

# In-lieu fee mitigation: coming into compliance with the new Compensatory Mitigation Rule

Jessica Wilkinson

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**Abstract** Under Section 404 of the federal U.S. Clean Water Act, the U.S. Army Corps of Engineers and U.S. Environmental Protection Agency require compensatory mitigation for unavoidable impacts stemming from the permitted discharge of dredged or fill material into waters of the United States. There are three primary mechanisms supported by the Corps and EPA for permittees to meet their compensatory mitigation obligations: permittee-responsible mitigation, purchasing credits from a mitigation bank, or making a payment to an approved in-lieu fee mitigation program. In 2005, the Environmental Law Institute studied the 38 approved, active in-lieu fee programs operating in the US. This paper seeks to assess how the in-lieu fee programs that were approved and active as of October 2005 will need to update their administrative and procedural practices to come into compliance with new regulations on compensatory mitigation published in April 2008. Of the 10 new requirements for in-lieu fee reviewed here, three in particular will likely have the most significant impact on whether the 2005 programs are able to seek authorization and continue to operate. These are the compensation planning framework, the cap on the number of advance credits that can be

sold, and the requirement to provide financial assurances for all projects. Those programs that make the investment in meeting the new requirements by the June 2010 deadline are likely to overcome past concerns over the ability for in-lieu fee mitigation to replace lost aquatic resources in a timely and efficient fashion.

**Keywords** Compensatory mitigation · In-lieu fee mitigation · Payment in-lieu of mitigation · Third-party compensation

## Introduction

Section 404 of the Clean Water Act (§404) prohibits the discharge of any dredged or fill material in “waters of the United States,”<sup>1</sup> including wetlands, without a permit (Federal Water Pollution Control Act 1972). The primary principles guiding administration of the §404 program are the general goal, established in the Clean Water Act (CWA) in 1972, of restoring and maintaining the “chemical, physical, and biological integrity” of the nation’s waters and the more specific goal of “no overall net loss” of

J. Wilkinson (✉)  
Environmental Law Institute, 2000 L Street, NW,  
Suite 620, Washington, DC 20036, USA  
e-mail: wilkinson@eli.org

<sup>1</sup> 33 C.F.R. §328.3 (1993).

wetland acres and functions.<sup>2</sup> The CWA and no net loss goals are addressed through the three-step mitigation process (avoid, minimize, compensate),<sup>3</sup> which culminates in the requirement for permittees to compensate (i.e., provide compensatory mitigation) for all unavoidable permitted impacts.

The U.S. Army Corps of Engineers (Corps) and U.S. Environmental Protection Agency (EPA) share responsibility for administering the §404 program. The agencies support three mechanisms that permittees can use to meet their compensatory mitigation obligations: permittee-responsible mitigation, purchasing credits from a mitigation bank, or making a payment to an approved in-lieu fee mitigation program. The federal agencies have issued a variety of guidance documents to improve the effectiveness of these different forms of compensatory mitigation.

New regulations, published in the Federal Register in April 2008, require all three compensatory mitigation mechanisms to comply with “equivalent standards.” This paper seeks to assess how the in-lieu fee programs that were approved and active as of October 2005 will need to update their administrative and procedural practices to come into compliance with the new requirements.

<sup>2</sup> The goal of no net loss of wetland acres and functions was first articulated in the report, “Protecting Americas Wetlands: An Action Agenda the Final Report of the National Wetlands Policy Forum.” 1988. Washington, DC: The Conservation Fund. The report recommended that “the nation establish a national wetlands protection policy to achieve no overall net loss of the nation’s remaining wetlands base, as defined by acreage and function....”.

On June 8, 1989, President George H.W. Bush officially articulated the “no net loss” goal in a speech to Ducks Unlimited. President George Bush, speaking to Ducks unlimited, June 8, 1989 (United States Government Printing Office (USGPO) (1990) *Public Papers of the Presidents of the United States: George Bush*. 1989: Book I: January 20th to June 30th, 1989. Washington, DC: Office of the Federal register.

Since 1989, the no net loss goal has been repeated in multiple agency policy documents. The 1990 Mitigation MOA (EPA and Army 1990) for example reiterates the national goal of achieving “no overall net loss of values and functions.” The MOA does, however, acknowledge the difficulty inherent in measuring and therefore replacing functions and values. As a result, it states that “a minimum of 1 to 1 acreage replacement may be used as a reasonable surrogate for no net loss of functions and values.” As a result, the no net loss goal is often referred to in terms of *acres* and functions.

<sup>3</sup> For more on the three-part mitigation sequence, see Bean et al. (2008).

## History of in-lieu fee policy

Although federal policy has long expressed a preference for compensatory mitigation to be conducted on-site, the 1990 Mitigation Memorandum of Agreement (Mitigation MOA) stated that off-site compensatory mitigation was permissible if on-site compensatory mitigation was determined not to be practicable (EPA and Army 1990). Off-site compensatory mitigation may be performed by the permittee (often referred to as permittee-responsible mitigation) or by a third-party. Third-party compensatory mitigation generally falls into one of two categories: mitigation banking and in-lieu fee mitigation.

Federal guidance on mitigation banks, issued in 1995 (Banking Guidance), also addressed in-lieu fee mitigation. The guidance characterized in-lieu fee mitigation as arrangements “wherein funds are paid to a natural resource management entity for implementation of either specific or general wetland or other aquatic resource development projects” (DOD et al. 1995). The Banking Guidance acknowledged that the Corps and other regulatory agencies may find situations in which in-lieu fee arrangements are appropriate, but recommended that when used, they provide “adequate assurances of success and timely implementation.” The guidance further stated that when the Corps approves payment in-lieu of mitigation, “a formal agreement between the sponsor and the agencies, similar to a banking instrument, is necessary to define the conditions under which its use is considered appropriate.”

## Concerns over in-lieu fee mitigation

The Banking Guidance outlined two concerns about the ability of in-lieu fee mitigation to provide prompt and predictable compensatory mitigation. The guidance stated that: in-lieu fee arrangements “do not typically provide compensatory mitigation in advance of project impacts,” and “do not typically provide a clear timetable for the initiation of mitigation efforts” (DOD et al. 1995). In an effort to address these and other lingering concerns over in-lieu fee mitigation, additional federal guidance was issued in 2000 (Army et al. 2000). The In-Lieu Fee Guidance (ILF Guidance) defined in-lieu fee as “mitigation that occurs in circumstances where a permittee provides funds to an in-lieu-fee sponsor instead of either completing

project-specific mitigation or purchasing credits from a mitigation bank approved under the Banking Guidance.”

The ILF Guidance laid out the circumstances under which in-lieu fee mitigation would be considered appropriate and, in such cases, how planning, establishment, and use of such programs should be carried out. The ILF Guidance strongly suggested that in-lieu fee programs have in place a formal agreement between the third-party and the regulatory agency if compensatory mitigation funds are to be accepted by the third-party. In theory, such an agreement would provide for a clear timetable for mitigation projects.

Several independent studies have concluded that the in-lieu fee programs established prior to and under the 2000 ILF Guidance were potentially beneficial but also deeply problematic. In its 2001 study on in-lieu fee mitigation, *Wetlands Protection: Assessments Needed to Determine Effectiveness of In-Lieu Fee Mitigation*, the Government Accountability Office (GAO, then the General Accounting Office) stated that the mechanism has “the potential to be an effective compensatory mitigation tool that benefits the environment and [provides] developers flexibility in meeting their mitigation requirements” (GAO 2001). In the same study, GAO also found that “[t]he extent to which the in-lieu-fee option has achieved its purpose of mitigating adverse impacts to wetlands is uncertain” because the Corps districts were unable to provide the researchers with adequate data to support their claim that the wetland acreage restored, enhanced, created, and preserved by in-lieu-fee programs equaled or exceeded the number of wetland acres impacted. In addition, the districts had not tried to assess and therefore could not supply data to support their assertions that the functions and values of the lost wetlands were being replaced through in-lieu fee mitigation.

