be collected in the area where the improvements take place. Almost all states allowing municipalities to raise money this way, and some cities have issued billions of dollars in TIF bonds over the past thirty years for a variety of initiatives. TIF is attractive to cities because the TIF debt does not count against the city's debt limit and repayment of the debt does not have to come from any sources besides the tax increment from the TIF district. Also, TIF is often a more politically acceptable approach than raising taxes. The main drawback is the risk that the increment in tax revenues will not be enough to pay back the bond. This problem has occurred in some places, particularly in instances when a recession hit or other factors limited the revenues generated (Rizzo 2012; New York City Independent Budget Office 2002). Another problem is that benefits of projects, especially parks, often spill over to many people outside the TIF district, thus one group is incurring the cost while a much larger group enjoys the benefits. And the TIF approach can lead to fragmentation of the tax base; TIF districts retain all additional revenues for their own use rather than contributing to growth citywide. This concern has been expressed in Chicago, which as of 2002 had over 100 TIF districts (New York City Independent Budget Office 2002). This same drawback applies to BIDs.

TIFs are typically used to provide the seed capital for new projects rather than ongoing revenues for operations and maintenance of existing infrastructure. And they tend to be used in locations where there is vacant or blighted land that is expected to be redeveloped once the project is complete. This makes the increment in property tax revenues easier to quantify and attribute to the project. This, in turn, makes the approach unlikely to be applicable to existing parks. Moreover, for state parks located in rural areas, the TIF option is probably not feasible.

Payments-in-Lieu-of-Taxes (PILOTs)

Because charitable institutions—including educational institutions, not-for-profit hospitals, churches, and various kinds of nonprofit organizations—are exempt from property taxes in all 50 states, many cities ask these organizations to make voluntary payments to the local government in lieu of property taxes.[30] Uncovering exactly how much cities raise from PILOTs is difficult because municipal budgeting often does not separate the revenues from other miscellaneous sources, but

[29] Some people use the term "park improvement district."

[30] The PILOT terminology can be confusing as it is also used in two other ways. Cities often exempt private property owners from property taxes as an incentive to locate in economically disadvantaged areas; in return, they ask for voluntary payments in lieu of those taxes. The PILOT term is also used to denote payments made from the states to local governments to make up for lost property tax revenues on state-owned tax-exempt lands. The federal government sometimes also makes PILOTs for this reason.

Kenyon and Langley (2011) find that in FY2009 Boston earned $15.7 million in PILOTs, New Haven, Connecticut, $7.5 million (mostly from Yale University), Baltimore $5 million, and Pittsburgh $4.4 million; seven other smaller cities earned somewhat lower revenues.

Although PILOTs are voluntary, nonprofits are often motivated to contribute for several reasons. They may feel an obligation to give back to the community. They also may benefit from having public amenities and services near them—colleges and universities are a good example as an attractive surrounding community can attract students. Nonprofits may also feel there is a quid pro quo and that if they do not make a payment, there will be repercussions such as fewer police in their area and so forth. Some may also worry that their tax-exempt status will be revoked.[31]

In Sonoma County, California, the local government recently entered into an agreement with a local Indian tribe that is similar to a PILOT agreement. The tribe is building a casino on recently purchased land in the county. Because of tribal sovereignty, no state or local taxes are collected from the casino, including local property taxes. Instead, the tribe has agreed to contribute $25 million per year for parks and open space in the county in lieu of such taxes, including funds for park operations and maintenance, in addition to $20 million per year for other services and infrastructure (Hart 2013). This is an enormous infusion of cash for the county's parks as the current operating budget is $18 million, only $5 million of which comes from county government revenue sources (Hart 2013). Interestingly, it was the tribe's choice to direct its contributions specifically to parks.

PILOT revenues, or proffers to local governments from Indian tribes and/or other entities that do not pay local property taxes, are only suitable for localities that have such entities within their borders. As such, they are non-starters as funding sources for many communities and probably a somewhat unlikely source of funds for state parks. Nonetheless, in some locations, they could be an added contribution.

