

# Financial Strategy

## Introduction

The Financial Strategy is a conceptual plan for funding the long-term solution ("Solution") being developed by the CALFED Bay Delta Program ("Program"). This is a status report on the development of the Financial Strategy that identifies potential funding sources for the Solution. The potential funding sources discussed in this report are intended to apply to the Preferred Alternative (when selected), including Common Components. Although the Preferred Alternative has not been selected, the funding sources might apply to any of the three proposed Phase II alternatives under consideration as well as the Common Components. There may also be additional funding sources beyond those contained in this report.

Phase II of the CALFED process is designed to look at the long-term solution at the Programmatic level. The Programmatic approach determines the level of detail that will be available for purposes of formulating the Financial Strategy. Given this fact, this report will focus on concepts and ranges of costs rather than specific numbers and dollar amounts. Specific amounts are important, but they will be introduced in Phase III of the CALFED Bay Delta Program, which will prepare project-specific information for each component.

## Process

During Phase II of the Program, a work group appointed by the Bay Delta Advisory Council ("BDAC") identified and discussed a number of issues relating to development of the Financial Strategy. These discussions took place on a monthly basis at public meetings held in several different locations in the State. One or more BDAC members, Program staff, State and Federal agency representatives, interested stakeholders, and members of the public generally attended the meetings.

The work group was formed to identify, examine, and offer recommendations concerning policy issues. In this role, the work group identified what it considered to be the most important issues relating to the Financial Strategy. Much of the discussion was of necessity conducted in the abstract, because detailed information on the costs and performance of the alternatives was not available to the Work Group.

The work group approached the issues in an iterative manner by considering a set of Financial Principles proposed by staff to guide future detailed decisions on the Financial Strategy. The discussions of the issues and Financial Principles identified by the work group are the source for this report. The next section of this report describes the Financial Principles that have been discussed. In some cases more detailed discussions have taken place regarding the application of these principles to the Solution. These discussions are described in the component-specific sections later in this report.

## Financial Principles

### Benefits-based allocation

Sharing the costs of the Solution based on the benefits being created is the cornerstone principle of the CALFED Financial Strategy. The fundamental philosophy is that costs will be paid by the beneficiaries of the actions, as opposed to seeking payment from those who, over time, were responsible for causing the problems being experienced in the Bay Delta system.

Among State and Federal agencies and within the stakeholder community, there is general agreement with this benefits-based approach as a guide for future cost sharing. A number of questions remain to be answered concerning the application of this principle.

Some benefits created by the Solution are difficult to quantify. Benefits associated with restoring ecosystem health, for example, are not measurable in the same way as the benefits of water supply improvements. This implies that while the benefits-based approach is useful as a guide, benefits cannot be used in a strictly quantitative way to arrive at an answer regarding sharing of costs.

Also, even though they agree in principle with the benefits-based approach for future costs, some stakeholders feel that direct beneficiaries of water development, including water users, should pay something for past damage to the ecosystem prior to using the benefits approach for future costs. The essence of this concept is that a benefits-based approach for the future is only fair if all parties start out from an equal position. Some feel that reaching this "level playing field" would take an initial adjustment in favor of the ecosystem.

Assessing water users for this type of adjustment is difficult because there is not general agreement over what role any particular water diversion, or water diversions in general, may have played in degrading the ecosystem relative to the many other factors over the last century or more that man has been affecting the Delta. There exists a similar problem with other direct beneficiaries of water development. Water users also argue that they have already paid sufficient amounts over time to offset any past action. This issue is discussed in more detail below in conjunction with the Ecosystem Restoration Program Plan component of the Solution.

*The remaining questions that must be resolved relating to the benefits-based approach revolve around what to do when benefits cannot be quantified, and whether or not any adjustment for past impacts is appropriate prior to using the benefits approach.*

### Public/User Split

During Phase I of the Program, it has become apparent that both public money and user money are necessary to fund the long term Solution. The public and user categories have also been extended to describe the character of certain types of benefits which may be produced by the Solution, with an eye towards which

source of funding will pay for certain portions of the Solution. In principle, public money will be used to do things that create public benefits, and user money will be used to do things that create user benefits.

**Public money** for the Solution means funding from the United States government and the State of California. The essence of the public money concept as a funding source is that it is money collected without being tied to the receipt of any specific product or service. State and federal income taxes may be the clearest examples of sources of public money. Generally, public money is expected to be used to pay for aspects of the Solution which generate public benefits, as described below.

