

Alaska District Compensatory Mitigation Thought Process

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Introduction

Unavoidable adverse impacts to waters of the United States that result from activities authorized under Section 404 of the Clean Water Act (33 U.S.C. 1344), and/or Sections 9 or 10 of the Rivers and Harbors Act (33 U.S.C. §§ 401, 403) may require compensatory mitigation. The Department of the Army, Corps of Engineers (Corps) Regulatory Program is responsible for identifying the requirement for compensatory mitigation on a case by case basis during permit review. The Corps implementing regulations and subsequent guidance to the field up to and including the 2008 Mitigation Rule require flexibility in determining requirements for compensatory mitigation. The purpose of this document is to guide regulatory project managers through the thought process necessary to determine whether specific project impacts will require compensatory mitigation, the determination of whether proposed mitigation is appropriate and practicable, and the determination as to when preservation will be considered as acceptable mitigation.

Mitigation Requirements by Regulation

The Corps implementing regulations offer six instances where compensatory mitigation may be required.

1. The general mitigation policy published in the Corps' November 13, 1986, final rule at 33 CFR Part 320.4(r)(2) states that:

All compensatory mitigation will be for significant resource losses which are specifically identifiable, reasonably likely to occur, and of importance to the human or aquatic environment. Also, all mitigation will be directly related to the impacts of the proposal, appropriate to the scope and degree of those impacts, and reasonably enforceable.

This indicates that projects that require an Environmental Impact Statement will require compensatory mitigation.

2. For general permits, Corps districts generally follow the Nationwide Permit Program mitigation policy stated in 33 CFR 330.1(e)(3), which states that mitigation (including compensatory mitigation) may be required by district engineers to ensure that activities authorized by nationwide permits result in minimal individual and cumulative adverse environmental effects. HQ establishes general conditions to ensure compliance with 330.1(e)(3) at the national level. Each Region then establishes regional conditions which can be more stringent but no less stringent than the general conditions. Districts may also include state specific conditions to ensure compliance.
3. To ensure that the authorized activity is not contrary to the public interest. This determination involves weighing public interest review factors and making a determination that the discharge of fill material into jurisdictional waters does not outweigh some greater public interest.
4. To ensure compliance with the Section 404(b)(1) Guidelines. Compliance with the 404(b)(1) guidelines requires a determination of practicability. There is specific guidance, commonly referred to as the Alaska Mitigation MOA, that recognizes the following:
 - a) Avoiding wetlands may not be practicable where there is a high proportion of land in a watershed or region which is jurisdictional wetlands;
 - b) Restoring, enhancing, or establishing wetlands for compensatory mitigation may not be practicable due to limited availability of sites and/or technical or logistical limitations;
 - c) Compensatory mitigation options over a larger watershed scale may be appropriate given that compensation options are frequently limited at a smaller watershed scale;

- d) Where a large proportion of land is under public ownership, compensatory mitigation opportunities may be available on public land;
- e) Out-of-kind compensatory mitigation may be appropriate when it better serves the aquatic resource needs of the watershed; and
- f) Applying a less rigorous permit review for small projects with minor environmental impacts is consistent with the Section 404 program regulations.

Reference: June 15, 2018, Memorandum of Agreement concerning "Mitigation Sequence for Wetlands in Alaska under Section 404 of the Clean Water Act."

- 5. To ensure an activity does not have significant effects on the human environment.
- 6. Losses of specific aquatic resource functions may also require compensatory mitigation. For example, a regulated activity may not result in a loss of jurisdictional wetlands or waters, but reduces or eliminates a specific function. An example is the conversion of a forested wetland to an emergent wetland in a utility line right-of-way, in which there is a loss of forest habitat functions and thus compensatory mitigation could be required.

Current District Guidance & Crosswalk with Regulations

The District has previously produced internal guidance identifying six instances where compensatory mitigation may be required.

- A. The project occurs in rare, difficult to replace or threatened wetlands, areas of critical habitat (i.e. Cook Inlet Beluga whale critical habitat area).
- B. The project permanently impacts more than 1/10 of an acre of wetlands and/or other waters of the U.S. or 300-feet of stream, AND the watershed condition is such that compensatory mitigation is necessary to offset the project's unavoidable effects. Situations that can indicate degradation of the watershed's aquatic environment can include, but are not limited to waters listed as impaired or CWA section 303(d) listed waterbodies, identification in a watershed management plan, impervious surface cover, developed land use, etc.
- C. Fill placed in intertidal waters associated with special aquatic sites.
- D. Fill placed in fish bearing waters and jurisdictional wetlands within 500 feet of such waters when impacts are determined to be more than minimal.
- E. The project is federally funded, so compensatory mitigation is required under Executive Order 11990 to meet the National policy goal of no net loss of wetlands.
- F. Large scale projects with adverse aquatic resource impacts (ex. Mining development, highway, airport, pipeline, and railroad construction projects [33 CFR 320.4(r)(2)] (i.e., bridge that results in substantial loss of intertidal habitat).

If we review these items in turn with implementing regulations, we see that item A falls under Category 6, Item B Category 2, Items C and D, Category 6, and item F, Category 1.

In addition, the District has determined that activities generally not requiring compensatory mitigation include: navigational dredging, the installation of structures in navigable waters such as piers and buoys, temporary fills, aquatic resource restoration activities, or aquaculture activities. Generally, compensatory mitigation is not typically required for impacts authorized under only Section and 10 of the Rivers and Harbors Act or Section 103 of the Marine Protection, Research, and Sanctuaries Act.

2008 Mitigation Rule

The mitigation policy in the consolidated rule: (1) reiterates the CEQ types of mitigation, avoiding, minimizing, rectifying, reducing, or compensating for resource losses;

(2) provides that compensatory mitigation may be on site or off site (no preference);

(3) stipulates that losses will be avoided to the extent practicable; (4) considers project modifications as a form of mitigation; (5) pertains to legal requirements (ESA, 106, 404(b)(1) Guidelines, etc.); (6) addresses public interest impacts; (7) provides for the Corps to accept any additional mitigation the applicant requests to be added; and

(8) stipulates that all mitigation should be directly related to the proposed work, should have a link to the aquatic environment (this includes upland buffers to flowing or other open waters) and appropriate to the degree and scope of the pro-posed impacts to waters of the U.S.

In summary, the 2008 mitigation rule did not alter in any way the implementing regulations or subsequent guidance on when the Corps is authorized to require compensatory mitigation. It is the project manager's responsibility to review relevant agency and public comments, understand the authorization behind the requirement and apply best professional judgment in requiring compensatory mitigation. Appendix 1 provides clarifications and statements of flexibility specific to the preamble of the 2008 Mitigation Rule. The Appendix is annotated with page numbers from the preamble. Project managers should refer to full text of the preamble for further information.