Development Impact Fees

Development impact fees also provide local funding for public services in some locations. These are fees that developers pay to local government to cover the added public service costs associated with new developments. Fees are often set on a per acre or per square foot basis, though sometimes they are lump sum. They are not used in all locations, but in 2010, the national average fee paid on a new house was $12,000 (Mullen 2010). There are legal restrictions on the use of impact fee revenues. In general, they must be used on public services that are directly tied to the new development, such as a new school, roads, and other infrastructure. Whether parks qualify is an open question. In some locations, fees have been used for parks and open space, but there has to be a clear link to the development. In at least one case, impact fee revenues have been used for park operations and maintenance. Riverside Park South in Manhattan contains a 21.5-acre park that was built with impact fees that were also used to cover maintenance costs for a period of time; eventually apartment owners' fees will cover those costs (Ulam 2007).[32] In general, however, it is unlikely that development impact fee revenues could be used to cover operating and maintenance costs at existing parks due to the legal restrictions on impact fees. Like all of the city park revenue options discussed here, impact fees may not work for state parks in more rural locations.

[31] Although all states exempt charities from property taxes, there is much debate about what constitutes a charity. States have set a variety of rules and metrics by which to determine that. A discussion of this issue is beyond my scope here, but Kenyon and Langley (2011) provide a thorough summary.

[32] For each square foot of new building space, the developers contributed $12 for the park (Ulam 2007).

Creative Zoning Options and TDRs

Innovative zoning tools such as cluster zoning rules and transferable development rights (TDRs) have also been suggested as a way of providing parkland. Cluster zoning requires new subdivisions to determine density over the total acreage of the subdivision, leaving a certain percentage of the land as open space. TDRs allow development to be transferred from one property or area to another. Property owners, often in designated areas, are permitted to sell the development rights from their land to developers who can use them to develop more densely (than permitted by baseline zoning) in other locations. The properties that sell their development rights are protected as open space, usually under a conservation easement. Both of these options may be useful for creation of new parks but do not provide a revenue stream for existing parks. Since neither option requires a source of public funding, though, they can be attractive to governments searching for ways to create parkland. They are difficult options for states to consider because zoning and other land use regulations are typically local government tools.

Special Park Districts

Special park districts (SPDs) are independent, special purpose governmental units that have substantial administrative and fiscal independence from general-purpose local governments. They usually have taxing authority and can issue bonds. Often they are multi-jurisdictional, covering a wide geographical region that includes several counties or municipalities, though some represent a single jurisdiction. Most SPDs lie somewhere between a state park and a city park; although they are located near cities, they tend to provide large natural areas for parks and recreation. Table 1 shows some selected characteristics of eight SPDs.

Most SPDs rely on a combination of dedicated property tax revenues and user fee revenues to fund their operations. Bonds can be issued for capital projects, with the property tax revenues backing the bonds. In data compiled by Dickinson (2009), 13 special park districts covered an average of 55 percent of their costs with property tax revenues. Like the sales tax, the broad base of a property tax can mean a low rate for providing funding for state parks. The Charleston County Park and Recreation Commission in South Carolina, for example, has a rate of 3.8 mills, which raises about $10.7 million per year and leads to an average cost of only about $20 per household (Charleston County Park and Recreation Commission 2011; O'Rourke 2012). The East Bay Regional Park District, which covers Alameda and Contra Costa Counties and part of Oakland, California, has a rate nearly ten times this amount, but it covers a much larger percentage of its budget with property tax revenues (Doyle 2012).

Table 1. Characteristics of Selected Special Park Districts

	Operating budget	Acres	Number of parks	Primary funding source (% of revenues from that source)
East Bay Regional Park District (California)	$161 million	112,000	65	Property tax (81%)
Northern Virginia Regional Park Authority (near Washington, DC)	$19 million	10,000	35	Enterprise fund, various user fees (100%)
Metro Parks (Columbus, Ohio)	$29 million	26,000	16	Property tax (approx. 67%)
Portland Metro (Oregon)	$217 million*	16,000		Property tax (24%); enterprise revenue (53%)**
Three Rivers Park District (Minneapolis/St. Paul)	$47 million	27,000	17	Property tax (61%)
Cleveland Metro Parks	$81 million	21,000	17	Property tax (approx. 67%)
Hamilton County Park District (near Cincinnati, Ohio)	$32 million	15,000	21	Property tax (57%); earned revenues (41%)
Charleston County Parks and Recreation Commission (South Carolina)	$35 million	10,000	13 (and 19 boat landings)	Property tax (37%); enterprise fund, various user fees (36%)

Note: Budget information is presented differently across SPDs and thus caution should be used when making comparisons. Operating budgets for most SPDs in the table are for FY2012; exceptions are Cleveland Metro Parks, Hamilton County Park District, and Charleston County Parks and Recreation Commission, which are for FY2011.