**User money** for the Solution refers to money which is collected in exchange for provision of a good or service. Fees paid for water service are a clear example of user money. Although it is clear that many of the water providers are public agencies, funds collected by these agencies in exchange for their services are not defined as public money for purposes of funding the Solution.

User funding for the Solution can come from a variety of sources, for example

- water user fees such as diversion or discharge fees;
- assessments; and
- access and license fees.

Generally, user money is expected to be used to pay for aspects of the Solution which generate user benefits.

**Benefits** can be generally classified as either “public” or “user” based on the practicality of excluding individuals from access to the resource providing the benefit. If individuals can be effectively excluded from using the resource, then they can probably be charged for access to it. For some public benefit resources, one person’s use can have a detrimental effect on the ability of others to use the resource. Resources of these type are called “common property” resources, to distinguish them from public resources that can be used by any number of people without depleting the resource.

**Public benefits** are generally those that are shared by a wide cross-section of the community and from which individuals cannot be realistically excluded. A public benefit is one that once you make it available to one person, it is available to all. Inability to exclude individuals means that imposing charges for access to the benefit is difficult. If “free riders” can access the benefits without paying, there is no economic incentive for users to spend their money for these benefits. This means that if these benefits are to be created, public funding must usually be used.

**User benefits** are generally those that accrue to an identifiable subset of the community, and from which individuals can be excluded. The ability to restrict benefits to those that pay enables these benefits to be funded with user money. In some cases, such as metered water use, individuals can be charged based on

volume of use. In other cases, such as access to recreational facilities, charges are based on simple access to the benefit.

The practical application of classifying benefits is in identifying which parts of the Solution should be paid for with public funds, and which with user funds. As a general policy, portions of the Solution that create user benefits, as defined above, should be self-supporting through the use of user money. User interests receiving the benefit should be charged for use of or access to the benefit.

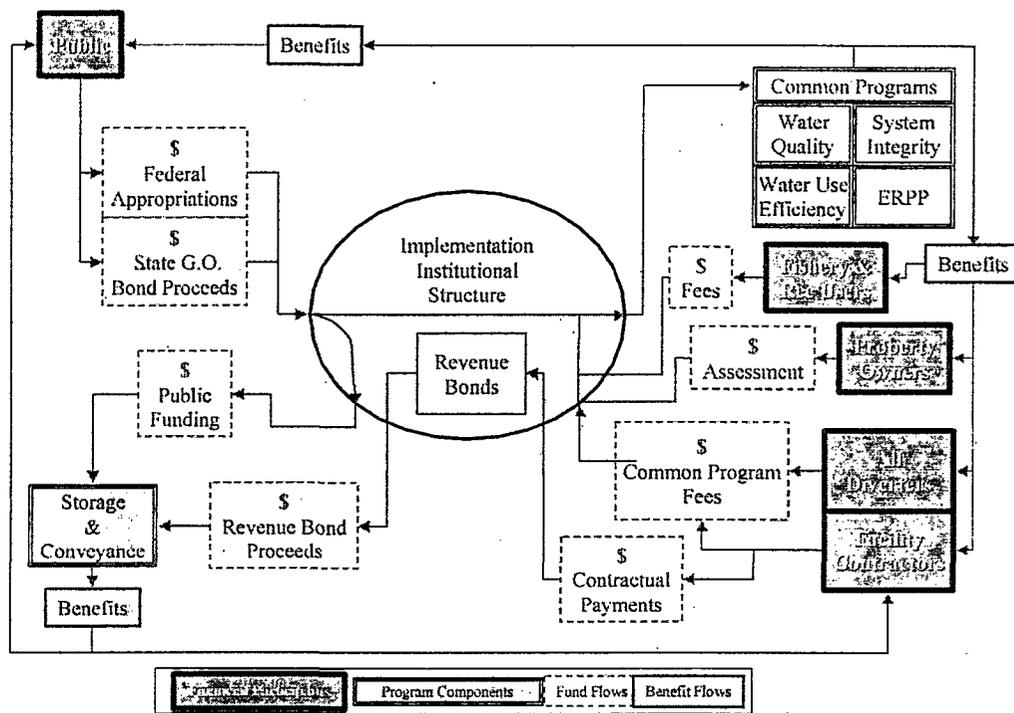
Public money should, as a matter of general policy, be used for those items that create public benefits. This includes those things that need to be done in the interests of the broader public, and create benefits from which it is not practical to exclude those that do not pay.

For both user and public funding, the benefits must equal or exceed the costs in order to justify the expenditure.