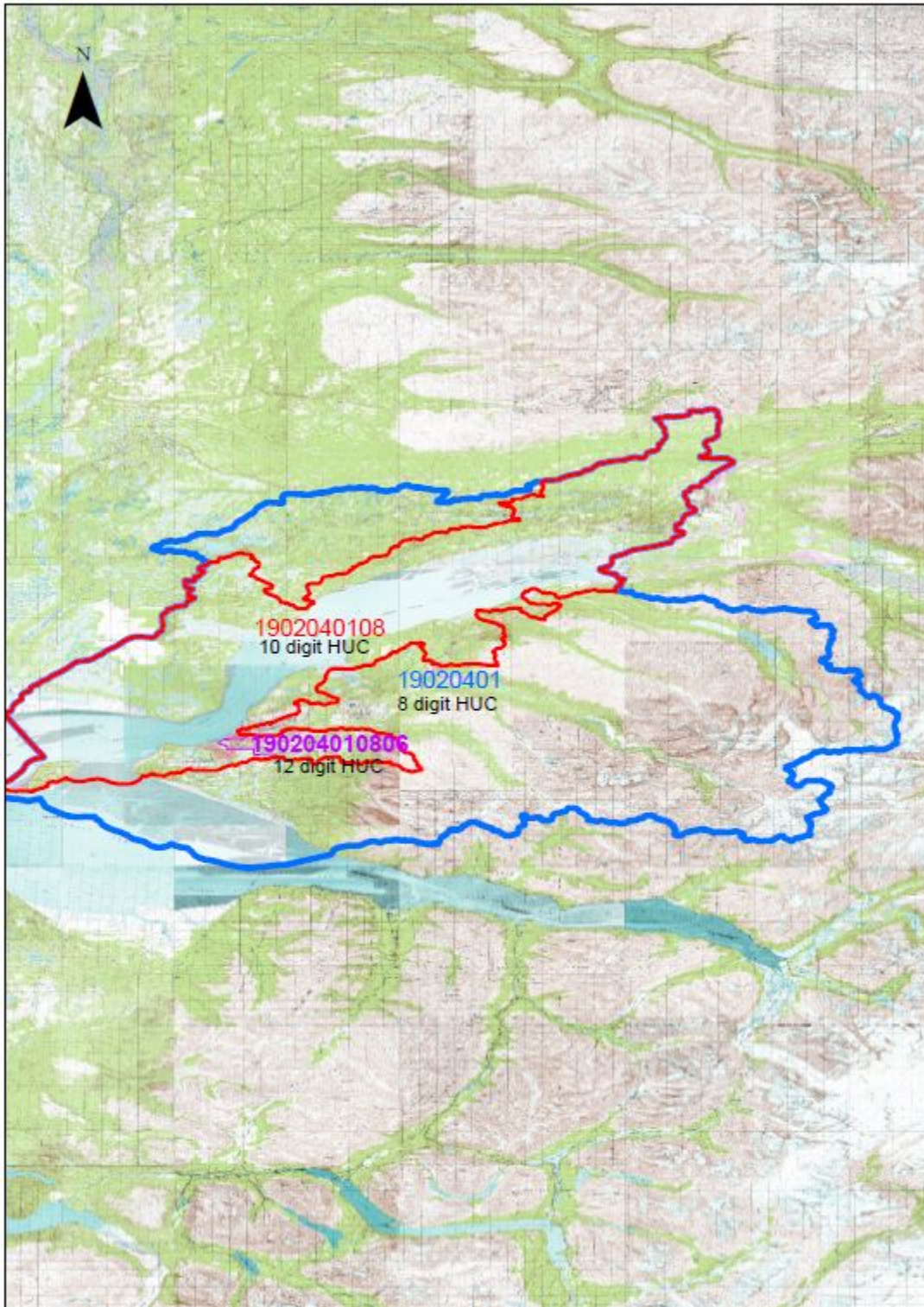
Once the project manager has made the determination that compensatory mitigation is required, a decision must be made as to what that mitigation should be (appropriate) and whether given all circumstances, the mitigation required is achievable (practicable). The Corps may solicit input from resource agencies to determine what appropriate and practicable mitigation is but the Corps makes the final decision. The Corps must come to a reasonable and defensible decision.

The intent of this document is to guide project managers through the thought process for compensatory mitigation decisions, from the requirement to the determination of whether compensatory mitigation is appropriate and practicable. Nothing in this document replaces or supersedes the applicable statutes and regulations. In addition, a list of commonly asked questions and answers is located in Appendix 2 for project managers to use regarding general inquiries as to how the Alaska District addresses compensatory mitigation requirements.

Thought-Process for Making Mitigation Determinations

A. Identify the Watershed

In practice, the first task in a compensatory mitigation determination should be to determine the watershed scale that will be reviewed for the proposed project impacts. The Final Rule improves the planning, implementation and management of compensatory mitigation projects by emphasizing a watershed approach in selecting compensatory mitigation project locations. The term watershed can be confusing because it can be defined and interpreted at a variety of scales. Generally a watershed is defined as a geographic area of land bounded by topographic high points in which water drains to a common destination (United States Geological Survey (USGS) definition). Watersheds in the U.S. have been identified for the entire country by the USGS. The USGS system identifies watersheds using hydrologic unit code (HUC) taxonomy. In the USGS system, Alaska constitutes region 19. 19 is the 2 digit HUC. Alaska has 6 sub-regions. A sub-region (also called 4 Digit HUC) includes the area drained by a river system, a reach of a river and its tributaries in that reach, a closed basin(s), or a group of streams forming a coastal drainage area (USGS definition). Each sub-region is further divided into an accounting unit, also called basins. These accounting units or basins are identified by 6 digit HUCs. The fourth level of classification is the cataloging unit or sub basin. A cataloging unit is a geographic area representing part of all of a surface drainage basin, a combination of drainage basins, or a distinct hydrologic feature (USGS definition). These cataloging units are also called 8 Digit HUCs. Identifying watersheds to the 8 digit HUC for Alaska is easily accessible at https://water.usgs.gov/wsc/a_api/api_19.html. Beyond the sub basin, exists the 10 digit HUC or watershed and the 12 digit HUC or sub-watershed. Below is a map illustrating geographic area of an 8, 10, and 12 digit HUC.



For the purposes of compensatory mitigation and cumulative effects determinations, the boundaries of the watershed will depend upon the resource, functions, and landscape conditions. As a starting point, all project managers should review the 10 digit watershed for the purposes of cumulative impacts and the determination of compensatory mitigation. There are reasons for expanding or reducing the area of analysis from the 10 digit HUC. For example, in populous areas such as the Municipality of Anchorage, it may not be possible to determine project impacts caused by a particular discharge at the 10 digit HUC level due to other activities and/or development within that same sub-watershed. In that instance, a project manager should review the 12 digit HUC (this should be an exception, not a standard). In extreme cases, the project manager may determine that it is only possible to identify specific project direct, indirect, and cumulative impacts at the individual reach level due to multiple overlapping impacts within the watershed. In instances where the project is located in a more rural area without interference from other impacts, the project manager may expand the analysis to the 8 digit HUC.

B. Identify Types and Extent of WOUS (area and function) Impacted by the Project

Through our combined decision document we are required to describe the existing environment that will be affected by the proposed project. During this process, we should identify adverse environmental impacts of the proposal in relation to all of the public interest factors and discusses reasonable mitigation measures to offset those impacts. Reasonable mitigation measures include avoidance and minimization. This discussion should be concise, not overly detailed, and should focus on those elements of the environment that will be impacted. Our main focus is always on waters of the U.S. We should clearly identify direct, indirect and cumulative impacts. Again, our combined decision document template guides us through this process. For example,

- New residential development may propose to place fill in a wetland in order to construct a road (a direct impact).
- The new road will encourage increased development in the area because of the improved access (an indirect impact).
- Increased runoff and contaminants from the development would be added to the volumes and levels of contamination from similar developments surrounding the wetland (cumulative impacts).