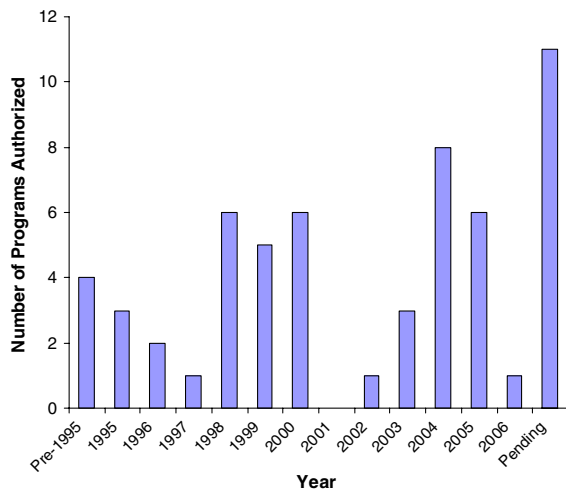
Also in 2001, the National Research Council (NRC) released its seminal report, *Compensating for Wetland Losses Under the Clean Water Act* (NRC 2001). Among the NRC’s 26 recommendations for improving federal compensatory mitigation was a call for compensatory mitigation in advance of impacts, watershed planning, and interagency review. Although in-lieu fee mitigation is ordinarily provided after impacts, the study nevertheless concluded that “[t]hird-party compensation approaches (mitigation

banks, in-lieu fee programs) offer some advantages over permittee-responsible mitigation.” The NRC recognized the potential application of in-lieu fee mitigation on a watershed basis.

In 2005, GAO released a report on the track record of the Corps’ oversight of all three compensatory mitigation mechanisms titled, *Wetlands Protection: Corps of Engineers Does Not Have an Effective Oversight Approach to Ensure That Compensatory Mitigation Is Occurring*. The report concluded that the Corps districts visited by the agency performed limited oversight to determine the status of the compensatory mitigation they had required. GAO did, however, state that the districts provide “some-what more oversight for mitigation conducted by third parties,” including in-lieu fee and mitigation banks, than for permittee-responsible mitigation (GAO 2005).<sup>4</sup>

Finally, in 2006, the Environmental Law Institute (ELI) issued *The Status and Character of In-Lieu Fee Mitigation in the United States* (Wilkinson et al. 2006), which sought to characterize the 38 approved, active in-lieu fee programs in the country identified as of October 2005 (Fig. 1) and assess the degree to which these programs had addressed the concerns and recommendations issued by the federal wetland regulatory agencies, NRC, and GAO. The ELI study identified many strengths of in-lieu fee mitigation, but also found many weaknesses in how the mechanism was being administered in practice. In comparison to other forms of mitigation, in-lieu fee mitigation better incorporated private land conservation organizations with expertise in long-term stewardship, more fully considered watershed needs in the site selection process, more effectively met local needs, and was used to mitigate for small impacts. The report also found, however, that the active in-lieu fee mitigation programs did not have the necessary administrative provisions in place to adequately ensure a high degree of accountability and performance. ELI concluded that the shortcomings of the programs were a result of deficiencies with the

<sup>4</sup> GAO found that “For the 6 in-lieu-fee arrangements that were required to submit monitoring reports to the Corps, 5 had submitted at least one report. In addition, the Corps had conducted a compliance inspection for 5 of the 12 arrangements” (GAO 2005).



**Fig. 1** Date of in-lieu fee program authorization: the number of in-lieu fee programs authorized each year from 1995 through March 2006. The chart includes 8 programs that were not covered in ELI's 2006 study and 11 programs that were pending as of May 2006

in-lieu fee mitigation policy in place at the time, as well as its inconsistent application, rather than the mitigation method itself.

Over 10 years of federal guidance and independent studies have expressed concerns over the ability of in-lieu fee mitigation to replace aquatic resources in a timely and effective fashion, but most also acknowledge the potential benefits of the mechanism. It bears noting that none of these studies have, to date, sought to assess the relative effectiveness of the three compensatory mitigation mechanisms—permittee-responsible, wetland mitigation banking, and in-lieu fee mitigation—in producing ecologically effective and sustainable aquatic resources.

### 2008 Compensatory Mitigation Rule

On April 10, 2008, EPA and the Corps published new regulations governing compensatory mitigation, *Compensatory Mitigation for Losses of Aquatic Resources* (2008 Compensatory Mitigation Rule) (DOD and EPA 2008). The rule creates new requirements for in-lieu fee programs in an effort to “improve accountability and performance.” It establishes equivalent standards for in-lieu fee mitigation and mitigation banks on a number of administrative fronts: plan approval, performance standards,

monitoring, adaptive management, long-term stewardship, review by an interagency team, and public notice. The rule does, however, acknowledge that even with these new provisions, in-lieu fee mitigation retains some “risk and uncertainty,” and by its very nature leads to a temporal loss of aquatic resource functions. These lingering weaknesses are addressed by the new regulations in two ways. First, the rule establishes a compensation hierarchy that creates a preference for mitigation bank credits over in-lieu fee payments as the mechanism of choice in satisfying compensatory mitigation obligations (§332.3(b)). Second, if at the time the permittee makes a payment to an in-lieu fee program, that program does not have the sufficient number and type of credits available, then the Corps must require the permittee to provide additional compensatory mitigation to offset temporal losses (§332.3(f)(3)).

### New provisions for in-lieu fee compensatory mitigation

Under the 2008 Compensatory Mitigation Rule, all new in-lieu fee programs must meet a number of requirements. All current in-lieu fee programs must come into compliance with these requirements by June 2010 if they intend to continue operation. The ten most significant provisions (many of which are interrelated) are discussed below.

#### *Formal in-lieu fee instrument*

The 2008 Compensatory Mitigation Rule requires that all in-lieu fee programs have in place “an approved instrument signed by the sponsor and the district engineer” before the program can be used to offset permittees’ compensatory mitigation requirements (§332.8(a)(1)). The instrument must include a “compensation planning framework,” which discusses historical losses and current conditions of aquatic resources within a watershed. The compensation planning framework must outline a strategy for selecting, securing, and implementing compensatory mitigation projects on a watershed basis. The formal in-lieu fee instrument must also contain a cap on the number of credits that an in-lieu fee program can sell before securing a site and undertaking compensatory activities.

### *Meeting no net loss*

Under the 2008 Compensatory Mitigation Rule, the amount of compensatory mitigation required must be “sufficient to replace lost aquatic resource functions” (§332.3 (f)(1)). In other words, the acreage or linear feet of compensatory mitigation provided must, at a minimum, replace lost aquatic resources at a ratio of one-to-one. The ratio may be higher to account for temporal loss of functions, risk factors, the distance between the impact site and mitigation site, as well as when preservation is used (§332.3 (f)(2)).

### *Requiring additional compensatory mitigation to offset temporal losses*

The 2008 Compensatory Mitigation Rule states that implementation of compensatory mitigation projects must be, to the maximum extent practicable, in advance of or concurrent with the activity causing the authorized impact (§332.3(m)). The 2008 rule institutes several new requirements to compensate for in-lieu fee mitigation’s inherent inability to fully provide compensation in advance of impacts. These provisions were included in the rule to provide adequate assurances that required compensatory mitigation will be carried out and that the temporal losses will be minimized. One of those provisions is that the Corps require additional compensatory mitigation to offset temporal losses (§332.3(f)(3)).

Other provisions in the rule designed to address this temporal loss include: the establishment of a compensation preference hierarchy (§332.3(b)), which favors wetland mitigation banking over in-lieu fee mitigation in most cases; the requirement that in-lieu fee program sponsors make a considerable investment in up-front planning before an instrument can be approved and credits can be sold (i.e., the compensation planning framework) (§332.8(c)); and the requirement for in-lieu fee instruments to specify a limited number of advance credit sales (§332.8(n)).