Some of the immediate implications of the benefits-based approach and the public/user split are shown in Figure 1 below. Figure 1 is a hypothetical example of a funding structure for the Solution. There are many other possible structures, and there is no special significance to any of the features of this example structure. In Figure 1, benefits that flow out of the components of the Solution are broadly divided into those that accrue to the public in general, and those that accrue to a specific subset of individuals. For each subset of beneficiaries, a funding source has been identified that will allow that subset to contribute to funding those portions of the Solution that benefit them. Most people will find themselves in more than one box. They are both members of the general public as well as members of one or more identified user groups. The diagram also highlights the need for the institutional structure to be able to coordinate a number of funding sources as they are applied to multiple components and projects. It should also be noted that the Program will rely on continuation and redirection of existing funding sources as well as new funding sources.

Figure 1.

Finance Example Schematic Diagram



Another logical consequence of the benefits-based approach is an assumption that a broad-based revenue source will be needed to fund Common Programs with broad-based, but non-public, benefits. There has been no policy articulated in this area, but the discussion has been around a Delta watershed fee(s) that would provide a non-public revenue stream to supplement public funding for the Common Programs. This fee would include upper watershed users including San Francisco, East Bay MUD, Sacramento Valley and San Joaquin Valley, as well as in-Delta diverters. Substantive questions surrounding such a fee include the size of the fee, the basis on which it would be charged, and whether it should be uniform or differ by user group.

There are additional questions in defining public versus user benefits that arise in conjunction with benefits that are not clearly one or the other. Some user benefits are so widespread that the group sharing them is substantially the same as the general public. The keys to resolving this issue may lie in whether or not access to the benefit can reasonably be excluded to those who do not pay for that access, and in whether future behavior can be beneficially affected depending on the choice of funding mechanism.

## **Ability to Pay**

This issue relates to whether or not specific users will be obligated to pay the full cost allocation for their benefits, or whether some obligations should be reduced based on the limited ability of certain users to those costs. Such reduced obligations would have to be subsidized either by other users or with public funds. A third option that must be considered is the possibility for reducing or eliminating benefits for those who are unable to pay for them.

In principle, users should pay their full share, with any exceptions to be considered on a case by case basis after a full cost allocation has been made assuming no ability to pay constraints. The concept is that any reductions in cost obligations based on inability to pay the full cost share should be explicitly identified and justified. Further discussion of this issue is included in conjunction with specific Solution components.

## **Crediting**

This policy relates to reducing Solution-related cost obligations to reflect payments made by obligees toward other parallel efforts to address Bay-Delta issues. An interim policy granting credit for cash contributed to the Category III Program has been approved by CALFED, but no additional provisions for long-term crediting have been approved.

In principle, all expenditures directed at the Bay-Delta system are part of the overall effort to improve that system. Coordinating or consolidating the parallel efforts to address Bay-Delta ecosystem issues has been advocated as an important step in ensuring effective and efficient use of the available funding for such efforts. Coordinating these efforts is seen as a way to expedite and implementation of many diverse and complex projects, as well as to enable flexible and efficient use of available funding. These issues are discussed in detail in the Assurances section of the Implementation Strategy. In principle, consolidation of these efforts for planning and funding purposes should include expansion of the crediting policy to reflect payments toward any of the consolidated efforts.

As part of the long-term crediting policy many additional details must be agreed upon, including the start date for crediting, types of payments to be credited, consideration of the timing of payments, and others.

## **Cost Allocation Methodology**

This policy relates to selection of particular cost allocation techniques for making detailed cost allocations within the sphere of a benefits-based cost allocation approach. No policy decision has been articulated here, although individual CALFED agencies have historical policies relating to cost allocation techniques. Within the stakeholder community, there is general consensus that while traditional methodologies may be applicable for conventional facilities, they may not be appropriate for use with the Common Programs due to the difficulty in

including non-market benefits created by the Common Programs in the allocation process.

Certain terms need to be defined prior to discussing cost allocation concepts:

A project purpose refers to an objective or need that the project is designed to meet. Examples of project purposes include water supply, flood control, and ecosystem enhancement.

Projects that address only one objective are single purpose projects. An example might be a flood control project, which addresses only flood control considerations. Cost allocation among purposes for a single purpose project is not an issue. Projects that address multiple purposes are called multi-purpose projects and raise the issue of cost allocation among the several purposes.

As a whole, the Solution is a multi-purpose project. However, individual actions included in the preferred alternative may be distinct projects that are single purpose. No determination has yet been made as to the level at which cost allocations will be made, although much of the discussion has centered on the Program Components. Each Program Component is multi-purpose.