When assessing a project with impacts to wetlands ask the following:

**What are the types and extent of wetlands (area and function) affected by the project?
Or what are the functions, habitat types, and species that would be adversely affected?**

Focus on the functions of those wetlands being impacted. Functions of wetlands can be broadly characterized into chemical, hydrologic and biologic/physical functions. Examples of chemical functions include improvements to water chemistry through the removal of sediments, nutrients, metals, toxic organic compounds and/or pathogens. Examples of hydrologic functions include reduction of peak flows, recharging groundwater, and decreasing erosion. Physical functions include providing habitat for invertebrates,

amphibians, anadromous fish, resident fish, birds, mammals, native plants and support of food webs. These examples are not exhaustive. The key is to identify the functions that the wetlands to be impacted perform. To aid in this endeavor, all project managers should be intimate with 40 CFR Part 230-Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material (attached in Appendix 3). In addition, Appendix 4 contains a list of functional assessment methodology currently in use within the Alaska District.

C. Identify How WOUS Impacts Relate to Mitigation Requirements by Regulation

Determine which (if any) of the criteria identified above the proposed project impacts fall under. For example, the wetlands to be filled are associated with anadromous fish streams. The project falls under 3. Loss of specific aquatic resource functions. C. Fill placed in fish bearing waters and jurisdictional wetlands within 500 feet of such waters when impacts are determined to be more than minimal. D.

If the impact cannot be tied to one or more of the six categories identified in regulation, compensatory mitigation may not be required. However, being tied to one or more does not automatically necessitate mitigation.

Determine whether the proposed impacts are temporary or permanent? Permanent impacts are those in place longer than 5 years.

If the impact can be tied to one of the six categories identified in regulation, but the impact is only temporary, document this in the CDD and require restoration rather than compensatory mitigation.

If the impact can be tied to one of the six categories identified in regulation, continue through the following:

Identify the mitigation opportunities within the watershed and how the proposed mitigation would compensate for the loss of functions from the project.

Compensatory mitigation may be suggested by the applicant; however, the determination to require the mitigation is ours alone. The decision making process should identify possible mitigation measures that will reduce or eliminate the adverse environmental impacts of a proposal. The discussion should include information on the intended environmental benefit of the proposed compensatory mitigation as it relates to the identified impact. Additionally, it may be appropriate to identify compensatory mitigation options over a larger watershed scale given that compensation options are frequently limited at a smaller watershed scale.

Identify the specific goals of compensatory mitigation and then ask how will the proposed mitigation compensate for the impacts?

Is replacement or re-introduction of the functions, habitat type, or species vital to the health of the watershed? If so, do they need to be replaced on site to maintain the necessary functions? Is out-of-kind compensatory mitigation appropriate when it better serves the aquatic resource needs of the watershed?

On site compensatory mitigation is warranted when the location of the mitigation is critical for replacing location dependent functions provided the location of the on-site mitigation has a high probability of success and is sufficiently protected from off-site pressures (the site has an adequate buffer).

In instances where on site compensatory mitigation is not feasible or unlikely to succeed, offsite mitigation that will provide functions that are vital to the watershed should be assessed. Off-site opportunities include approved wetland mitigation banks and in lieu fee programs as well as permittee responsible endeavors. Development and approval of mitigation banks and in lieu fee programs is governed by the 2008 Mitigation Rule. The 2008 Mitigation Rule was designed to improve the quality and success of compensatory mitigation projects by establishing equivalent standards across different methods of compensatory mitigation, including mitigation banks, in-lieu fee programs, and permittee responsible mitigation. The rule making effort also established a soft preference for mitigation bank credits over other compensation methods as mitigation banks reduce certain risks and uncertainties associated with compensatory mitigation.

Usually offsite compensation must be located in the same watershed as the impact site however, mitigation outside of the watershed may be appropriate when the impact site is located near the boundary of the watershed and suitable sites for compensation are not located in the watershed or the applicant has identified opportunities involving similarly situated-geology, topography, plant communities, and climate in adjacent watersheds.

Once acceptable compensatory mitigation has been identified, make the determination whether the mitigation is technically feasible and/or practicable.

D. Identify the suitable compensatory mitigation and document this in the CDD

What this looks like in a decision document

1. Avoidance

- a. Discuss whether construction of the proposed project on the applicant's preferred site would be practicable if all waters of the U.S. are avoided. If it is practicable to avoid all waters they should do so. Keep in mind, avoiding wetlands may not be practicable where there is a high proportion of land in a watershed or region which is jurisdictional wetlands. If not practicable, refer to the alternatives discussion addressed earlier in the document, and;
- b. Then compare the applicant's original site plan to the final plan. The original plan is likely not the LEDPA and you should discuss why. Quantify the avoidance between the original plan and the final based on design, location etc.

- c. Often times there are multiple site revisions. If this is the case, compare the alternates to the original and final. If you are working a large multi-year project, record these as you go. It will make review and completion of the CDD/ROD much easier.

*Note: Applying a less rigorous permit review for small projects with minor environmental impacts is consistent with the Section 404 program regulations.

2. Minimization: View minimization efforts for both site specific (applicant's proposal) and required actions (through special permit conditions).
 - a. Site specific actions to minimize impacts incorporated into applicant's site construction plan, specific best management practices etc.
 - b. Special conditions imposed by the Corps to ensure minimization. Record special conditions here.

*Note: Applying a less rigorous permit review for small projects with minor environmental impacts is consistent with the Section 404 program regulations.

3. Compensatory Mitigation.
 - a. Provide a summary of the applicant's mitigation plan.
 - b. Provide the requirement xx wetland, xx stream compensatory mitigation is required to adequately offset losses in aquatic function resulting from unavoidable impacts to WOUS. Identify what criterion the proposed mitigation falls under.

Applicant should provide an assessment of the wetlands on site and the proposed mitigation wetlands. This would include any available mitigation credits from a third-party provider however this is not a requirement for general permits. Based on the information the applicant provides, you should determine whether the project site is within the service area of the bank proposed; whether the bank has aquatic resources similar in function to those at the proposed project site and whether the bank has wetland/stream credits available. The same thought process would apply to released credits at an ILFP. If no bank credits, or no released ILF credits, are available and only advanced credits are available at an ILF, PM needs to determine if those advanced credits represent acceptable compensation as identified above. If no credits/no acceptable credits are available, consider permittee responsible mitigation. If we have determined that mitigation is required and the applicant is faced with permittee responsible mitigation then we explore the options here as well. It is important to remember the applicable guidance for flexibility within our implementing guidance as well as subsequent guidance regarding practicability determinations in Alaska. Also keep in mind that out-of-kind compensatory mitigation may be appropriate when it better serves the aquatic resource needs of the watershed. *Reference: June 15, 2018, Memorandum of Agreement concerning "Mitigation Sequence for Wetlands in Alaska under Section 404 of the Clean Water Act."*