*The Portland Metro SPD provides many services beyond parks and recreation, thus its budget is substantially higher than the others in the table. The number of parks is not readily available for Portland.

**Enterprise revenues are primarily from solid waste disposal fees; also revenues from zoo and some park programs. Percentages are of total budget, a significant portion of which is debt service. See Metro (2012) for a more detailed breakdown.

Sources: East Bay Regional Park District (2012); http://www.ebparks.org/; Northern Virginia Regional Park Authority (2011); http://www.nvrpa.org/; Metro Parks Board of Park Commissioners (2012); http://www.metroparks.net/; Metro (2012); http://www.oregonmetro.gov/index.cfm/go/by.web/id=1110; Three Rivers Park District (2012); http://www.threeriversparks.org/about.aspx; http://www.clevelandmetroparks.com/Main/Budget.aspx; Hamilton County Park District (2011); http://www.greatparks.org/; Charleston County Parks and Recreation Commission (2011); http://www.ccprc.com/.

The self-financing and balanced-budget approach means that SPDs, while having felt the pain of the recent recession, have managed to weather the downturn somewhat better than most state park systems. And it is noteworthy that they have done so in the absence of any significant privatization and without a heavy reliance on philanthropy or complicated partnerships with nonprofits and other groups. In short, they show that an enterprise funding model combined with a broad-based tax providing dedicated revenues can lead to a stable system. Most SPDs seem to enjoy broad support within their communities. In regular polling, the East Bay Regional Park District and the Charleston County Parks and Recreation Commission, for example, find widespread approval, both of the services offered and the funding approach.

The Charleston County SPD is an interesting one. It relies less on property tax revenues than other SPDs. And the sources of funding for its enterprise fund are wide-ranging. It makes money from cottages and campsite rentals, fishing pier leases, popular water features at a couple of the parks, facility rentals, an equestrian facility, a newly constructed skate park, and several events, including a holiday festival of lights in one of its parks and a large number of concerts, dances, races, and triathlons that it sponsors throughout the year.[33] It receives corporate sponsorships for many of these events. The revenues earned in the parks cover operations of these events and activities but also cross-subsidize nature-based parks, dog parks, and other areas that do not charge user fees. Charleston County receives some philanthropy but tries to limit the use those funds to subsidizing participation in programs and activities for low-income residents and construction of new facilities in disadvantaged areas (O'Rourke 2012).

Paths Forward for State Parks

No one-size-fits-all approach will work for state park systems given the diversity in their lands and facilities and the ranges in acreage and number of parks. Moreover, the problems facing many states vary in degree of severity; some states are facing a genuine crisis while others are on better footing. In this concluding section, I offer some general guidance and rules of thumb for states trying to sustainably fund quality state park systems.

1. User fee revenues need to stay in the state park system in some kind of enterprise fund approach. Doing so gives the parks agency an incentive to control costs, improve performance, and maximize revenues. Keeping revenues at the individual park further targets those incentives, but one needs to take care as some sites may not be net revenue generators but still have overall value to the system. An approach in which a fixed amount of revenues from individual sites goes to the agency and all residual revenues stay with the sites themselves may serve to provide good incentives without creating park "haves" and "have nots" within the system. So-called enterprise funds that require the state legislature to appropriate the revenues back to the state park agency are problematic.
2. User fees are here to stay and appropriate for many services offered in state parks, but state park agencies need to beware of an overreliance on fees. Public goods that are nonrival in consumption should have a zero price, and many aspects of parks, such as hiking and biking trails, scenic views, and the like, are nonrival. In addition, state park managers need a good understanding of how to set fees appropriately so as to maximize revenues and efficiently

[33] A great deal of information about the Charleston County Parks and Recreation Commission, including a calendar of events through the year and the annual financial report, is available on the Commission's website, http://www.ccprc.com/index.aspx.

manage park use, including managing congestion during peak periods in some parks. This suggests that careful study of demand and park value is important. It is not clear that many state park agencies have engaged in careful studies of this type. Relatedly, service quality needs to be maintained or improved as fees are increased. Many parks are in poor shape; increasing fees at these sites may backfire unless fee revenues are used for noticeable improvements.