Cost allocation is the process of distributing the costs of a multi-purpose project among the various purposes served. The cost allocation process becomes an issue when a project includes features that serve more than one purpose. The cost of such features is known as a joint cost, and the essential problem of the cost allocation process centers on the distribution of joint costs among purposes served. The goal is to develop a method that allocates these costs *equitably* among purposes served.

More than one person or group can share the benefits of each purpose. Cost sharing refers to how the costs allocated to each purpose are further split up among those who share in the benefits of that purpose.

**Cost Allocation Method Selection Criteria**

There are many possible cost allocation methods, each with its own strengths and weaknesses. The BDAC work group developed a set of conceptual criteria to guide the selection of methods for dividing the costs of the Solution. Selection of a specific method for each Component may be in order, and this selection will probably involve tradeoffs among these criteria. There is no single best method that addresses all of the criteria in an optimal way.

Criterion	Description
<p><b>Consistent</b></p>	<p>The costs allocated to a purpose should not change based solely on how the other purposes are subdivided or aggregated either initially or over time. In addition, effects of cost changes over time on the allocations to each purpose should be predictable and rational.</p> <p>For example, increases in total project costs should not lead to cost allocation reductions for some parties at the expense of larger increases for others. Costs allocated to the federal government related to ecosystem should not change based on whether all users are grouped</p>

	<p>together or treated separately as urban and agricultural.</p>
<b>Fair</b>	<p>All purposes and beneficiaries are treated the same in terms of receiving a reasonable share of the savings from the joint project. No special rules or calculations should be employed that would result in special treatment of a particular purpose.</p> <p>Joint projects are pursued because it is less expensive than pursuing separate projects to gain the same benefits. The crux of the allocation issues relates to joint costs: those that cannot be traced to a specific purpose. One way to look at the allocation issue is how to share the savings of the joint project versus the separate projects.</p>
<b>Flexible</b>	<p>The allocation method must enable addressing issues for a diverse mix of projects and programs that each may raise different issues</p> <p>For example, does the methodology must enable addressing the issues of fish screens, flood control measures, and recreational benefits? Each of these raise some specific issues.</p>
<b>Inexpensive</b>	<p>Using the cost allocation methodology should involve manageable costs for obtaining input data, performing cost allocation calculations, and developing results</p> <p>For example, SCRIB requires costing out a number of scenarios that are never intended to be built for purposes of defining separable costs. This can be expensive.</p>
<b>Rational</b>	<p>Ability to charge each purpose at least as much as the cost of inclusion, and no more than the cost of going it alone</p>
<b>Reliable</b>	<p>The allocation methodology must employ proven techniques. Proven techniques are those that have been employed previously by CALFED agencies or others in similar situations and have been demonstrated to produce workable results.</p>
<b>Sufficient</b>	<p>The cost allocation methodology should assure recovery of full project cost.</p> <p>Marginal cost approaches are not designed to recover a set amount of money, and could end up recovering more or less than the cost of the project.</p>
<b>Understandable</b>	<p>Ability to explain the methodology and results in a manner that enables widespread comprehension and support of the methodology.</p>

### Description of Approaches

The BDAC work group reviewed three general types of cost allocation methodology, as described below.

- **Traditional Approaches**

A 1954 inter-agency agreement on cost allocation between the Department of the Interior, the Army Corps of Engineers, and the Federal Power Commission agreed that three methods of cost allocation are acceptable:

1. The **separable costs-remaining benefits (SCR) method** is considered preferable for general application.
2. The **alternative justifiable expenditure (AJE) method** is acceptable where the necessary basic data to determine separable costs are not available and the time and expense required to obtain the data are not warranted.
3. The **use of facilities (UOF) method** is acceptable where the use of facilities is clearly determinable on a comparable basis and where use of this method would be consistent with the basis of project formulation and authorization.

- **“Follow the Water”**

This approach would use the overall use or consumption of the water resource as a means of allocating costs. Although there are many complex details associated with this approach, the basic concept is simple. Costs of the Solution would be split among groups based on their proportional use of the water that flows into the Delta or would flow into the Delta but for being diverted.