There have been questions related to considering cost when assessing compensatory mitigation. It is true that the cost of bank credits is not something Regulatory can control, especially as bankers are for profit organizations. Competition/market demand should eventually bring prices under control. In the in lieu fee world, sponsors are now required to use full cost accounting (prior to 2008 rule this was not required) which we hope will bring the costs of credits in line with real world production efforts. When assessing compensatory mitigation, cost is something that can be considered in the determination of whether the mitigation is practicable. Compensatory mitigation should be appropriate (i.e. commensurate with the impacts) and practicable. Practicable, as stated in 33 CFR 332.1(c)(2), means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. This particular citation for practicability refers to practicable steps to avoid & minimize, not to compensatory mitigation. 332.3(a) states compensatory mitigation must be practicable, but does not provide a definition. However, the same thought process should apply. Thus when there are concerns over practicability of required CM (e.g., applicant claims that they can't afford to do it), the Corps can and should determine whether the CM is practicable (e.g., cost is approximately what should be expected for the type of CM required and the location where it could occur). So the question I would pose is if there is a homeowner whose project construction costs 30K (say driveway and house pad), is it practicable for that homeowner to pay 100k in mitigation costs or is the more appropriate mitigation achieved through avoidance and minimization. This is food for thought. My immediate suggestion is when these circumstances arise we have this conversation as a Branch/Division. Please remember, the conversation is not one in which the decision is based on whether the applicant can afford it. The conversation is whether the mitigation is practicable under rule and taking the Alaska Mitigation MOA into consideration.

The practicability determination must also be made when no viable mitigation options exist. For example, mitigation bank credits do not replace the functions lost by the project and/or only advanced in-lieu fee credits are available. The PM must then determine whether the permit can be issued without mitigation or whether the lack of viable mitigation means a recommendation for permit denial. 33 CFR 332.1(c)(3) states the DE may determine a permit may not be issued because of the lack of appropriate and practicable compensatory mitigation. Again, please reference appropriate guidance documents for Alaska.

4. Conclusion. At some point you wrap this all up.

For example: The applicant's proposed compensatory wetland mitigation plan is to purchase xxx wetland and/or xxxx stream mitigation credits from the xxxxx Mitigation Bank. This mitigation plan would provide appropriate and adequate compensatory mitigation necessary to offset unavoidable losses in aquatic function that would result from impacts to waters of the U.S. associated with construction of the proposed project. In addition, the Corps has made a determination that the mitigation is practicable.

5. Special Conditions. Here is where you list out your special conditions specific to the compensatory mitigation requirements. Begin with: For any permit issued for the proposed project, the below listed special conditions would be added. The intent of these conditions would be to provide compensatory mitigation necessary to offset the loss in aquatic function that would result from unavoidable project related impacts waters of the U.S.

List mitigation special permit conditions.

Preservation

This Section is meant to provide project managers with a thought process for determining whether a proposed preservation site meets Federal Rule Criteria.

A. 33 CFR 332.3(h) identifies criteria for the use of Preservation as the only source of compensatory mitigation.

(h) Preservation: Preservation may be used to provide compensatory mitigation for activities authorized by DA permits when **all** the following criteria are 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;

Important physical, chemical, or biological functions: Examples of aquatic resources that may be identified using a watershed approach perform important functions may include but are not limited to:

- Aquatic resources that are adjacent to or connect regionally important publicly held lands, such as: National Marine Sanctuaries, National Seashores, National and State Parks, Forests, Refuges and Wildlife Management Areas.
- Aquatic resources that have been identified as: Wetlands of International Importance, Wild and Scenic Rivers, Designated Shellfish Grounds, Outstanding Resource Waters, Essential Fish Habitat, Anadromous Fish Spawning Waters, Critical Watershed Areas, or State Priority Lands.
- Aquatic resources that contain old growth climax communities that have unique habitat structural complexity likely to support rare native plant or animal communities.
- Aquatic resources that provide habitat important to species that are listed under the Endangered Species Act, or have some other special designation.
- Aquatic resources identified as Source Water Protection Areas under the Safe Drinking Water Act.
- Specific preservation to maintain diversity of habitat type within islands systems removing the threat of habitat fragmentation for fish and wildlife species (Alexander Archipelago Islands (Southeast Alaska) Kodiak and the Aleutian Chain)

- (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

B. Threat is based on evidence of potential destructive land use changes

The following factors are some that should be considered to determine if a demonstrable threat is applicable for the preservation parcel:

- The extent to which the land to be preserved would be adversely impacted or lost if it were not protected.
- The source of the threat and its seriousness. This can include environmental pressures, such as nuisance and exotic species invasion, erosion, etc., and anthropogenic factors that are consistent with local and regional land use trends, such as mining, land development and agricultural and silvicultural practices. **The threat and its probability of occurrence should be clearly documented.**
- Whether the aquatic resources are protected by current rules and regulations, including the Clean Water Act, and would benefit from preservation because of their importance in providing or augmenting aquatic resource functions.

- (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).

In all cases, the proposed preservation of a parcel must clearly demonstrate the **removal** of the threat of destruction or adverse modification.

In all cases, the preservation proposal should include provisions for monitoring to ensure the viability of the preservation site.

C. General Guidelines When Assessing a Proposed Preservation Site

The following **general guidelines** should be considered when selecting an area for preservation as either a component of compensatory mitigation or as the sole method of compensation.

- The preserved component should be selected after consideration of watershed objectives, as well as current and future watershed activity.
- Where possible, preservation efforts should also target lands that coincide with governmental or non-profit land acquisition and conservation programs.
- Where possible, preservation projects should attempt to protect lands in or adjacent to areas of national, state, or regional ecological significance in order to build on large contiguous land areas.
- Where possible, preserved lands should provide connectivity to other systems and take advantage of refuges, buffers, green spaces, and other preserved elements of the landscape.
- Preservation may provide a suitable mitigation option when the lands to be preserved are considered to be difficult to acquire parcels and would not likely be preserved by federal, state or local acquisition programs. An example of a difficult to acquire parcel may include coastal wetlands or other parcels in rapidly developing areas where the price of the land may inhibit future acquisition.

- Preservation parcels should be permanently protected with appropriate real estate instruments (e.g., conservation easements, deed restrictions, transfers of title to Federal or state resource agencies or non-profit conservation organizations) and include assurances that the supporting hydrology will also be protected in perpetuity.

D. Credit for Preservation

Compensatory mitigation credit may be granted for preservation activities that are consistent with the recommendations described in this guidance. Preservation differs from the other types of mitigation in that it does not directly replace aquatic resource area or functions lost to permitted activities. Therefore, the amount of compensatory mitigation credit given for preservation activities may be less than other forms of compensatory mitigation. For example, if acreage ratios are used, they will likely be significantly higher for preservation than for other forms of compensation like restoration and enhancement. **For Example:** Such as for every 6-10 acres of wetlands preserved, one credit is obtained whereas for every 2-3 acres of wetlands restored, one credit may be obtained.

References

73 Fed. Reg. 19594, 19595 (Apr. 10, 2008).

33 C.F.R. § 332 (2008); 40 C.F.R. § 230 (2008).

June 15, 2018. “Memorandum of Agreement between The Department of the Army and The Environmental Protection Agency concerning Mitigation Sequence for Wetlands in Alaska under Section 404 of the Clean Water Act”.