### *Selecting compensatory mitigation sites using a watershed approach*

In a fundamental shift in the way compensatory mitigation is carried out, the 2008 Compensatory Mitigation Rule requires the Corps to use a “watershed

approach” to select compensatory mitigation sites. The goal of the watershed approach is to maintain and improve the quality and quantity of aquatic resources within watersheds through strategic selection of compensatory mitigation sites (§332.3(c)(1)). The rule defines the watershed approach as “an analytical process for making compensatory mitigation decisions that support the sustainability or improvement of aquatic resources in a watershed” (§332.2).

As noted above, in-lieu fee programs are also now required to include a “compensation planning framework” in their approved instruments that will be the roadmap for programs to “select, secure and implement” compensatory mitigation projects (§332.8(c)). The compensation planning framework must include ten elements: geographic service area(s); description of threats; analysis of historic resource loss; analysis of current resource conditions; goals and objectives; prioritization strategy; preservation justification; description of stakeholder involvement; long-term management; and strategy for periodic evaluation and reporting (§332.8(c)(2)). The framework must support a watershed approach and will require far more significant up-front planning investment for in-lieu fee programs than in the past.

### *The compensation method*

The 2008 Compensatory Mitigation Rule stipulates that compensatory mitigation may be performed using restoration, enhancement, establishment, and “in certain circumstances” preservation (§332.3(a)(2)). The rule further states that restoration should generally be the first option considered (§332.3(a)(2)). If, however, preservation is used to provide compensatory mitigation, five criteria must be met:

- (i) The resources to be preserved provide important physical, chemical, or biological functions for the watershed;
- (ii) The resources to be preserved contribute significantly to the ecological sustainability of the watershed. In determining the contribution of those resources to the ecological sustainability of the watershed, the district engineer must use appropriate quantitative assessment tools, where available;
- (iii) Preservation is determined by the district engineer to be appropriate and practicable;



- (iv) The resources are under threat of destruction or adverse modifications; and
- (v) The preserved site will be permanently protected through an appropriate real estate or other legal instrument (e.g., easement, title transfer to state resource agency or land trust). (§332.3(h)(1))

In addition, when preservation is used, it must be done “in conjunction with aquatic resource restoration, establishment, and/or enhancement activities” (§332.3(h)(1)). Finally, when preservation is proposed, the compensation planning framework must include an explanation of how it supports the criteria (§332.8(c)(vii)). Although these criteria have appeared in previous compensatory mitigation policy, the requirement to document the justification for the use of preservation in the compensation planning framework may effectively raise the bar for its use.

#### *Site protection*

The 2008 Compensatory Mitigation Rule establishes a requirement that the long-term protection of compensatory mitigation sites must be accomplished through the use of appropriate real estate instruments, such as conservation easements, the transfer of title to an appropriate entity, or by restrictive covenants (§332.7(a)(1)).

#### *Spend fees in a timely manner*

One of the long-standing criticisms of in-lieu fee mitigation has been that the programs often failed to spend their fees and carry out the required compensatory mitigation in a timely manner.<sup>5</sup> The 2008 Compensatory Mitigation Rule addresses these concerns by instituting several provisions (see “Discussion” at DOD and EPA 2008, §III). First, it requires the development of a compensation planning framework (discussed above) (§332.8(c)); second, the in-lieu fee instruments must specify a limited number of advance credit sales that can occur before specific sites are secured and mitigation plans approved (§332.8(n)); and third, the instrument must outline how the program will establish and manage an account to segregate funds received from credit sales (discussed

further below) (§332.8(p)(2)). Finally, the rule requires programs to complete land acquisition and initial physical and biological improvements by the third full growing season after the first advance credit in that service area is secured by a permittee (§332.8(n)(3)).

#### *Financial assurances*

The 2008 Compensatory Mitigation Rule requires financial assurances during two distinct phases of compensatory mitigation project implementation. During the active phase of the project, before performance standards are met, the rule stipulates that the Corps must require “sufficient financial assurances to ensure a high level of confidence that the compensatory mitigation project will be successfully completed, in accordance with applicable performance standards” (§332.3(n)). Long-term financial assurances are also required to ensure that long-term management obligations for the site can be met by the party responsible for ownership and long-term management of the project (§332.7(d)).

#### *Geographic service area*

The 2008 Compensatory Mitigation Rule states that in-lieu fee program instruments must describe the geographic service area of the program, which is the watershed, ecoregion, physiographic province, and/or other geographic area within which the in-lieu fee program is authorized to provide compensatory mitigation (§332.8(d)(6)(ii)). The 2000 ILF Guidance included a similar provision stating that in-lieu fee agreements should identify “geographic service areas.”<sup>6</sup>

#### *Full cost accounting*

The 2008 Compensatory Mitigation Rule stipulates that approved in-lieu fee programs must ensure full cost accounting. In other words, the cost per unit of credit must include: the expected costs associated with the restoration, establishment, enhancement, and/or preservation of aquatic resources in that service area; expenses such as land acquisition, project planning and design, construction, plant materials, labor, legal fees, monitoring, and remediation or adaptive management

<sup>5</sup> Banking Guidance (1995), §II.F.1.

<sup>6</sup> ILF Guidance (2000), §IV.B.3.

activities; estimates for program administration, contingency costs, long-term management and protection costs, and financial assurances (§332.8(o)(5)(ii)). In order to ensure that the funds collected from permittees, is used only for the “selection, design, acquisition, implementation, and management of in-lieu fee projects,”<sup>7</sup> the agencies additionally included a provision requiring in-lieu fee programs to establish a program account and criteria for the management of the account (§332.8(i)). This program account must be established at a financial institution that is a member of the Federal Deposit Insurance Corporation, and all accrued interest and earnings must remain in the account for use by the program for the purposes of providing compensatory mitigation (§332.8(i)).

In the past, in-lieu fee programs have had difficulty adjusting their fees to reflect the costs they were encountering because the fee schedules were often set by the Corps, a committee, or in some instances, state legislation. The new rule specifies that the program sponsor is sole party responsible for determining the cost of compensatory mitigation credits provided by program (§332.8(o)(5)(i)).

The new requirements for in-lieu fee programs will likely contribute significantly to addressing lingering concerns over the mechanism’s ability to replace lost aquatic resources in a timely and efficient fashion. The rule replaces several existing compensatory mitigation policies addressing in-lieu fee mitigation, including the 1995 Banking Guidance and 2000 ILF Guidance. In addition, the rule takes in-lieu fee mitigation policy from the realm of guidance—non-binding and unenforceable—to that of regulation, which is likely to bring far more accountability to the entire compensatory mitigation program.

How the programs surveyed and in operation in 2005 fare with regard to the ten provisions outlined above is discussed further below.

## Methods

In order to assess how the nation’s in-lieu fee programs will need to amend their administrative and performance standards to comply with the 2008 Compensatory Mitigation Rule, the current practices of in-lieu fee programs were first identified and assessed.

The approved and active in-lieu fee programs in the United States analyzed in this study were initially drawn from a list of programs identified in the 2002 study, *Banks and Fees: The Status of Off-Site Wetland Mitigation in the United States* (ELI 2002). The 2002 list of programs was then cross-referenced with the results of a survey of all 38 Corps districts conducted by ELI from August 2005 through October 2005 (see *2005 Status Report on Compensatory Mitigation in the United States* (Wilkinson and Thompson 2006)). All in-lieu programs that were approved and active as of October 2005 were included in the 2006 study.

ELI reviewed the authorizing instruments and interviewed the sponsors of each of the identified in-lieu fee programs to gather qualitative and quantitative information on each program’s administrative structure, status, and performance, including information on monitoring and oversight, amount of fees collected and expended, timeliness of replacing lost aquatic resource functions, and replacement ratios. The results of these interviews and analyses were compiled and summarized. The full results of the study can be found in ELI’s 2006 report, *The Status and Character of In-Lieu Fee Mitigation in the United States* (Wilkinson et al. 2006).