3. Contractual arrangements with private firms to operate parks are not necessarily bad, but neither are they likely to be the solution to state park funding problems. The most important issue is the nature of the contract itself: is it structured to provide the proper incentives for managing efficiently and providing a quality recreation experience at the park? Can it be used to provide incentives to improve parks through programs, events, new facilities, and the like? State park agencies need to carefully weigh the full costs of *efficient* contracting with the costs of operating parks themselves. They also need to guard against private firms cherry picking the most profitable and popular parks.

4. A dedicated funding source gives state park agencies some certainty in their planning and budgeting and avoids being at the whim of a possibly fickle state legislature. However, creating a dedicated fund almost always reduces general fund revenues, sometimes to zero. This means that there are some important features of a dedicated fund:

    a. The fund is created through a Constitutional Amendment.

    b. The fund is based on a reliable revenue source that will provide a significant amount of stable funding on a yearly basis into the foreseeable future.

    c. If tax-based, the tax should have a broad base and should be targeted to goods that have a relatively low price elasticity of demand. This ensures that the burden on individual households is small, that every citizen is contributing and not just a select group, and that the tax rate can be small, which lowers the deadweight loss associated with the tax.[34]

5. Some efforts to increase voluntary private contributions to state parks and the role of philanthropy more generally would probably be worthwhile as most state park systems do very little in this regard. According to List (2011), charitable giving in 2007 in the United States amounted to 2 percent of GDP, and since the mid-1990s, charitable giving has increased significantly more in percentage terms than the broad S&P stock index. Some cities have tapped into this trend for their parks; park conservancies and other nonprofits, financed by individual and corporate donations, are providing funding for many city parks. However, the success stories are mostly for individual, signature parks in major cities and near a wealthy donor base. This is likely to be the situation only for a handful of state parks. Another approach, rather than relying on separate organizations to raise funds, is for states to create dedicated funds themselves that accept private donations. Some states do this to a limited extent but appear not to put a lot of effort into securing contributions. Creating an endowment that can provide a relatively consistent annual revenue stream for parks could be worthwhile. Economists have made great advances in understanding what motivates people to give to charities and some work (though not a lot) has been done with respect to parks. Natural

[34] The deadweight loss from a tax is proportional to the square of the tax rate.

experiments on alternative voluntary schemes to better understand what works would be worthwhile.

6. Many state park problems go beyond money. Some park systems have not kept up with changing demographics and preferences. Governance and management structures in many systems seem to stifle innovation and creativity. Privatization and partnerships with nonprofit organizations are not necessarily the answer, but these groups may inject new life into state parks in some settings. In addition, giving agencies the latitude and flexibility to make more of their own decisions and manage their own money can help. Some state park systems are moving successfully in this direction, with Michigan providing one of the best examples. The state park director has provided incentives to employees to develop new approaches in parks, created a variety of new initiatives and programs, and worked carefully to create a dedicated funding stream through a new annual park pass program.[35] Arrangements in which state parks partner with local governments to operate state parks may also be worth exploring; localities often have a strong vested interest in making state parks work in their areas. Nevertheless, I caution that, as with contractual arrangements with private firms, it is not the partnership itself that determines success but the terms of that partnership—that is, the incentives faced by each party in the relationship, the assignments of responsibility and accountability, the minimization of bureaucracy and duplication of efforts, and a host of other factors.

For many Americans, family vacations in state parks are some of their earliest memories of connections to nature and the outdoors. Indeed, state parks continue to provide relatively easy and low cost access to outdoor recreational experiences, and in some states, particularly in the East and Midwest, state parks provide outdoor experiences that are not available from national parks and other federal lands, which tend to be predominantly in the West. But it has become clear in recent years that state park systems, by and large, are struggling. Public funding is not meeting the needs of most systems. A fresh approach to financing parks and open space and new management approaches is needed.