USACE. 2016. Alaska District: Credit Debit Methodology, *Version 1.0. US Army Corps of Engineers, Alaska District. SPN-2016-00187_21Sep2016.*

Compensating for Wetland Losses Under the Clean Water Act, *Committee on Mitigating Wetland Losses, Board on Environmental Studies and Toxicology, Water Science and Technology Board, National Research Council ISBN: 0-309-50290-X, 348 pages, (2001).*

United States Geological Survey Water Resources of the United States,
<http://water.usgs.gov/GIS/huc.html>

Appendix 1. Flexibility and Clarifications Provided in the Preamble to the Mitigation Rule (33 CFR Part 332)

I. General Provisions:

Discretionary Language. District engineers need to take into account variations in state and local requirements that affect the implementation and long-term management of compensatory mitigation projects. For example, laws and regulations governing real estate instrument and financial assurances vary from state to state. In addition, practices for restoring, establishing, and enhancing aquatic resources vary by resource type and by region. For these reasons, discretionary language is used where appropriate to promote both regulatory efficiency and project success, and to ensure that required mitigation is practicable. *(Page 19598)*

Watershed Approach. The primary objective of the watershed approach included in today's rule is to maintain and improve the quantity and quality of wetlands and other aquatic resources in watersheds through strategic selection of compensatory mitigation project sites. The watershed approach accomplishes this objective by expanding the informational and analytic basis of mitigation project site selection decisions and ensuring that both authorized impacts and mitigation are considered on a watershed scale rather than only project by project. This requires a degree of flexibility so that district engineers can authorize mitigation projects that most effectively address the case-specific circumstances and needs of the watershed, while remaining practicable for the permittee. In response to the concern about additional burden on permittees, the agencies recognize that the level of data and analysis appropriate for implementing the watershed approach must be commensurate with the scale of the project, and that there will be situations, particularly for projects with small impacts, where it would not be cost-effective to utilize a watershed approach. *(Page 19598)*

We recognize that there are many different types of watershed plans that have been developed for purposes other than aquatic resource restoration, establishment, enhancement, and/or preservation activities and that such plans may be of limited use in making compensatory mitigation decisions. For example, some watershed plans are conceived to guide development activities or the placement of storm water infrastructure. The district engineer will determine whether a given watershed plan is appropriate for use in the watershed approach for compensatory mitigation. *(Pages 19598 and 19599)*

Consistent with the 2001 NRC Report, the watershed approach described in this final rule does not require a formal watershed plan. Although it would always be preferable to have an appropriate watershed plan, we believe that implementing a watershed approach to the degree practicable, even without a watershed plan, can improve compensatory mitigation site selection and project implementation. For example, the use of appropriately sited mitigation banks can support a watershed approach without using watershed plans. In the absence of an appropriate watershed plan, the watershed approach should be based on a structured consideration of watershed needs and how wetlands and other types of aquatic resources in specific locations will address those needs.

The appropriate watershed scale to use for the watershed approach will vary by geographic region, as well as by the particular aquatic resources under consideration. A watershed approach may include on-site compensatory mitigation, off-site compensatory mitigation, or a combination of on-site and off-site compensatory mitigation. *(Page 19599)*

Functional Replacement. All compensatory mitigation projects should provide a high level of functional capacity, even when compensating for degraded or low-quality resources. Replacement ratios may be used to adjust for the relative quality of impact sites and mitigation projects, where appropriate. With this rule, we are moving towards greater reliance on functional and condition assessments to quantify credits and debits, instead of surrogates such as acres and linear feet. *(Page 19601)*

Mitigation Requirement. The rule does not affect the determination as to when compensatory mitigation is required, only the requirements for conducting such mitigation once the district engineer determines that it is necessary. Instead it focuses on where and how compensatory mitigation will be provided. *(Page 19602)*

Ecosystem Services. The concept of ecosystem services provides a more objective measure than “values” of the importance of the functions performed by the ecosystem to human populations. Ecosystem services is a useful concept for assessing the public interest, an important consideration in the Corps Regulatory Program. Consideration of “services” provided by aquatic resources is usually qualitative, and can be accomplished through evaluations of compensatory mitigation options, including siting those projects near human populations. The term “values” is more subjective, since a particular ecosystem service may be perceived to be valuable by some individuals but not others. The term “values” can also be read to imply monetary valuation, which is difficult for most aquatic resource functions and is not generally practical for most decisions. *(Page 19604)*

State/Local Mitigation Requirements. If permittee-responsible mitigation is required by a state or local government with regulatory authorities that are similar to the Corps under section 404 of the Clean Water Act or sections 9 or 10 of the Rivers and Harbors Act of 1899, and the mitigation project will appropriately offset the permitted impacts, then the district engineer may determine that the permittee-responsible mitigation is acceptable for the purposes of the DA permit. We encourage coordination among federal, state, and local governments to avoid duplicate or conflicting compensatory mitigation requirements, as long as those requirements are consistent with federal requirements. *(Page 19607)*

Implementation of Regulations to current permit applications and substantial reliance. This final rule will apply to permit applications received after the effective date of this rule, unless the district engineer has made a written determination that applying these new rules to a particular project would result in a substantial hardship to a permit applicant. In such cases, the district engineer will consider whether the applicant can fully demonstrate that substantial resources have been expended or committed in reliance on previous guidance governing compensatory mitigation for DA permits.

Final engineering design work, contractual commitments for construction, or purchase of long-term leasing of property will, in most cases, be considered a substantial commitment of resources. Permit applications received prior to the effective date will be processed in accordance with the previous compensatory mitigation guidance. (Page 19608)

Non-Jurisdictional Waters, Rapanos-Carabell, and Mitigation. Non-jurisdictional waters can be used to provide compensatory mitigation for activities authorized by DA permits, if the rehabilitation, enhancement, and/or preservation of those waters is determined to be appropriate compensation for authorized impacts. The Rapanos decision is limited to the question of Clean Water Act jurisdiction, not decision-making for compensatory mitigation. (Page 19618)

Circumstances under which mitigation is required – Alaska: This rule does not change the circumstances under which compensatory mitigation is required for DA permits. Therefore, it does not change the May 13, 1994, Alaska mitigation statement... (Page 19619)

II. Preamble for Specific Sections of the Rule:

§ 325.1(d)(7) - Mitigation Statement. This should be a brief statement because this occurs in the early stages of the evaluation process, and the evaluation of mitigation options is an iterative process. As district engineers conduct their evaluations in accordance with applicable Corps regulations, the 404(b)(1) Guidelines, and regulations governing other applicable laws (e.g., section 7 of the Endangered Species Act), additional avoidance and minimization may be required, and compensatory mitigation requirements will be determined in greater detail to offset the permitted impacts to the extent appropriate and practicable. (Page 19641)

§ 332.1(a) - Equivalent Standards. Where it is not practicable to impose identical requirements, the rule adopts comparable alternative requirements to help ensure the ecological success of all types of compensatory mitigation. (Page 19605)

§ 332.2 – Definitions. *ad hoc* mitigation is considered to be a form of permittee responsible mitigation, Permittee-responsible mitigation also includes any *ad hoc* payments made to governmental or non-governmental organizations that are not in accordance with the terms of an approved in-lieu fee program instrument. When a governmental or non-governmental organization accepts an *ad hoc* payment from a permittee, that organization is in essence acting as a contractor to provide the compensatory mitigation for that permittee, and the permittee retains responsibility for any long-term protection and/or management of the compensatory mitigation project. (Page 19601)