Finally, the 2005 in-lieu fee programs’ administrative structure, status, and performance were compared to the new standards for in-lieu fee programs set forth in the 2008 rule. This comparison was used to determine the areas of program administration and accountability that will need to be addressed if these programs are to come into conformance with the new rule by June 2010.

## Results

Below, the results of the analysis of how those in-lieu fee programs that were approved and active in 2005 were meeting ten of the in-lieu fee mitigation requirements outlined in the 2008 Compensatory Mitigation Rule is presented.

### Formal in-lieu fee instrument

Although ELI’s 2006 study focused solely on those programs with formal, approved agreements in place, our interviews revealed that many Corps districts

<sup>7</sup> DOD and EPA (2008), I, A., 5.

were continuing to allow some form of ad hoc or project-specific, one-time payments to third parties in-lieu of permittee-responsible mitigation or purchase of credits from a mitigation bank (Wilkinson and Thompson 2006). In 2005, 28 of the 38 Corps districts reported that they either allowed ad hoc in-lieu fee mitigation or that they would consider doing so. Eleven districts reported that they did not allow ad hoc in-lieu fee mitigation.

#### Meeting no net loss

Of the 38 programs reviewed, 22 (58%) were able to provide ELI with information about the amount of impacts being offset by their program since its inception. These programs reported that they had accepted funds to offset 2,466 acres of wetland impacts, 173,149 linear feet of stream impacts, and 43 acres of stream and riparian corridor impacts. Only 13 of the 38 programs (34%) provided sufficient data to allow for a relatively accurate calculation of wetland replacement ratios.<sup>8</sup> Of these, we estimated that nine programs were meeting the no net loss acreage goal for wetlands.<sup>9</sup> Replacement ratios for these programs varied from 1:1 to 3.8:1, and averaged 1.9:1. The remaining four programs had wetland replacement ratios of 0:1, either because they had not

yet conducted any compensatory mitigation activities (two programs), or because the only compensation they had conducted was through preservation (two programs) (see Table 1).

Of the programs that conduct stream compensatory mitigation, four reported sufficient data to calculate stream replacement ratios. All four of these programs were meeting or exceeding the no net loss goal with replacement ratios ranging from 1:1 to 17:1, and averaged 5:1 (see Table 1).

#### Requiring additional compensatory mitigation to offset temporal losses

ELI found that only seven of the 38 in-lieu fee agreements (18%) that were operating in 2005 had indicated the compensation ratio they would use. Of these programs, only one (DuPage County In-Lieu Fee Program) required a compensation ratio over 1:1 in all cases; three required 1:1 replacement in all cases (Alaska Wetland Conservation Fund (AK), Pennsylvania Wetland Restoration Replacement Project (PA), and Santa Margarita Arundo Control Fund (CA)); and three programs required a ratio over 1:1 in certain circumstances or for certain wetland types (Maryland Nontidal Wetland Compensation Fund (MD), Oregon In-Lieu Fee Mitigation Program (OR), Sugar Creek Wetland/Watershed In-Lieu Fee Mitigation Initiative (OH)) (Table 2).

#### Selecting compensatory mitigation sites using a watershed approach

Ten of the in-lieu fee program agreements (26%) reviewed as part of ELI's 2006 study indicated that the sponsor would embark on an assessment of watershed needs to identify sites.<sup>10</sup> Several additional

<sup>8</sup> The 2008 Compensatory Mitigation Rule (DOD and EPA 2008) states that establishment (creation) leads to a gain in aquatic resource area and functions; restoration/re-establishment leads to a gain in aquatic resource area and functions; restoration/rehabilitation results in a gain in aquatic resource function, but not a gain in area; enhancement does not result in a gain in aquatic resource area; and preservation does not result in a gain in aquatic resource area or functions (§332.2). ELI did not ask the programs to distinguish between the two forms of restoration. Compensation methods are treated differently for streams. The rule classifies streams as "difficult-to-replace" resources for which compensation should be provided through preservation, restoration, or enhancement (§332.3(e)(3)). In other words, for wetland compensation to support one-to-one replacement, only restoration and creation can be considered; for streams, preservation, restoration and enhancement may be considered. It is critical to note that these estimates assume that the compensatory activities reported were carried out and met all of their permit conditions.

<sup>9</sup> This estimate of the number of programs meeting the no net loss goal does not attempt to take temporal losses into consideration. This figure represents those programs that had conducted restoration and/or creation activities equal to or greater than the amount of impacts being offset through the program at the time data were supplied to us.

<sup>10</sup> The ten programs with agreements that specify that the sponsor will conduct an assessment of watershed needs include: Calleguas Creek Watershed Aquatic Resource In-Lieu Fee Compensatory Mitigation Program (CA), Georgia Wetlands Trust Fund (GA), Louisville and Jefferson County Stream Corridor Restoration Fund (KY), Missouri Stream Stewardship Trust Fund (MO), New Jersey Land Use Regulation Program (NJ), North Carolina Stream and Wetland In-Lieu Fee Program for NCDOT (NC), North Carolina Stream and Wetland In-Lieu Fee Program (NC), Southeast Alaska Land Trust In-Lieu Fee Program (AK), Tennessee Stream Mitigation Program (TN), Alaska Wetlands Conservation Fund (AK).



**Table 1** Comparison of percentage of funds expended or allocated and replacement ratios

In-lieu fee program sponsor and program name	Percent of funds expended or allocated	Replacement ratio achieved
Calleguas Creek Watershed Aquatic Resource In-Lieu Fee Compensatory Mitigation Program (CA)	48	2.0:1 (wetland acres)
DuPage County In-Lieu Fee Program (IL)	N/A	1.7:1 (wetland acres)
Georgia Wetlands Trust Fund (GA)	51	0:1 (wetland acres; all preservation) 0.99:1 (linear feet of streams)
Kachemak Heritage Land Trust In-Lieu Fee Program (AK)	0	0:1 (wetland acres; no compensation conducted)
Kentucky In-Lieu Fee Program for Stream and Wetland Mitigation (KY)	N/A	1.2:1 (wetland acres)
Montana Wetlands Legacy Trust Fund (MT)	N/A	1.5:1 (wetland acres)
Missouri Stream Stewardship Trust Fund (MO)	56	18:1 (acres of streams)
Mountains Restoration Trust In-Lieu-Fee Program (CA)	0	0:1 (wetland acres; no compensation conducted)
New Jersey Land Use Regulation Program (NJ)	95	3.2:1 (wetland acres)
Pennsylvania Wetlands Replacement Project (PA)	99	1.2:1 (wetland acres)
Santa Margarita Arundo Control Fund (CA)	71	N/A
Sugar Creek Wetland/Watershed In-Lieu Fee Mitigation Initiative (OH)	N/A	0:1 (wetland acres; all preservation)
Tennessee Stream Mitigation Program (TN)	N/A	1.2:1 (linear feet of stream)
Tucson Audubon Society Conservation Account (AZ)	100	.98:1 (wetland acres)
Venture River Watershed Habitat Restoration Fund In-Lieu Fee Mitigation Program (CA)	N/A	1.8:1 (wetland acres)
Virginia Aquatic Resources Trust Fund (VA)	35	3.8:1 (wetland acres) 1.3:1 (linear feet of streams)

For wetland compensation, only compensation provided through restoration and creation was considered as part of the replacement ratio; for streams compensation, preservation, restoration and enhancement activities were considered

programs had developed innovative mechanisms for identifying and/or evaluating mitigation sites that took watershed considerations into account, although more informally than contemplated in the new rule. Three programs solicited landowner interest in identifying wetland mitigation sites by issuing requests for proposal or soliciting interest by letter. Twelve additional program agreements (32%) indicated that the program sponsor would establish a site selection committee or coordinate with a diverse group of partners, in one example, to “aid in prioritizing and selecting projects.”<sup>11</sup>