[35] More details are provided in Appendix A, which summarizes the situation in eight individual state park systems.

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References

Albers, Heidi J., Amy Ando, and Michael Batz. 2008. Patterns of Multi-agent Land Conservation: Crowding in/out, Agglomeration, and Policy, *Resource and Energy Economics* 30: 492-508.

Alliance for New York State Parks. 2011. "Pennies for Parks": One Cent Plastic Bag Fee Will Fund and Maintain New York's State Parks. Albany, NY: Open Space Institute. Available at http://www.osiny.org/site/DocServer/Pennies_for_Parks_2.14.11.pdf?docID=11123&AddInterest=1421.

Alpízar, Francisco, Frederik Carlsson, and Olol Johansson-Stenman. 2008. Anonymity, Reciprocity, and Conformity: Evidence from Voluntary Contributions to a National Park in Costa Rica. *Journal of Public Economics* 92: 1047–1060.

Alpizar, Francisco and Peter Martinsson. 2012. Paying the Price of Sweetening Your Donation: Evidence from a Natural Field Experiment, *Economics Letters* 114: 182–185.

Andreoni, James and Abigail Payne. 2003. Do Government Grants to Private Charities Crowd Out Giving or Fund-raising? *American Economic Review*, 93(3): 792–812.

Andreoni, James and Abigail Payne. 2011. Is Crowding Out Due Entirely to Fundraising? Evidence from a Panel of Charities, *Journal of Public Economics* 95: 334-343.

Ash, Carol. 2012. President, Carey Center for Global Good and Former Commissioner, New York Office of Parks, Recreation, and Historic Preservation. Personal communication with the author. October 15.

Auerbach, Alan. 1985. The Theory of Excess Burden and Optimal Taxation, in *Handbook of Public Economics, Vol. 1*, Alan Auerbach and Martin Feldstein, eds. Amsterdam: North-Holland, pp 61-128.

Borg, Mary O. and Paul Mason. 1988. The Budgetary Incidence of a Lottery to Support Education. *National Tax Journal* 41(1): 75-85 (March).

Brecher, Charles and Oliver Wise. 2008. Looking a Gift Horse in the Mouth: Challenges in Managing Philanthropic Support for Public Services, *Public Administration Review*, December: S146-S161.

Brown, Trevor L. and Matthew Potoski. 2003a. Transaction Costs and Institutional Explanations for Government Service Production Decisions, *Journal of Public Administration Research and Theory* 13(4): 441–468.

Brown, Trevor L. and Matthew Potoski. 2003b. Managing Contract Performance: A Transaction Costs Approach, *Journal of Policy Analysis and Management* 22(2): 275–297.

Bryan, Bill. 2012. Director, Missouri Division of State Parks. Personal communication with the author. July 24.

Buchanan, James M. 1965. An Economic Theory of Clubs, *Economica* 32(1): 1-14.

Charleston County Parks and Recreation Commission. 2011. *Charleston County Parks and Recreation Commission FY2011-FY2012 Annual Budget.* April 15.

Clotfelter, Charles and Philip Cook. 1987. Implicit Taxation in Lottery Finance. *National Tax Journal* 40(4): 533-546 (December).

Coffin, James. 2012. Most Calif. Parks Open, but Secret Fund Scandal Racks, *Federal Parks and Recreation Newsletter* 30(15): 4-5. August 3.

Crawford, Amanda. 2011. Lottery Sales Rise to Record as Cash-Hungry States Search for More Revenue. *Bloomberg News*. Nov. 30. Available at http://www.bloomberg.com/news/2011-11-30/lottery-sales-rise-to-records-as-states-wager-for-more-revenue.html.

Cross, Jim. 2012. Voluntary Fee for Arizona State Parks Off Ballot, *Arizona Heritage Alliance* (July 9). Available at http://azheritage.wordpress.com/2012/07/09/voluntary-fee-for-arizona-state-parks-off-ballot/.

Crowley, George and Adam Hoffer. 2012. Dedicating Tax Revenue: Constraining Government or Masking its Growth? Mercatus Center Working Paper 12-17. George Mason University. May.