§ 332.2 - Enhancement as mitigation. Enhancement differs from restoration, re-habilitation, and re-establishment because the objective of enhancement is usually to improve one or two functions, which may result in a decrease in the performance of other functions. Increasing those particular functions does not change the amount of area

occupied by the aquatic resource. In contrast, re-establishment and re-habilitation (which are forms of restoration) are intended to return most, if not all, natural and/or historic functions to a former or degraded aquatic resource. *(Page 19621)*

While enhancement does not result in a gain in aquatic resource area for purposes of tracking “not net loss” of wetlands, this does not mean that it cannot be used to compensate for a loss in resource area at the impact site. The district engineer will determine on a case-by-case basis the appropriate type and amount of mitigation to compensate for permitted impacts. *(Page 19622)*

§ 332.2 In-kind mitigation. In-kind mitigation should provide similar types of structure and functions as the impacted resource, while accommodating high quality compensatory mitigation projects. In-kind mitigation projects should result in resource structure and functional capacity that are comparable to reference aquatic resources. In other words, in-kind mitigation should not consist of replacing a degraded aquatic resource with a degraded compensation resource. An in-kind compensatory mitigation project should result in a high quality aquatic resource. Thus, a mitigation project that was the same class of wetlands as the impacted resource, but with greater species diversity and habitat quality, would be considered appropriate in-kind mitigation. *(Page 19622)*

§ 332.2 – Preservation. As part of an overall compensatory mitigation project, uplands such as non-wetland riparian areas may be included with preserved aquatic resources, if they help protect or sustain those aquatic resources. Although preservation helps sustain the functions and services provided by the preserved aquatic resources, by preventing direct impacts through land use changes, there is no gain in acreage. There may be a “passive” gain in functions and services over the long-term, if the preservation activity serves to remove or reduce stressors on the resource, however the main purpose of preservation is to prevent a future loss of resources, not to provide a gain. For this reason, higher compensation ratios are generally required. *(Page 19624)*

§ 332.2 – Rehabilitation. Differs from enhancement in that rehabilitation is intended to result in a general improvement in the suite of the functions performed by a degraded aquatic resource. *(Page 19624)*

§ 332.3(a) - Flexibility in Mitigation requirements. Flexibility in compensatory mitigation requirements is needed to account for regional variations in aquatic resources, as well as state and local laws and regulations. There also needs to be flexibility regarding the requirements for permittee-responsible mitigation. Practicability is an important consideration when determining compensatory mitigation requirements. *(Page 19617)*

A district engineer can require water quality management measures as part of the overall compensatory mitigation package required for a particular DA permit. Even though this rule is focused on a watershed approach, it provides flexibility for district engineers to use innovative approaches or strategies for determining more effective compensatory

mitigation requirements that provide greater benefits for the aquatic environment. (Page 19627)

§ 332.3(a) – Environmentally Preferable Mitigation. The regulations have provided flexibility for district engineers to make compensatory mitigation decisions based on what is environmentally preferable and is most likely to successfully provide the required compensatory mitigation. (Page 19627)

§ 332.3(a) – Mitigation options and practicability. If a particular compensatory mitigation project is cost-prohibitive, then an alternative compensation project that is more practicable should be required. District engineers will also consider impacts to the public interest, including potential losses of aquatic resource functions and services, when evaluating permit applications and compensatory mitigation proposals, and determining appropriate and practicable compensatory mitigation requirements. (Page 19627)

Economic costs are an important consideration when determining the practicability of a proposed compensatory mitigation project. In addition to economic costs, existing technology and logistics must also be considered. If a particular compensatory mitigation project is cost-prohibitive, then an alternative compensation project that is more practicable should be required. (Page 19627)

§ 332.3(b) Type and location of mitigation. On-site compensatory mitigation activities, especially wetland restoration or establishment, are particularly sensitive to land use changes. Land use changes often alter local hydrology. Establishing appropriate hydrology patterns (i.e., duration and frequency) to support the desired aquatic habitat type is a key factor in successfully restoring or establishing those habitats. In many cases, there are circumstances in which on-site mitigation is neither practicable nor environmentally preferable. Under the watershed approach, it may be desirable to require some on-site mitigation measures to address water quality and quantify functions, and to require off-site mitigation to compensate for habitat functions. (Page 19601)

Flexibility in compensatory mitigation requirements is needed to account for regional variations in aquatic resources, as well as state and local laws and regulations. There also needs to be flexibility regarding the requirements for permittee-responsible mitigation. Practicability is an important consideration when determining compensatory mitigation requirements. The focus should be on ecological success of compensatory mitigation projects, not the source of the compensatory mitigation. (Page 19617)

Compensatory mitigation required by district engineers will be located in areas where it is appropriate and practicable to conduct successful aquatic resource restoration, establishment, and enhancement activities. In some cases, this will result in compensatory mitigation for impacts in urban areas to be conducted in more remote locations; in other cases, it may be appropriate to replace certain aquatic resources in urban areas. (Page 19629)

In general, compensatory mitigation projects should be located in the same watershed as the permitted impacts, at a scale determined to be appropriate by the district engineer based on the factors specified in the rule. *(Pages 19625 and 19626)*

Restoration should be the first option considered since the likelihood of success is greater. Restoration also helps reduce impacts to ecologically important uplands, such as mature forests, where compensatory mitigation activities may be proposed because of land availability. *(Page 19627)*

§ 332.3(b)(2)-(6) – Mitigation hierarchy. District engineers have the discretion to modify the hierarchy in order to approve the use of the environmentally preferable compensatory mitigation. Another example is when a permittee with a proven track record and access to appropriate scientific expertise proposes a high-value mitigation project, even though credits from an approved in-lieu fee program or mitigation bank are available. *(Page 19614)*

§ 332.3(b) – Permittee Responsible Mitigation. If a mitigation bank or in-lieu fee program does not have the appropriate number and resource type of credits available, then permittee responsible mitigation should be determined using the watershed approach. *(Page 19627)*

§ 332.3(b) – Linear Projects. For linear projects, such as roads and utility lines, district engineers may determine that consolidated compensatory mitigation projects provide appropriate compensation for the authorized impacts, and are environmentally preferable to requiring numerous small permittee-responsible compensatory mitigation projects along the linear project corridor. *(Page 19605)*

District engineers also have flexibility under this rule to allow compensation for linear projects to be conducted on one or multiple sites, based on environmentally preferable and practicable compensatory mitigation options. *(Page 19629)*

§ 332.3(b)(1) – Mitigation Site Selection and Airports. Locating compensatory mitigation projects (including mitigation banks) near airports is likely to attract wildlife species and pose hazards to aviation. This does not mean that no compensatory mitigation projects can be located near any airport; it means that compatibility with existing facilities must be considered. *(Page 19632)*

§ 332.3(b)(2)-(6) – Mitigation hierarchy. This is a preference hierarchy that does not override a district engineer's judgment as to what constitutes the most appropriate and practicable compensatory mitigation based on consideration of case-specific circumstances. *(Page 19628)*