<sup>11</sup> The 12 programs with authorizing instruments that indicated that the sponsor would establish a site selection committee or work with partners to identify sites included: Florida Keys Environmental Restoration Trust Fund (FL), Georgia Wetlands Trust Fund (GA), Great Land Trust In-Lieu Fee Program (AK), Kachemak Heritage Land Trust In-Lieu

### The compensation method

Twenty-eight of the thirty eight programs interviewed were able to provide ELI with an estimate of the compensatory mitigation methods they use. Of these, six programs reported that compensatory mitigation was achieved entirely through preservation. Five of these six programs had agreements that indicated that preservation was the preferred or anticipated method

Footnote 11 continued

Fee Program (AK), Missouri Stream Stewardship Trust Fund (MO), Montana Wetlands Legacy Trust Fund (MT), New Jersey Land Use Regulation Program (NJ), North Carolina Stream and Wetland In-Lieu Fee Program for NCDOT (NC), North Carolina Stream and Wetland In-Lieu Fee Program (NC), Southeast Alaska Land Trust In-Lieu Fee Program (AK), Tennessee Stream Mitigation Program (TN), Alaska Wetlands Conservation Fund (AK).

**Table 2** Compensation ratios of those in-lieu fee programs that included such data in their authorizing instruments

In-lieu fee program	Compensation ratios
Alaska Wetlands Conservation Fund (AK)	1:1
DuPage County In-Lieu-Fee Program (IL)	For critical wetlands: a minimum of 3:1 For “regulatory wetlands”: 1.5:1
Maryland Nontidal Wetland Compensation Fund (MD)	For in-kind creation and restoration Emergent non tidal wetlands = 1:1 Scrub/shrub non tidal wetlands = 2:1 Forested non tidal wetlands = 2:1 For wetlands designated as Non tidal Wetlands of State Special Concern Emergent non tidal wetlands = 2:1 Scrub/shrub non tidal wetlands = 3:1 Forested non tidal wetlands = 3:1
Oregon In-Lieu Fee Mitigation Program (OR)	The compensation ratio will be decided on a case-by-case basis, however, the following ratios are used, unless other justification is provided Restoration: 1:1 Creation: 1.5:1 Enhancement: 3:1 Enhancement of cropped wetland: 2:1
Pennsylvania Wetlands Replacement Project (PA)	1:1
Santa Margarita Arundo Control Fund (CA)	For removal or treatment of invasive weeds: a minimum of 1:1
Sugar Creek Wetland/Watershed In-Lieu Fee Mitigation Initiative (OH)	“Category three” wetlands Restoration: 1:1 Enhancement or preservation: 2:1 For other resources 1.5:1–3:1, depending on the location and assessment of impacted wetlands

of compensation. Further, one additional program reported that 75–99% of the compensatory mitigation provided was achieved through preservation, and an additional five programs reported that 50–74% of the compensation was achieved through preservation.

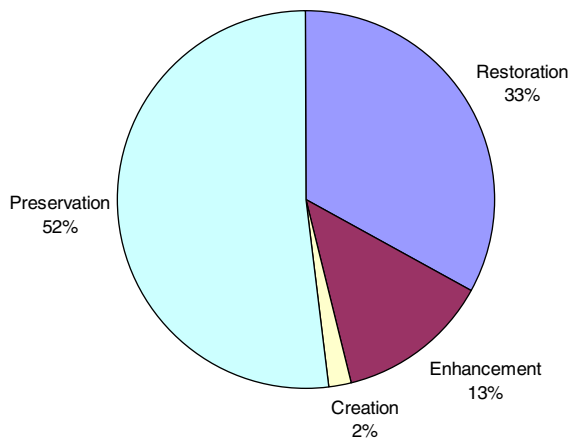
Of the 38 programs interviewed for this study, 19 were able to provide ELI with both an estimate of the methods of mitigation used and the total amount of wetland mitigation they had conducted. These statistics allowed us to estimate that nationwide, approximately 52% of the wetland mitigation conducted by in-lieu fee programs was preservation, 33% was restoration, 13% was enhancement, and 2% was establishment (see Fig. 2).

Of the programs that conduct stream mitigation, seven provided the total amount of mitigation and information on the mitigation methods used. Based

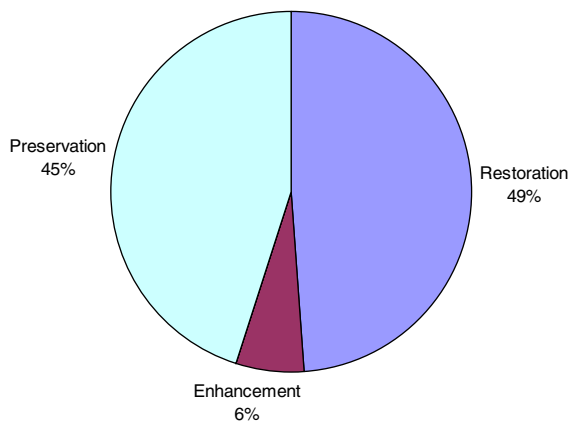
on these figures, ELI estimated that approximately 49% of stream mitigation conducted by these programs was achieved through restoration, 45% through preservation, and 6% through enhancement. None of the programs reported using establishment as a stream mitigation method (Fig. 3).

#### Site protection

ELI found that 19 of the 38 in-lieu fee agreements (50%) reviewed clearly required mitigation sites to be protected in perpetuity. Although the remaining 19 agreements (50%) did not specifically require sites to be protected in perpetuity, many of the program sponsors indicated that sites are permanently protected in practice. For example, although the DuPage County in-lieu fee program’s authorizing ordinance



**Fig. 2** Wetland mitigation methods: proportion of wetland mitigation accomplished by in-lieu fee programs through restoration, creation, enhancement and preservation, calculated as percentages of the total amount of wetland mitigation performed. These data were reported by 19 of the 38 programs covered in this study; these 19 programs have conducted a total of 27,830 acres of wetland compensatory mitigation



**Fig. 3** Stream mitigation types: proportion of stream mitigation accomplished by in-lieu fee programs through restoration, enhancement and preservation, calculated as percentages of the total amount of stream mitigation performed. These data were reported by 7 of the 38 programs covered in this study; these 7 programs have conducted a total of 1,787,692 linear feet of stream mitigation

does not require protection in perpetuity, the program administrator reported that they typically require permanent protection as part of the permit process.

Many in-lieu fee programs explicitly stipulate the types of site protection mechanisms that must be used. Of the 19 agreements that require perpetual protection, 15 specify one or more protection mechanisms—six list fee title acquisition, 13 list conservation

easements, and ten list deed restrictions or restrictive covenants. The remaining four agreements that require perpetual protection do not stipulate the use of particular protection mechanisms. Administrators of these programs indicated that the programs had used fee title acquisition, conservation easements, deed restrictions, protected covenants, or signed agreements between the program sponsor and the landowner to provide permanent protection to mitigation sites.

#### Spend fees in a timely manner

ELI's 2006 study attempted to assess how much of the programs' fees had been spent overall, and, on average, how long compensatory activities were completed after the in-lieu fees were collected. Thirty-seven of the in-lieu fee programs provided financial data that indicated that these programs had collected approximately \$302 million since they were authorized to accept fees. Five of these programs, however, accounted for \$249 million, or 82% of all the fees collected.<sup>12</sup> Thirty-two of the 38 programs interviewed reported that a total of 631 individual projects had been initiated and/or completed with fees collected by the programs. Twenty-four programs provided information on both fees collected and expended. These 24 programs indicated they had collected \$195 million, expended or allocated \$88 million (45%), and had not yet allocated \$107 million (55%) to compensatory mitigation projects.