- **Technical Approaches**

This set of methods is based on a substantial body of academic research that has been developed over the past two decades on cost allocation. The thrust of these methods is to identify clearly the shortcomings of traditional cost allocation approaches listed above and to use mathematical or logical models to overcome those shortcomings in the interests of creating better, fairer cost allocation methods. Two technical methods were identified:

1. **Shapley Values** result in an allocation based on the average price of all orderings for inclusion of purposes in a multi-purpose project.
2. The **Nucleolus** approach is based on a repeated allocation of joint costs such that each pairing of two parties split the difference between the most and least favorable divisions to themselves holding other allocations constant, and maximizing the distribution of cost savings to each proper subset of parties.

### Selection of Methodology

As identified above, the remaining issues that must be resolved with respect to cost allocation relate to selection of specific methods to use, and whether allocation should take place at the level of the composite Solution, or individually for each Component, or some other subset of the Solution.

**Summary**

While the fundamental policy direction for each of the Financial Principles discussed above has been identified, much work remains to be completed. Most of the remaining work is in the detailed application of these policies to a Preferred Alternative. Resolution of these issues will require the involvement of policy level representatives of Federal and State agencies and stakeholder interests. The process for moving these issues through the public and stakeholder process that has defined the Program to-date must be implemented during 1998 to enable resolution of these issues prior to finalization of the Implementation Strategy for the Preferred Alternative.

## Component Funding

The discussion that follows addresses the components of the long-term Solution, identifying what is known for each program for the next ten years, and the types of issues that need to be addressed. Addressing the components individually does not alter the fact that the Solution must be implemented as a whole. Although individual funding sources may be earmarked for specific projects or components, the entire Solution must be funded with a package that is both adequate and reliable.

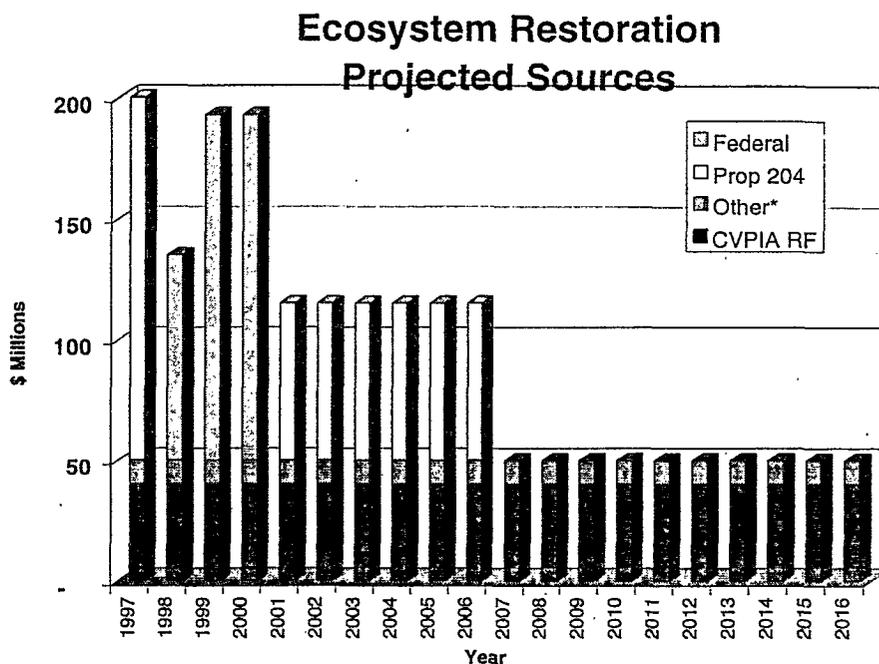
The specifics of the institutional structure that will be given responsibility for implementing the Solution may affect the ability to use some of the funding sources identified here. The options for this structure are not discussed here, although aspects of the structure that affect the funding alternatives are identified when relevant.

### **Ecosystem Restoration Program Plan (ERPP)**

The ERPP is projected to cost a total of about \$1.25 billion in 1996 dollars. While there has been no specific breakdown of this total by year, this total would translate into roughly \$42 million per year over thirty years, excluding interest and inflation.

The ERPP is the component of the Program that has the greatest identified funding potential at present. As Figure 2 shows, the ERPP has potential for funding in excess of \$100 million annually for the next several years. This level of funding is expected to be adequate for ERPP capital through roughly the first ten years of the Program. The total ERPP will require additional funding, but there is a saturation point for the amount of funding that can be put to effective use in any single year. Additional ERPP capital funding over and above the amounts shown, assuming these amounts are realized at the levels shown, are probably not needed until projected funding has been exhausted. In addition, funding for Operations and Maintenance for certain ERPP activities must be provided. Actual funding levels are dependent on several factors, as explained below for each of the funding sources.