District engineers can apply these considerations to other sources of compensatory mitigation to override the preference for mitigation bank credits. For example, the district

engineer may authorize the use of released credits from an in-lieu fee program since the requirements for release of these credits are comparable to the requirements for release of credits from an approved mitigation bank. Where the permittee has proposed to restore an outstanding resource, and has provided sufficient scientific and technical analysis to demonstrate that such a project will be successful, the district engineer may authorize the use of that compensatory mitigation project instead of mitigation bank credits. (Page 19628)

§ 332.3(b)(6) – Out-of-kind mitigation. District engineers can require the use of out-of-kind compensatory mitigation when he or she determines that it will serve the aquatic resource needs of the watershed. (Page 19632)

§ 332.3(c) – Watershed Approach and District Engineer Flexibility. It provides flexibility for district engineers to use innovative approaches or strategies for determining more effective compensatory mitigation requirements that provide greater benefits for the aquatic environment. (Page 19627)

§ 332.3(c) – Watershed Approach and Mitigation Decisions. Compensatory mitigation decisions will be based on what is environmentally preferable, which, in a particular situation, might be on-site compensation. (Page 19629)

Compensatory mitigation requirements should be guided by ecological and practicability considerations, to help ensure that the required compensation successfully fulfills its objective, to offset aquatic resource functions lost as a result of the permitted impacts. (Page 19629)

District engineers also have flexibility under this rule to allow compensation for linear projects to be conducted on one or multiple sites, based on environmentally preferable and practicable compensatory mitigation options. (Page 19629)

§ 332.3(c)(3) – Watershed Approach Information requirements. There is no bright line for the minimum amount of information needed to support a watershed approach... (Page 19631)

§ 332.3(e) Mitigation Type. In-kind mitigation does not mean compensating for impacts to degraded aquatic resources by providing degraded compensatory mitigation projects. A compensatory mitigation project should result in high quality aquatic resources that provide optimum functions within its landscape context, taking into account unavoidable constraints. (Page 19632)

Although out-of-kind mitigation may not offset all aquatic resource functions and services provided by the aquatic resource being affected by the permitted activity, out-of-kind mitigation may be important for restoring or improving watersheds, especially in cases where certain aquatic resource types have been disproportionately lost from a watershed (see the 2001 NRC Report). (Page 19632)

§ 332.3 (f) – Mitigation Ratios. Replacement ratios may be used to adjust for the relative quality of impact sites and mitigation projects, where appropriate. *(Page 19601)*

District engineers can only require an amount of compensatory mitigation that is roughly proportional with the permitted impacts, so that it is sufficient to offset those lost aquatic resource functions. *(Page 19633)*

We recognize that, in some cases, it may not be appropriate and practicable to require full replacement of aquatic resource functions. *(Page 19633)*

§ 332.3(g) – Use of Mitigation Banks and In-Lieu Fee Programs. The Corps does not have the authority to require supplemental environmental projects to resolve Clean Water Act violations. EPA has a Supplemental Environmental Projects (SEP) Policy ... Mitigation banks and in-lieu fee programs can qualify as these types of projects if they meet the basic requirements of the Agency’s SEP Policy. *(Page 19634)*

§ 332.3(h) – Preservation as Mitigation. Preservation will be provided in conjunction with aquatic resource restoration, establishment, and/or enhancement activities, unless the district engineer waives this requirement in a situation where preservation has been identified as a high priority using a watershed approach. If the district engineer makes such a waiver, a higher compensation ratio shall be required. *(Page 19635)*

The 2001 NRC Report stated that wetland preservation is an important tool for maintaining wetland diversity in a watershed, and achieving the goals of the Clean Water Act in that watershed. Preservation is particularly valuable for protecting unique, rare, or difficult-to-replace aquatic resources, such as bogs, fens, and streams, and may be the most appropriate form of compensatory mitigation for those resources. We recognize that wetland preservation does not, in the short term, result in new wetland resources and thus contribute to the “no overall net loss” goal, but over longer time period’s preservation helps reduce wetland losses by removing the protected wetlands from the pool of wetlands that may be subject to future development activities that require DA permits. *(Page 19635)*

§ 332.3(i) – Buffers. It is not feasible to require buffers for all compensatory mitigation projects; such decisions need to be made by district engineers on a case-by-case basis. *(Page 19635)*

To qualify as providing compensatory mitigation credit, adjacent upland habitat must contribute to the long-term viability of the adjoining aquatic resources. *(Page 19635)*

§ 332.3(j)(1) – Relationships to Other Programs. In cases where tribal, state, or local governments regulate similar activities to those regulated by the Corps, compensatory mitigation projects may be designed to fulfill all applicable compensation requirements. For example, a surface coal mining activity that requires authorization under section 404 of the Clean Water Act and the Surface Mining Control and Reclamation Act (SMCRA)

may offset environmental losses through a compensatory mitigation project that is designed to satisfy the requirements of both statutes. *(Page 19636)*

§ 332.3(j)(2) – Federal Funding for Wetland Conservation. In cases where a landowner has taken advantage of financial incentives to restore or enhance wetlands on their property, that landowner can also produce compensatory mitigation credits that can be used for DA permits, as long as those credits are the result of supplemental ecological improvements. In other words, the ecological improvements that result from the financial incentives provided to the landowner cannot be used to satisfy compensatory mitigation requirements of DA permits, but additional ecological improvements involving aquatic resource restoration, establishment, enhancement, and/or preservation may be used as compensatory mitigation for DA permits, provided these additional improvements were not part of the requirements for obtaining the financial incentives. *(Page 19636)*

If a federal program has a 50% landowner match requirement, neither the federally funded portion of the project, nor the landowner's 50% match, which is part of the requirements for obtaining federal funding, may be used for compensatory mitigation credits. However, if the landowner provides a greater than 50% match, any improvements provided by the landowner over and above those required for federal funding could be used as compensatory mitigation credits. *(Page 19636)*

§ 332.3(k) and (l) – Timing of Mitigation Plan Approval. Examples of situations where the district engineer may waive the requirement to approve a final mitigation plan before the permittee commences work in waters of the U.S. include after-the-fact permits and cases where the authorized work must be completed immediately (e.g., emergency situations). *(Page 19637)*

For general permit verifications, the special conditions must specify either the mitigation bank or in-lieu fee program that will be used, or state that the use of a mitigation bank or in-lieu fee program will be identified at a later time, once the permittee has negotiated the terms of securing the appropriate number and resource type of credits from the sponsor, and the district engineer has approved the use of those credits. *(Page 19637)*

The approved mitigation plans must be linked to the individual permit or to the general permit verification through special conditions, so that the Corps has a legal basis for ensuring compliance with the terms and conditions of its permits. Approval of a final mitigation plan prior to issuance of an individual permit is necessary to ensure that the approved compensatory mitigation project provides appropriate compensation for the permitted impacts. *(Page 19637)*

The Corps has the authority to impose conditions on a DA permit that specify which mitigation bank or in-lieu fee program will be used to provide the required compensatory mitigation. Permittees are free to negotiate with mitigation banks or in-lieu fee programs before the permit is issued. Once they have made arrangements to purchase the appropriate number of credits, the name of the third-party provider and the number and resource type of credits must be approved by the district engineer, and in the case of an

individual permit, included as a special condition in the permit. If the permittee later finds an alternative source of third party mitigation, then he or she can request a permit modification to change the special conditions to use that alternative compensatory mitigation, contingent upon approval by the district engineer. The district engineer will determine whether the modified compensatory mitigation proposal is sufficient for offsetting the permitted losses of aquatic resources. *(Page 19637)*