When considering the programs individually, the percentage of funds expended or allocated varied from 0 to 100% and averaged about 47%. Nine programs provided enough information to compare the percentages of funds expended with the replacement ratios achieved by the programs; Table 1 presents summary information, where available, on the percentage of funds each program had expended. These programs are not a representative sample of all

<sup>12</sup> The five programs that have collected a total of approximately \$249 million include: Florida Department of Transportation In-Lieu-Fee Program (FL)—\$135.3 million; Kentucky In-Lieu-Fee Program for Stream and Wetland Mitigation (KY)—\$22.9 million; North Carolina Stream and Wetland In-Lieu Fee Program for NCDOT (NC)—approximately \$54 million; Tennessee Stream Mitigation Program (TN)—\$18.2 million; Virginia Aquatic Resources Trust Fund (VA)—\$18.6 million.

in-lieu fee programs, but they are informative illustrations of how readily funds were being used to replace lost aquatic resources.

Eighteen of the 38 in-lieu fee agreements (47%) defined a specific timetable in which compensatory mitigation should be completed.<sup>13</sup> Of these 18 agreements, seven<sup>14</sup> included language similar to the 2000 ILF Guidance, requiring that mitigation projects must be completed “by the first full growing season following collection of the initial funds[.]” The two North Carolina programs are an exception; their agreements make a programmatic commitment to providing mitigation in advance for the majority of impacts. Twenty of the 38 in-lieu fee program sponsors interviewed also provided ELI with estimates of the typical amount of time after the in-lieu fees are collected that construction, planting, and other active earth moving activities are completed. Of these 20 programs, one stated that the projects are complete in less than one year after receiving funds (Tucson Audubon Society Conservation Account

(AZ)); ten programs stated that projects are complete within 1–2 years of receiving funds<sup>15</sup>; six reported 2–3 years<sup>16</sup>; and three reported more than 3 years.<sup>17</sup> It should be noted, however, that only four of the 20 programs provided documentation to support their estimates.<sup>18</sup>

#### Financial assurances

ELI also examined the extent to which the in-lieu fee agreements contained “financial, technical and legal provisions for remedial actions and responsibilities (i.e., contingency fund),”<sup>19</sup> which the 2000 ILF Guidance required. Five of the in-lieu fee instruments reviewed indicated that the program sponsor would secure appropriate financial assurances to support remedial

<sup>13</sup> The 18 programs with agreements that defined a timetable in which compensatory mitigation should be completed were: Arizona Game and Fish Department Mitigation Trust Account (AZ), Florida Keys Environmental Restoration Trust Fund (FL), Calleguas Creek Watershed Aquatic Resource In-Lieu Fee Compensatory Mitigation Program (CA), DuPage County In-Lieu-Fee Program (IL), Historic Ricefields Association In-Lieu Fee Mitigation Program (SC), Missouri Stream Stewardship Trust Fund (MO), Montana Wetlands Legacy Trust Fund (MT), Mountains Restoration Trust In-Lieu-Fee Program (CA), Beidler Forest In-Lieu-Fee Mitigation Program (SC), North Carolina Stream and Wetland In-Lieu Fee Program for NCDOT (NC), North Carolina Stream and Wetland In-Lieu Fee Program (NC), Stream Corridor Restoration Fund (KY), Oregon In-Lieu Fee Mitigation Program (OR), San Gabriel River Watershed Aquatic Resource In-Lieu Fee Program (CA), Elizabeth River Restoration Trust (VA), Virginia Aquatic Resources Trust Fund (VA), Sugar Creek Wetland/Watershed In-Lieu Fee Mitigation Initiative (OH), Tucson Audubon Society Conservation Account (AZ).

<sup>14</sup> Programs with agreements that included language similar to the 2000 Guidance were: Arizona Game and Fish Department Mitigation Trust Account (AZ), Calleguas Creek Watershed Aquatic Resource In-Lieu Fee Compensatory Mitigation Program (CA), Mountains Restoration Trust In-Lieu-Fee Program (CA), Northern Kentucky Stream Corridor Restoration Fund (KY), San Gabriel River Watershed Aquatic Resource In-Lieu Fee Program (CA), Sugar Creek Wetland/Watershed In-Lieu Fee Mitigation Initiative (OH), Tucson Audubon Society Conservation Account (AZ).

<sup>15</sup> The following ten programs reported that mitigation projects are typically completed 1–2 years after receiving funds: Historic Ricefields Association In-Lieu Fee Mitigation Program (SC), Maryland Nontidal Wetland Compensation Fund (MD), Santa Margarita Arundo Control Fund (CA), Missouri Stream Stewardship Trust Fund (MO), Mountains Restoration Trust In-Lieu-Fee Program (CA), Pennsylvania Wetlands Replacement Project (PA), Northern Kentucky Stream Corridor Restoration Fund (KY), Los Angeles County Aquatic Resource In-Lieu Fee Mitigation Program (CA), Tennessee Stream Mitigation Program (TN); Elizabeth River Restoration Trust (VA).

<sup>16</sup> The following programs reported that mitigation projects were typically completed 2–3 years after receiving funds: Arizona Game and Fish Department Mitigation Trust Account (AZ), Great Land Trust In-Lieu Fee Program (AK), Kentucky In-Lieu-Fee Program for Stream and Wetland Mitigation (KY), Montana Wetlands Legacy Trust Fund (MT), Ventura River Watershed Habitat Restoration Fund In-Lieu Fee Mitigation Program (CA), The Nature Conservancy In-Lieu-Fee Program (TX).

<sup>17</sup> The following three programs reported that mitigation projects were typically completed three or more years after receiving funds: Calleguas Creek Watershed Aquatic Resource In-Lieu Fee Compensatory Mitigation Program (CA), DuPage County In-Lieu-Fee Program (IL), Kachemak Heritage Land Trust In-Lieu Fee Program (AK).

<sup>18</sup> The four programs that provided documentation to support their estimates included: Calleguas Creek Watershed Aquatic Resource In-Lieu Fee Compensatory Mitigation Program (CA), Santa Margarita Arundo Control Fund (CA), Missouri Stream Stewardship Trust Fund (MO), Tucson Audubon Society Conservation Account (AZ).

<sup>19</sup> ILF Guidance (2000), §IV.B.9.

measures.<sup>20</sup> For example, the agreement approving the Elizabeth river restoration trust states that the sponsor will “allocate sufficient reserve funds in its project budgets...to provide for repair and remediation of mitigation projects in the event they do not meet the stated performance standards and success criteria.” The Virginia aquatic resources trust fund agreement states that the sponsor will maintain “an amount equal to 20% of the restoration costs for each project” in the fund for the entire monitoring period. The funds are set aside “to repair or remedy unsuccessful or failing mitigation projects.” The agreement does, however, state that the program sponsor, The Nature Conservancy, “shall not be required to give bond or security pursuant to this (memorandum of understanding).”

Furthermore, the ELI study considered whether in-lieu fee agreements imposed long-term financial assurances. The 2000 ILF Guidance provided that the in-lieu fee agreement, or site-specific plan, should contain “financial, technical and legal provisions for long-term management and maintenance (e.g., trust).”<sup>21</sup> ELI found that although 22 of the 38 program agreements (58%) include mention of long-term management and maintenance requirements, only 16 of the 38 agreements (42%) specify that collected funds may be used for stewardship duties.<sup>22</sup> Of these,

two authorize the creation of a long-term endowment to support management and maintenance. The agreement authorizing the Beidler forest in-lieu fee mitigation program of South Carolina, a preservation-focused program, states the following: “From the mitigation credit fee, an amount not to exceed 15% of the cost of each acre acquired will be earmarked for creation of an ongoing management account[.]” The agreement authorizing the Nature Conservancy In-Lieu Fee Program of Texas requires a fund to be paid to the entity responsible for long-term management and maintenance of mitigation projects. The “operation and maintenance” fund must be “the minimum size necessary to provide reasonable long-term care for the mitigation project and no larger than 20% of the project’s total cost.”