Figure 2.



**Federal Funding**

Congress authorized initial federal funding of \$143.3 million per year for three years in 1996. This funding is contingent on approval of annual appropriations by Congress. For Fiscal Year 1998, the first year of the authorization, Congress appropriated \$85 million, as shown in Figure 2. Figure 2 assumes that future appropriations equal the full \$143.3 million per year. This funding can be used for both capital and O&M funding.

**Proposition 204**

Voters in the State of California approved the sale of \$995 million in General Obligation bonds Proposition 204 in November 1996 for various water-related purposes. The table below shows funding amounts contained within Proposition 204. The portions of this authorization that are specifically directed to the ERPP (and included in Figure 2.) are italicized in the table below. Other provisions of Proposition 204 include funding for other Program Components.

SHORT TITLE	AGENCY	TOTAL AMOUNT (\$ MILLIONS)
CVPIA	F&G	93
Category III	Resources Agency	60
Levee Rehabilitation	DWR	25
South Delta	DWR	10
Delta Recreation	P&R	2
Bay Delta Program	DWR	3
Clean Water	SWRCB	110
Recycling	SWRCB	60
Drainage Management	SWRCB	30
Watershed Management	SWRCB	15
Seawater Intrusion	SWRCB	10
Lake Tahoe	CTC	10
Feasibility Projects	DWR	10
Conservation & Groundwater	DWR	30
Local Projects	DWR	25
Sac Valley Habitat	DWR	25
River Parkway	N/A	27
Bay Delta Program	Resources Agency	390
Flood Control	DWR	60
	<b>Total:</b>	<b>995</b>

The \$93 million for CVPIA State matching funds and \$60 million for Category III were immediately available, and projects to be implemented using these funds are being currently being examined. The assumption has been made that all of this funding will be committed in FY98. Availability of the \$390 million is contingent on several things, including certification of the final Programmatic EIR/EIS, which is expected in late 1998. An assumption has been made for the purposes of Figure 2 that this \$390 million fund would be spent in six equal annual installments of \$65 million beginning after the last year of federal funding in FY2000, although the funds are generally available in total once all of the conditions have been met.

Due to the fact that Proposition 204 relies on General Obligation bond funding, these funds cannot be used for O&M for ERPP activities.

### **CVPIA Restoration Fund**

The CVPIA Restoration Fund, which represents payments by CVPIA users include power users, is designed to address many of the same problems that the Program has identified (see Crediting section above). Congress must also appropriate this funding, although existing law establishes the charges to CVPIA contractors and power revenues.

### **Other Sources**

Other sources include user contributions to the Category III Program, the Four Pumps Agreement, and the Tracy Mitigation Agreement. These funds are estimated to total about \$10 million per year. Like the CVPIA Restoration Fund, these sources are intended to address many of the same issues as the ERPP.

### **Future Funding**

As Figure 2 shows, after 2006 the amount of funding projected for the ERPP on an annual basis decreases dramatically. ERPP funding after this point is expected to come from renewed State and Federal sources as well as user sources. Securing the reliability of this future funding for both capital and O&M is a major issue within the Implementation Strategy. Another important assurance consideration is providing funding flexibility that is compatible with the Adaptive Management approach that is central to the ERPP.

### **ERPP User Funding**

If a determination is made that user funding is appropriate for some portion of the ERPP, existing contracts alone would not be adequate. Existing contracts do not cover all of the necessary parties that would need to contribute. Future contracts relating to any Program facilities are also likely to fall short for the same reason.

Although it has been controversial in the past, a fee on water diversions that encompasses the entire Bay-Delta System watershed appears to be the best tool to collect revenues directly from a wide cross-section of water users. Such a fee would cover not only contractors but also those who have an obligation to participate financially in the Program for other reasons.

The exact nature of this fee is somewhat dependent on the institutional structure that is put in place to implement the Program, but conceptually the fee would probably resemble the type of basin-wide fees that have been discussed previously. Problems with prior proposals will have to be addressed and overcome as part of developing an acceptable structure.

### **Financial Baseline**

There is a wide spectrum of views as to how the costs of the ERPP should be shared that is based in part on differing views as to the starting point or "baseline" from which ecosystem improvements should be viewed. If such a "baseline" level were known, then restoration to that "baseline" level could be considered

mitigation for past acts, while restoration above the "baseline" level could be considered enhancement to the ecosystem. Traditionally, mitigation actions are paid by those whose acts caused the need for the mitigation, while enhancement has been viewed as a responsibility of the general public. Unfortunately, no such "baseline" definition exists, and the ERPP does not define a baseline in determining the goals and targets for restoration activities.