Dadayan, Lucy and Robert B. Ward. 2011. *Back in the Black: States' Gambling Revenues Rose in 2010*. Nelson A. Rockefeller Institute of Government. June 23.

Dickinson, Bill. 2009. *2007 Best Practice Benchmarking Program*. Former Chairman of the Board of Directors, Northern Virginia Regional Park Authority and private consultant. Data shared with author.

Doyle, Robert. 2012. General Manager, East Bay Regional Park District. Personal communication with the author. September 5.

Dye, Richard F. and Therese J. McGuire. 1992. The Effect of Earmarked Revenues on the Level and Composition of Expenditures, *Public Finance Quarterly* 20(4): 543–56.

East Bay Regional Park District. 2012. *2012 Adopted Operating Budget.* Oakland, CA: East Bay Regional Park District.

Evans, William and Ping Jiang. 2007. The Impact of Earmarked Lottery Revenue on K-12 Education Spending, *Education Finance and Policy* 2(1): 40-73 (Winter).

Fretwell, Holly. 2011. *Funding Parks: Political versus Private Choices.* Bozeman, MT: Political Economy Research Center.

Gilroy, Leonard. 2010. Taking State Parks off the State's Books, *PERC Reports* 28(3), Fall.

Gilroy, Leonard and Lisa Snell. 2012. *Annual Privatization Report 2011: State Government Privatization*. Los Angeles: Reason Foundation (April).

Hamilton County Park District. 2011. *Annual Report 2011*. Cincinnati, OH: Hamilton County Park District. Available at http://www.greatparks.org/about-us/pdfs/publications/2011_Annual_Report.pdf.

Hart, Caryl. 2013. Director, Sonoma County Regional Parks. Personal communication with the author. January 3.

Hart, Oliver, Andrei Shleifer, and Robert Vishny. 1997. The Proper Scope of Government: Theory and an Application to Prisons, *Quarterly Journal of Economics*, 112(4): 1127–1161.

International Energy Agency. 2012. *World Energy Outlook 2012*. Paris: IEA. November.

Karlan, Dean and John List. 2007. Does Price Matter in Charitable Giving? Evidence from a Large-Scale Natural Field Experiment, *American Economic Review* 97(5): 1174-1193.

Karlan, Dean and John List. 2012. How Can Bill and Melinda Gates Increase Other People's Donations to Fund Public Goods? NBER Working Paper No. 17954. Cambridge, Massachusetts: National Bureau of Economic Research (March).

Karlan, Dean, John A. List and Eldar Shafir. 2011. Small Matches and Charitable Giving: Evidence from a Natural Field Experiment, *Journal of Public Economics* 95: 344-350.

Karlan, Dean and Margaret A. McConnell. 2012. Hey Look at Me: The Effect of Giving Circles on Giving. NBER Working Paper No. 17737. Cambridge, Massachusetts: National Bureau of Economic Research (January).

Kenyon, Daphne and Adam Langley. 2010. *Payments in Lieu of Taxes: Balancing Municipal and Nonprofit Interests.* Policy Focus Report, Lincoln Institute of Land Policy. Cambridge, MA: Lincoln Institute of Land Policy.

Kopczuk, Wojciech and David Munroe. 2012. Mansion Tax: The Effect of Transfer Taxes on Residential Real Estate Market, Columbia University working paper, October 2.

Kulleseid, Eric. 2012. Testimony Before the State Legislature on the FY2012-13 Budget. Alliance for New York State Parks. February 7. Available at http://www.osiny.org/site/News2?page=NewsArticle&id=8171.

Kulleseid, Eric. 2012. Executive Director, Alliance for New York State Parks, and Former Deputy Commissioner, New York Office of Parks, Recreation, and Historic Preservation. Personal communication with the author. August 21.

Landry, Craig, Andreas Lange, John A. List, Michael Price and Nicholas Rupp. 2010. Is a Donor in Hand Better than Two in the Bush? Evidence from a Natural Field Experiment, *American Economic Review* 100(3): 958-983.

Levin, Jonathan and Steven Tadelis. 2010. Contracting for Government Services: Theory and Evidence from US Cities, *Journal of Industrial Economics* LVIII(3): 507-541.