### Geographic service area

ELI’s 2006 study found that 29 of the 38 approved in-lieu fee program agreements (76%) did in fact have defined service areas. Of these 29 programs, 21 relied on watershed boundaries, many of which also include an ecoregional consideration. For example, 11 of these 21 programs used hydrologically accepted watershed boundaries (including U.S. Geological survey hydrologic unit codes). Another ten programs utilized watershed-based service areas that are geographically defined. None of the programs examined rely exclusively on ecoregions. Eight programs utilize political boundaries to define the service area, such as a county or multi-county area (four programs), an entire state or portion of a state (three programs), or a multi-state region (one program).

### Full cost accounting

ELI’s 2006 survey sought to determine how fees were being used and, in so doing, whether or not they reflected full cost accounting. ELI’s 2006 study also determined that 35 of the 38 approved in-lieu fee programs (92%) stipulated that the funds are collected and retained in a designated trust fund, restricted account, or account separate from other funds of the sponsoring organization or agency. Several of the authorizing agreements specifically stipulated the type of fund in which the fees must be retained, such as a Federal Deposit Insurance

<sup>20</sup> The five programs with agreements that required the sponsor to secure financial assurances for remedial measures includes: Louisiana Department of Natural Resources In-Lieu-Fee Program (LA), Maryland Nontidal Wetland Compensation Fund (MD), Elizabeth River Restoration Trust (VA), Virginia Aquatic Resources Trust Fund (VA), Sugar Creek Wetland/Watershed In-Lieu Fee Mitigation Initiative (OH).

<sup>21</sup> ILF Guidance (2000), §IV.B.10.

<sup>22</sup> The 16 programs with agreements specifying that collected funds may be used for long-term management and maintenance duties include: Calleguas Creek Watershed Aquatic Resource In-Lieu Fee Compensatory Mitigation Program (CA), Florida Department of Transportation In-Lieu-Fee Program (FL), Great Land Trust In-Lieu Fee Program (AK), Kachemak Heritage Land Trust In-Lieu Fee Program (AK), Santa Margarita Arundo Control Fund (CA), Mountains Restoration Trust In-Lieu-Fee Program (CA), Beidler Forest In-Lieu-Fee Mitigation Program (SC), Ventura River Watershed Habitat Restoration Fund In-Lieu Fee Mitigation Program (CA), Oregon In-Lieu Fee Mitigation Program (OR), San Gabriel River Watershed aquatic resource in-lieu fee program (CA), Los Angeles County Aquatic Resource In-Lieu Fee Mitigation Program (CA), Southeast Alaska land trust In-Lieu Fee Program (AK), Alaska Wetlands Conservation Fund (AK), The Conservation Fund In-Lieu Fee Program (AK), The Nature Conservancy In-Lieu-Fee Program (TX), Virginia Aquatic Resources Trust Fund (VA).



Corporation insured bank account (12 programs); more generally in an interest-bearing escrow account in an investment instrument or banking institution (seven programs); an account within the state treasury (three programs); or in a separate holding account or fund (nine programs). Twenty-three of the 38 agreements (61%) clearly stipulated that interest earned by the accounts or funds will remain with the fund to fulfill the purposes of the program. Twenty-seven of the 35 agreements with designated trust funds (77%) clearly indicated that the funds are protected from being used for purposes other than those outlined in the agreement.

Finally, the programs reviewed varied significantly in terms of the party responsible for setting the fee schedule. Sixteen of the 38 in-lieu fee program agreements reviewed (42%) indicated that the program sponsor was responsible for determining the price charged for credits; five program agreements (13%) indicated that the Corps was responsible for determining the amount of the in-lieu fee to be paid to the sponsor; and three programs agreements stated that the sponsor would determine the fee in coordination with the Corps or an interagency review team (8%).

## Discussion

The in-lieu fee programs that were approved and active as of October 2005 will need to update their administrative and procedural practices to come into compliance with the provisions included in the new compensatory mitigation regulations published in April 2008.

### Formal in-lieu fee instrument

Although ELI's 2006 study did not seek to quantify how frequently Corps districts allowed permittees to make payments to a compensatory mitigation provider without an approved instrument, at least 17 districts indicated that they either allow ad hoc in-lieu fee mitigation or that they would consider doing so. In 2005, a substantial amount of confusion continued to persist in the districts as to whether or not such ad hoc payments were permissible. Earlier studies have noted this inconsistent interpretation of the ILF Guidance as

well.<sup>23</sup> The 2008 Compensatory Mitigation Rule (in particular, §332.8(a)(1)) requires a formal in-lieu fee instrument, thus proscribing the practice of ad hoc in-lieu fee payments. Depending on how widespread and frequent ad hoc in-lieu fee payments were, compliance with this provision may require a considerable adjustment on behalf of the districts.

### Meeting no net loss

The 2005 in-lieu fee programs displayed an inconsistent track record with regard to their meeting no net loss. Interestingly, the stream in-lieu fee programs that reported sufficient information for our analysis seemed to be meeting or exceeding the no net loss goal. Those wetland in-lieu fee programs that reported that they were falling short of meeting the goal were doing so because they had not yet undertaken any compensatory activities or because they had relied too heavily or entirely on preservation as a compensation method. The failure of in-lieu fee programs to undertake compensatory activities in a timely manner and the historic over-reliance on preservation as a mitigation method are both discussed below, as are the two provisions of the new rule that are likely to rein in problems related to these issues.

### Requiring additional compensatory mitigation to offset temporal losses

As discussed above, the 2005 in-lieu fee programs rarely outlined in their instruments the amount of compensatory mitigation that would be required to meet the compensatory mitigation obligations of permittees. Of the seven programs that did, only one required a compensation ratio over 1:1 in all cases, three required 1:1 replacement in all cases, and

<sup>23</sup> In its 2001 report, GAO found that "EPA and Corps headquarters officials, as well as Corps district officials, disagree as to whether ad hoc mitigation is covered by the October 2000 in-lieu-fee guidance. Corps headquarters officials said that ad hoc mitigation is not covered under the guidance. EPA headquarters officials disagreed and said that mitigation is covered by the guidance when a third party other than a mitigation bank performs the mitigation and responsibility for the ecological success is transferred to the fund recipient as a condition of the Section 404 permit....Corps district officials disagree on whether ad hoc mitigation is covered by the 2000 guidance" (GAO 2001).

three required a ratio over 1:1 in certain circumstances or for certain wetland types. Under the new rule, all permittees are now required to secure approval of a mitigation plan prior to the permit being issued (§332.4(c)). Mitigation plans must now include a “determination of credits” element, in which permittees that will be satisfying their compensatory mitigation obligations by making a payment to an in-lieu fee program will have to indicate the number and type of credits that were secured and how this was determined (§332.4(c)(6)). It appears that for all but one of the 2005 in-lieu fee programs, the Corps will need to adjust upward the ratio of credits provided by in-lieu fee programs for each credit of compensation required. These compensation ratios will need to be reflected in permittee’s mitigation plans (§332.4(c)(6)).

#### Selecting compensatory mitigation sites using a watershed approach

A fair number (10) of the 2005 in-lieu fee program instruments indicated that the programs would undertake an assessment of watershed needs to identify sites. Moreover, 12 additional programs indicated that the program sponsor would establish a site selection committee or coordinate with a diverse group of partners to aid in site selection. The new rule now requires a detailed compensation planning framework in the approved instrument that discusses how the in-lieu fee program will support the watershed approach (§332.8(c)(2)). The compensation planning framework will be one of the most significant hurdles for existing programs seeking approval under the new provisions. The government agencies and non-profit conservation organizations that sponsor these programs (§332.2) may have insufficient access to the public and private capital necessary to support this analysis. Those ten programs that already have conducted a watershed assessment will be further along, but will still need to more formally document their assessment procedures.