In the absence of an authoritative answer, possible viewpoints are wide-ranging. On one extreme end of the spectrum is the view is that all of the degradation of the ecosystem is due to modifications to the natural system, including dams, diversions, levees and other human interventions. This view implies that all restoration efforts would be seen as mitigation for human acts. The ecosystem cannot be enhanced by current restoration efforts, only returned to some decreased level of degradation. In the extreme, this view might suggest that the baseline predates human intervention in the Bay-Delta system ("Early Baseline").

On the other extreme end of the spectrum is the view that the degradation of the ecosystem is the cumulative result of centuries of diverse events, both natural and man-made. These events reflect an historical public policy based on a different set of societal values from those that exist today, and were endorsed by the State and federal governments. This view would suggest that the effects of past actions are impossible to evaluate, and that only changes from the current situation are relevant. In the extreme, this view might suggest that all improvements to the current ecosystem should be viewed as enhancements to the ecosystem, and no actions should be considered mitigation. This view would find the baseline date is in the present or very recent past ("New Baseline").

Resolution of the issue may have very real implications for allocating the costs of the ERPP. An ERPP example will illustrate this point, and further discussion of this issue is included regarding funding for storage facilities.

### **Habitat**

The ERPP includes acquisition of land for purposes of establishing new habitat. This type of action in the short term creates benefits primarily for ecosystem purposes.

The Early Baseline view would argue that establishing such habitat is only necessary due to reduction of historical habitat and reduced flows from human intervention. As such the costs of the habitat would be viewed as mitigation and would be paid by users.

The New Baseline view would allocate the costs to the general public as a result of the ecosystem enhancement benefits of the action.

Agreeing on the baseline in this example would determine to what extent users could contribute a portion of the costs of primarily ecosystem actions.

### **Needs of Affected Parties**

Several of the affected parties have offered comments that reveal some of their underlying concerns over how this ecosystem baseline question is resolved. These

parties may have additional needs beyond those listed here, and other groups may have different concerns that may need to be considered as well. In concept, this listing represents the issues that must be addressed adequately by the definition of the ecosystem baseline or elsewhere within the Program in a reliable way in order to allow the parties to agree on a baseline definition.

The thought to bear in mind in these discussions is that defining the ecosystem baseline in a certain way may not be the only, or the best, way to address the needs of the interest groups. Finding a different or better tool for addressing each need could reduce the conflict over definition of the ecosystem baseline and allow the equitable allocation of costs while at the same time meeting the needs of the affected parties.

#### Environmental Interests

There appear to be two key concerns among environmental interests concerning the ecosystem baseline. The first relates to ensuring adequate funding for the ERPP, and the second relates to achieving a sustainable solution.

The funding concern relates to the unpredictable and limited nature of public funding sources. If the ERPP is to be paid for using public funds only, that subjects it to a continuing struggle for appropriations that could result in the funding being both limited and unreliable. Defining the ecosystem baseline in a way that places more of the burden on users could result in greater and more reliable funding for the ERPP over time. The underlying need is to assure that the ERPP has sufficient funding over time.

The sustainability concern relates to the fact that current water costs do not accurately reflect the full ecosystem impacts of water resource use decisions. This could result in decisions over time that could undermine the objectives and success of the Program, even if the initial Program appeared to be effective. Defining the baseline in a way that places more of the burden on users could result in a more accurate reflection of the costs of water resource use decisions over time, resulting in decisions that would maintain or enhance the effectiveness of the Program over time. The underlying need is to incorporate the costs of ecosystem impacts in the price of water to an extent sufficient to reflect ecosystem costs of water use decisions.

#### Urban Interests

Urban interests appear to be primarily concerned with controlling costs. There is a limit to amount of money they can pay in total for the Program, and that includes any ERPP costs that they might pay. This limit is based on a number of factors including the costs of alternative water supplies, political pressure to avoid rate increases, and concerns over the economic impact of rate increases within their service areas. The underlying need is for an acceptable total cost for Delta water.

#### Agricultural Interests

Agricultural interests are also concerned with controlling costs, but they have slightly different factors to consider. There is a limit on what agricultural interests will pay based on the costs of alternative supplies and political pressure to avoid

rate increases, but there is also a strict limit on what most agricultural users can pay based on the profitability of their crops. The chief agricultural interest might be best described as maintaining an ability to stay in business and achieve a reasonable return on their investment.