List, John A. 2011. The Market for Charitable Giving. *Journal of Economic Perspectives* 25(2): 157-180 (Spring).

List, John and David Lucking-Reiley. 2002. The Effects of Seed Money and Refunds on Charitable Giving: Experimental Evidence from a University Capital Campaign, *Journal of Political Economy* 110(1): 215-233.

Lopez-de-Silanes, Florencio, Andrei Shleifer and Robert Vishny. 1997. Privatization in the United States, *Rand Journal of Economics* 28(3): 447–71.

Martin, R., and M. Randal. 2008. How Is Donation Behavior Affected by Donations of Others? *Journal of Economic Behavior and Organization* 67: 228–38.

Maryland Association of Realtors. 2012. *Maryland Housing Statistics, Year End 2011*. Available at http://www.mdrealtor.org/housingstatistics/housingstatistics.aspx.

Metro. 2012. *2012-13 Adopted Budget, Summary*. Portland, OR: Metro. Available at http://library.oregonmetro.gov/files//12-13_adopted_vl1.pdf.

Metro Parks Board of Park Commissioners. 2012. *2013 Metro Parks Budget*. Columbus, OH: Metro Parks (November). Available at http://www.metroparks.net/UserUploads/UserDocuments/Budget/2013%20Budget.pdf.

Morgan, John. 2000. Financing Public Goods by Means of Lotteries. *Review of Economic Studies* 67: 761-784.

Mullen, Clancy. 2012. National Impact Fee Survey: 2010. Austin, TX: Duncan Associates (November).

National Association of State Park Directors. 2012. *Statistical Report of State Park Operations: 2010-2011, Annual Information Exchange*. Raleigh, NC: NASPD (February).

National Association of State Park Directors. Various years. *Annual Information Exchange.* Raleigh, NC: NASPD.

National Conference of State Legislatures. 2012. *State Plastic and Paper Bag Legislation: Fees, Taxes and Bans; Recycling and Reuse*. July. Available at http://www.ncsl.org/issues-research/env-res/plastic-bag-legislation.aspx.

National Conference of State Legislatures. 2007. *Principles of a High-Quality State Revenue System, 4th ed.* June. Available at http://www.ncsl.org/issues-research/budget/principles-of-a-high-quality-state-revenue-system.aspx.

New Hampshire Department of Resources and Economic Development, Division of Parks and Recreation. 2012. *Fiscal Year 2011 Financial Report*. January 11.

New York City Independent Budget Office. 2002. *Learning from Experience: A Primer on Tax Increment Financing*. September. Available at http://www.ibo.nyc.ny.us/iboreports/TIF-Sept2002.pdf.

New York Office of Parks, Recreation, and Historic Preservation (OPRHP). 2010. *Final Master Plan/Final Environmental Impact Statement For Robert G. Wehle State Park*. Albany, NY: OPRHP. November 17. Available at http://nysparks.com/inside-our-agency/documents/MasterPlans/RobertWehleStatePark/RobertWehleStateParkMasterPlan.pdf.

Norris, Floyd. 2012. Oil Supply Is Rising, but Demand Keeps Pace and Then Some, *New York Times.* Nov. 23. Available at http://www.nytimes.com/2012/11/24/business/economy/oil-supply-is-rising-but-demand-keeps-pace-and-then-some.html.

Northern Virginia Regional Park Authority. 2011. *Adopted Budget FY2013*. Fairfax Station, VA: NVRPA. Available at http://www.nvrpa.org/uploads/Files/AdoptedFY2013.pdf.

Novarro, Neva Kerbashian. 2002. Does Earmarking Matter? The Case of State Lottery Profits and Educational Spending. Stanford Institute for Economic Policy Research Discussion Paper No. 02-19 (December).

Olson, Ron. 2012. Chief, Michigan Division of Parks and Recreation. Personal communication with the author. October 23.

O'Rourke, Tom. 2012. Executive Director, Charleston County Parks and Recreation Commission. Personal communication with the author. August 10.

Outdoor Resources Review Group. 2009. *Great Outdoors America: The Report of the Outdoor Resources Review Group*. Washington, DC: Resources for the Future (July).