#### The compensation method used

ELI’s 2006 study revealed that preservation represented a significant portion of the compensatory mitigation provided by the in-lieu fee programs in operation at the time. Although the 2008 Compensatory

Mitigation Rule does not prohibit the use of preservation, it is likely to increase scrutiny over the use of the method as the sole or a significant portion of the compensatory mitigation provided through in-lieu fee programs. As a result, in-lieu fee programs in a post-rule environment are going to need to increase the amount of restoration, enhancement, and establishment conducted in conjunction with preservation (§332.3(h)(2)), and will need to justify the use of preservation in the compensation planning framework (§332.8(c)(2)(vii)). Although the hurdle for utilizing preservation may be heightened under the new rule, the prevalence of its use will likely depend on the level of scrutiny the Corps applies to proposed project sponsors when they seek approval for their compensation planning frameworks.

#### Site protection

It appears that the vast majority of the 2005 in-lieu fee programs were bound by their instruments to protect their sites in perpetuity or they did so as a matter of practice. Nevertheless, approximately half of the programs will need to clearly indicate in their program instruments that all project sites will be protected in perpetuity if they seek approval under the terms of the new rule. The rule also restricts sponsorship of in-lieu fee programs to government agencies and non-profit natural resource management organizations (§332.2), groups that have significant expertise with land conservation tools, such as conservation easements.

#### Spend fees in a timely manner

The new provisions on advance credit sales (§332.8(n)) do not have a counterpart in past in-lieu fee guidance and may present a significant hurdle to existing programs. Although their past record would suggest that the programs would not have difficulty completing land acquisition and initial physical and biological improvements by the third full growing season (§332.8(n)(3)), as noted above, the sponsors of in-lieu fee programs are now restricted to government agencies and non-profit natural resource management organizations (§332.2). As with the compensation planning framework, these organizations are likely to have limited access to the public and private capital necessary to support these expenses.

### Financial assurances

The 2008 Compensatory Mitigation Rule's requirement to provide financial assurances (§332.3(n)) may prove to be another significant hurdle to in-lieu fee programs. Few of the program instruments reviewed as part of ELI's 2006 study indicated that the program sponsor would secure appropriate financial assurances to support remedial measures. Although a more significant number indicated that collected funds could be used to support stewardship duties, only two programs had created a long-term endowment to support these activities. Nonetheless, non-profit conservation organizations, and land trusts in particular, have significant expertise in long-term site management and stewardship, and many of these groups already have practices in place requiring them to set aside funds for stewardship and easement defense.

### Geographic service area

The vast majority of programs analyzed as part of ELI's 2006 study already were utilizing delineated service areas. Under the new rule, however, in-lieu fee programs will need to account for the receipt and expenditure of funds by service area, which may prove to be an accounting burden.

### Full cost accounting

The 2008 Compensatory Mitigation Rule includes several provisions requiring in-lieu fees to reflect full cost accounting (§332.8(o)(5)(ii)). The 2005 in-lieu fee programs fared poorly in restricting the use of fees to activities directly related to replacing lost aquatic resources, and many were structured in such a manner that made adjustments to fee schedules burdensome. However, they fared far better in matters relating to accounting procedures, such as requiring funds to be held in a designated trust fund or separate account, maintaining their accounts at a financial institution that was a member of the Federal Deposit Insurance Corporation, and redirecting interest earned to fulfill the purposes of the program.

Most of the adjustments in this area will relate to the fee schedules established by the programs. Although estimating the costs associated with compensatory activities and the other components listed

in this portion of the rule (§332.8(o)(5)(ii)) may be challenging, the programs will have, under the new regulations, more flexibility to adjust their fees to meet these challenges. Finally, the process of developing the compensation planning framework will likely highlight significant information that will be useful in more accurately estimating costs.

### Conclusions

Some of the new in-lieu fee provisions of the 2008 Compensatory Mitigation Rule will require significant adjustments for program sponsors, the Corps districts, and permittees. Those Corps districts relying upon ad hoc in-lieu fee payments will no longer be able to do so and may find it advantageous to support the approval of formal in-lieu fee programs. Permittees relying on in-lieu fee programs will need to adjust upward the ratio of credits provided by in-lieu fee programs for each credit of compensation provided, which may shift credit demand away from in-lieu fee mitigation to mitigation bank credits, if available, and permittee-responsible compensation.

For the program sponsors themselves, the three provisions that will likely require the most significant investments in time and funds are the development of the compensation planning framework, the cap on the number of advance credits that can be sold, and the requirement to provide financial assurances for all projects. Because the advance credit sale cap will limit the ability of the programs to use fees to support up-front capitalization costs, they will need to identify new sources of public or private financing to support the compensation planning framework and secure financial assurances.

Developing fee schedules that reflect full cost accounting may be a challenge to many programs. Because, however, the responsibility for setting fees now rests solely with the program sponsors, they can adjust the fees more readily. In addition, the planning carried out earlier on in the process through the compensation planning framework will provide information relevant to cost calculations. As a result, it is likely that after a few years of operation the programs will be more efficient and precise in their ability to set fees in a manner that supports the programs' sustainability.

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## Appendix

The 38 in-lieu fee programs covered in this paper, organized by state. This chart lists the program sponsor, the name of the program, and the year that the program was authorized:

State	Program sponsor	Program name	Year
Alaska	Great Land Trust	Great Land Trust In-Lieu Fee Program	1998
	Kachemak Heritage Land Trust	Kachemak Heritage Land Trust In-Lieu Fee Program	1999
	Southeast Alaska Land Trust	Southeast Alaska Land Trust In-Lieu Fee Program	1998
	The Conservation Fund	Alaska Wetlands Conservation Fund	2004
	The Conservation Fund	The Conservation Fund In-Lieu Fee Program	1998
Arizona	Arizona Game and Fish Department	Arizona Game and Fish Department Mitigation Trust Account	2004
	Tucson Audubon Society	Tucson Audubon Society Conservation Account	2004
California	California Coastal Conservancy	Calleguas Creek Watershed Aquatic Resource In-Lieu Fee Compensatory Mitigation Program	2003
	Mission Resource Conservation District	Santa Margarita Arundo Control Fund	1999
	Mountains Restoration Trust	Mountains Restoration Trust In-Lieu-Fee Program	2004
	National Fish and Wildlife Foundation	South Pacific Wetlands Conservation Account	2000
	Ojai Valley Land Conservancy	Ventura River Watershed Habitat Restoration Fund In-Lieu Fee Mitigation Program	1999
	Sacramento County Planning and Community Development Department	Wetlands Mitigation Trust Fund	1991
	San Gabriel Mountains Regional Conservancy	San Gabriel River Watershed Aquatic Resource In-Lieu Fee Program	2004
	Santa Monica Mountains Conservancy	Los Angeles County Aquatic Resource In-Lieu Fee Mitigation Program	2000
Florida	Audubon of Florida	Florida Keys Environmental Restoration Trust Fund	1998
	Florida Department of Environmental Protection/ Water Management Districts	Florida Department of Transportation In-Lieu-Fee Program	1996
Georgia	Georgia Land Trust Service Center	Georgia Wetlands Trust Fund	1997
Illinois	DuPage County Department of Economic Development and Planning, Division of Environmental Concerns	DuPage County In-Lieu-Fee Program	2000
Kentucky	Kentucky Department of Fish and Wildlife Resources	In-Lieu-Fee Program for Stream and Wetland Mitigation	2003
	Louisville and Jefferson County Metropolitan Sewer District	Stream Corridor Restoration Fund	2000
	Northern Kentucky University, Environmental Resource Management Center	Stream Corridor Restoration Fund	1999
Louisiana	Louisiana Department of Natural Resources Coastal Management Division	Louisiana Department of Natural Resources In-Lieu-Fee Program	1995
Maryland	Maryland Department of the Environment	Nontidal Wetland Compensation Fund	1991
Missouri	Missouri Conservation Heritage Foundation	Stream Stewardship Trust Fund	1999
Montana	Montana Department of Fish, Wildlife and Parks	Montana Wetlands Legacy Trust Fund	2004

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