### **Levee System Integrity**

The cost of the Levee Program depends both on the security level to which the levees are maintained and the geographic extent of the maintenance program. Raising all Delta levees to a P.L.99 standard would cost around \$2 billion in 1996 dollars. A phased program that would strengthen levees to this level over time by prioritization is projected to cost about \$30 million annually on an ongoing basis.

Proposition 204 extended funding for delta levees in the amount of \$25 million dollars, and \$60 million for Flood Control subventions. The full levee component of the Program will require additional funding. This funding is expected to come from State and Federal sources, local property owners, and water user fees. Local property owners will benefit from increased flood protection, while water users will benefit from reduced risk of interruption of diversions due to catastrophic levee failures.

In contrast to ERPP benefits, which may take years to develop, levee benefits can be felt immediately. So, although much of the early ERPP funding is from the State and Federal governments, implementation funding for the other common programs including the levee program needs to come from all parties. This suggests that fee structures for the other common programs need to be put in place from the start. Any fees assessed based on property ownership would need to be approved by voters. Water users could be charged using the same type of fee structure discussed in relation to ERPP funding.

A remaining issue with respect to the Levee Component relates to the fact that the cost of levee restoration in much of the Delta exceeds the value of the underlying land and its ability to generate revenue. This raises questions about the willingness and ability to pay for Delta landowners, as well as the economic justification for the expenditures.

### **Water Quality Program**

The Water Quality Program may have substantially lower early capital requirements than some other components, as it initially consists more of research, monitoring, and education activities. Significant funding over time for land conversion related to drainage issues may be expected. The Water Quality Program is expected to eventually cost about \$750 million in 1996 dollars. On an annual basis for the first ten years, approximately \$\_\_ million per year will be required for this program.

State and Federal funding, combined with user fees are expected to provide for this program. As with the Levee programs, these fees need to begin immediately with the commencement of the Program.

## **Water Use Efficiency Program**

The Water Use Efficiency Program also has lower early capital requirements than some other components. The Water Use Efficiency Program is expected to eventually cost about \$750 million in 1996 dollars. On an annual basis for the first ten years, approximately \$\_\_ million per year will be required for this program.

Like the Water Quality Program, State and Federal funding, combined with user fees are expected to provide for this program. These fees need to begin immediately with the commencement of the Program.

## **Storage and Conveyance Facilities**

The costs for Storage and Conveyance facilities that are included in the Preferred Alternative are estimated to total \$\_\_ to \$\_\_ billion in 1996 dollars. The bulk of capital construction costs will of necessity come later, most likely after the initial ten-year period. This is due to the longer planning, design and permitting process associated with these types of actions. Planning costs for selected facilities would begin immediately after selection.

Storage and Conveyance facilities have been assumed to be operated to address both user and ecosystem needs. For this reason, funding is expected to come both public and user sources. How to divide the costs between users and the public is in question. The issue is related to the ERPP baseline issue discussed in the ERPP section. Storage costs, like some ERPP costs, can be considered as enhancement or mitigation, depending on your point of view. The following example illustrates the issue.

### **North of Delta Storage**

New storage north of the Delta within the Program alternatives is assumed to be used jointly for ecosystem and water supply purposes. This would involve diverting water into storage during periods of high flow, and releasing some of the water when needed for users' diversion purposes and some when needed to supplement in-stream flows for ecosystem purposes.

The New Baseline view (as defined in the ERPP section baseline section) would treat the portion of the costs of the new storage that were to be used for ecosystem as an ecosystem enhancement, suggesting that those costs should be borne by the general public.

The Early Baseline view would argue the water diversion to a storage facility cannot be considered ecosystem enhancement, as the best use of water for the ecosystem is to let it remain in the river in its natural condition. Any diversions, even if intended to be used to supplement dry year flows for the ecosystem, are only necessary because the natural flows have been disrupted by human actions. Had the natural flows not been disrupted, dry years flows would not unduly stress the ecosystem and flow supplements from storage would not be needed. Thus any costs related to ecosystem storage should be considered mitigation, according to this view, and paid by users.

Agreeing on the baseline in this example determines to what extent public funds could be used to pay a portion of the costs of new storage.

### **Future Funding Timing**

Although any federal contributions to the funding of Storage and Conveyance facilities would be expected to be made at the time of expenditure, both any State and user contributions are likely to be financed with through bond issues. This changes the out-of-pocket cash expenditures, due to the fact that State and user costs would be based on making annual debt payments, probably extending over 30 or more years, as opposed to up-front payments.