Ramsey, Frank. 1927. A Contribution to the Theory of Taxation. *Economic Journal* 37(145): 47-61 (March).

Rizzo, Christopher. 2012. Five Innovative Ideas for Funding Parks and Open Space, *New York Zoning Law and Practice Report* 13(1): 1-16 (July/August).

Sandler, Todd and John Tschirhart. 1997. Club Theory: Thirty Years Later, *Public Choice* 93: 335-355.

Siikamaki, Juha. 2011. Contributions of the US State Park System to Nature Recreation, *Proceedings of the National Academy of Sciences* 108(34): 14031–14036.

Stiglitz, Joseph. 2000. *The Economics of the Public Sector*, 3rd ed. New York: W.W. Norton and Company.

Thaler, Richard and Cass Sunstein. 2009. *Nudge: Improving Decisions About Health, Wealth, and Happiness*. New York: Penguin Group.

Three Rivers Park District. 2012. *Adopted Operating Budgets 2012*. Plymouth, MN: Three Rivers Park District. Available to download at http://www.threeriversparks.org/about.aspx.

Tittel, Jeff. 2012. Christie Administration's Attack on N.J. State Parks Begins, *New Jersey Newsroom.* February 7. Available at http://www.newjerseynewsroom.com/commentary/christie-administrations-attack-on-nj-state-parks-begins.

Ulam, Alex. 2007. Building on a Gritty Legacy: The Design for Riverside Park South Recalls New York City's Industrial Infrastructure. *Landscape Architecture.* October.

US Department of the Interior/US Department of Agriculture. 2012. *Implementation of the Federal Lands Recreation Enhancement Act*. Triennial Report to Congress. May.

USA Today Editorial Board. 2012. Our View: Oil and Gas Boom Offers Opportunities, Risks, *USA Today*. November 22. Available at http://www.usatoday.com/story/opinion/2012/11/22/fracking-natural-gas-energy-independence/1721765/.

Walls, Margaret. 2009a. Parks and Recreation in the United States: Local Park Systems. Resources for the Future Backgrounder. Washington, DC: RFF (June). Available at http://www.rff.org/News/Features/Pages/OutdoorResourcesReviewGroup-Pubs.aspx.

Walls, Margaret. 2009b. Federal Funding for Conservation and Recreation: The Land and Water Conservation Fund. Resources for the Future Backgrounder. Washington, DC: RFF (January). Available at http://www.rff.org/News/Features/Pages/OutdoorResourcesReviewGroup-Pubs.aspx.

Walls, Margaret. 2009c. Parks and Recreation in the United States: State Park Systems. Resources for the Future Backgrounder. Washington, DC: RFF (January). Available at http://www.rff.org/News/Features/Pages/OutdoorResourcesReviewGroup-Pubs.aspx.

Walls, Margaret, Sarah Darley, and Juha Siikamaki. 2009. *The State of the Great Outdoors: America's Parks, Public Lands, and Recreation Resources*. Washington, DC: Resources for the Future. November.

Walls, Margaret, Molly Macauley, and Soren Anderson. 2005. Private Markets, Contracts, and Government Provision: What Explains the Organization of Local Waste and Recycling Markets? *Urban Affairs Review* 40(5): 590-613 (May).

Washington State Parks and Recreation Commission. 2012. *State of State Parks 2012: The Quest for a Healthy Park System.* A Report to the State Office of Financial Management. August 13.

Williamson, Oliver E. 1979. Transaction cost economics: The Governance of Contractual Relationships, *Journal of Law and Economics* 22:233-61.

Wunder, Sven. 2007. The Efficiency of Payments for Environmental Services in Tropical Conservation. *Conservation Biology* 21(1): 48-58.

Wyoming Department of State Parks and Cultural Resources. 2012. *Annual Report 2012*. Available at http://will.state.wy.us/slpub/reports/FY2012%20State%20Parks%20&%20Cultural%20Resources%20(024)%20Annual%20Report.pdf.

Zelio, Judy and Lisa Houlihan. 2008. *State Energy Revenues Update.* Washington, DC: National Conference of State Legislatures. June. Available at http://www.ncsl.org/issues-research/budget/state-energy-revenues-update.aspx.