§ 332.3(m) – Timing of Mitigation Implementation. It is usually not feasible to require full functionality of a compensatory mitigation project to be achieved before the permitted impacts occur. *(Page 19638)*

As an incentive for timely mitigation, district engineers may determine that additional compensation for temporal losses is not necessary if the mitigation project is initiated prior to or concurrent with the permitted impacts, except in the case of resources with long development times (e.g., forested wetlands). *(Page 19638)*

For linear transportation projects, district engineers will consider the practicability of requiring advance or concurrent compensatory mitigation. *(Page 19638)*

Depending on the specific circumstances surrounding a phased development project, compensatory mitigation may be required up-front as the first phase of the development project is constructed. Or there could be separate compensatory mitigation projects required for each phase. The appropriate approach for phased construction projects is at the discretion of the district engineer. *(Page 19638)*

§ 332.3(n) – Financial Assurances. There may be cases where financial assurances are not necessary because an alternate mechanism is available to ensure a high level of confidence that the compensatory mitigation will be provided and maintained (e.g., a formal, documented commitment from a government agency or public authority). Consideration of the sponsor's past performance in providing ecologically successful mitigation projects would also influence the district engineer's determination regarding the level of financial assurances necessary to ensure a high level of confidence in successful project completion this is true for banks as well as in-lieu fee programs. *(Page 19612)*

Decisions regarding the appropriate type and amount of financial assurances should not be based solely on the size of the compensatory mitigation project, or whether it is a mitigation bank. The risk and uncertainty associated with a specific compensatory mitigation project should be considered. For small losses of waters of the U.S. authorized by nationwide permits and regional general permits, it may not be practicable to require financial assurances, and permit conditions may be all that is necessary to provide a high level of confidence that the required compensatory mitigation is provided. *(Page 19639)*

District engineers can consider whether financial assurances required for compensatory mitigation projects under state or local laws are sufficient for the purposes of achieving

compliance with compensatory mitigation requirements for DA permits. State or local requirements for financial assurances may be adequate in cases where the same compensatory mitigation project will be used to satisfy the requirements of the Corps Regulatory Program, as well as similar state or local regulatory programs. *(Page 19639)*

Financial assurances should not be phased out until the district engineer decides that the compensatory mitigation project has met its performance standards. Phasing out financial assurances in increments before compliance with performance standards has been achieved would increase the risk that insufficient financial assurances would be available if the compensatory mitigation project were to fail at a later date. *(Page 19639)*

District engineers have the authority to condition the approval of a permit to require the posting and execution of financial assurances by a third-party mitigation sponsor or a permittee, as long as the Corps is not positioned to accept directly, retain, or draw upon those funds in the event of a default. Financial assurances should be executed with the signatures of an additional governmental or nongovernmental environmental management entity or entities as a bond “surety” or “sureties,” who agree to ensure performance if the Corps should determine that the sponsor or permittee, as the bond “principal,” has defaulted on any of his or her responsibilities. The third-party instrument or permit conditions should also specify that the Corps stands as a third-party “obligee” to the principal and surety(ies) of the bond, possessing the full and final authority to determine the penal sum amount, and to determine whether the principal and the surety(ies) have specifically performed some or all of the obligations, covenants, terms, conditions, and agreements of the financial assurance. Finally, the financial assurance should specify that if both the principal and the surety(ies) default in their responsibilities, the Corps retains the full and final discretionary authority to identify new parties as additional surety(ies) to the bond. *(Page 19640)*

§ 332.4(b) Public Review and Comment. Certain information may be kept confidential for business purposes. For example, permittees may not want to reveal the exact parcel of land that they are considering for a compensatory mitigation project if they have not yet secured the site, since revealing this information may adversely affect their ability to do so. The district engineer must agree that any information withheld is legitimately confidential for business purposes, and must ensure that adequate information is included in the public notice to enable the public to provide meaningful comment. *(Page 19641)*

§ 332.4(c) – Mitigation Plan. The level of detail should be commensurate with the scope and scale of the impacts. This is up to the district engineer to determine. *(Page 19642)*

Flexibility in the level of detail required for mitigation plans is necessary to account for differences in compensatory mitigation projects. It would be impractical to require the same level of detail for all mitigation plans developed for individual permits, general permits, and third-party mitigation. Rather, projects with significant impacts will necessarily need to devote more effort and resources to mitigation planning than projects with minor impacts. *(Page 19642)*

§ 332.4(c)(1) – Mitigation Plan. Paragraph (c)(1)(i) does not require the prospective permittee to provide contract-ready mitigation plans. However, the mitigation plans need to be sufficiently detailed to demonstrate that the items listed in paragraphs (c)(2) through (c)(14) have been appropriately addressed. District engineers must also ensure that the final mitigation plans have the appropriate level of detail necessary for compliance under the Corps regulatory authorities. *(Page 19641)*

§ 332.4(c)(4) – Site Protection Instruments vs MBIs. Federal facility management plans, integrated natural resource management plans, and similar documents are more appropriately considered as site protection instruments, not mitigation banking instruments. *(Page 19623)*

§ 332.4(c)(4) – Site Protection. While the goal of the rule is to ensure permanent protection of all compensatory mitigation project sites, we recognize that the degree of long-term protection afforded by real estate instruments varies from state to state. *(Page 19642)*

§ 332.5 – Performance Standards. Functional or condition assessments should be used where appropriate and practicable to better describe how compensatory mitigation projects offset losses of aquatic resource functions. *(Page 19644)*

This rule does not prescribe a one-size-fits-all set of ecological performance standards to evaluate the success of all compensation projects. Instead, the rule recognizes that ecological performance standards will vary depending upon aquatic resource type, geographic region, and compensation method but requires that they be based the best available science that can be measured or assessed in a practicable manner. *(Page 19616)*

Functional standards are necessary to demonstrate that compensatory mitigation projects offset losses of aquatic resource functions resulting from activities authorized by DA permits. Area-based performance standards tied to functions can also be used, to determine the functional capacity of a compensatory mitigation project. However, area or linear measures alone would not constitute ecological performance standards. Functional or condition assessments should be used where appropriate and practicable to better describe how compensatory mitigation projects offset losses of aquatic resource functions. *(Page 19644)*

District engineers are responsible for developing ecological performance standards that are objective and verifiable. Such performance standards must be clearly written, so that independent parties can assess whether compensatory mitigation projects are meeting their performance standards. Ecological performance standards may be based on specific wetland characteristics. Reference aquatic resources can be used to establish performance standards that are reasonably achievable, by reflecting the range of variability exhibited by the regional class of aquatic resources. *(Page 19644)*

§ 332.6 – Monitoring. The rule also allows the district engineer to reduce or waive remaining monitoring requirements upon a determination that the compensatory mitigation project has achieved its performance standards. To reduce or waive the remaining monitoring requirements before the five year period ends, there should be at least two consecutive monitoring reports issued where the success criteria are met. This will help account for variability in environmental conditions, to ensure that the compensatory mitigation project is truly meeting its performance standards. Performance standards should be designed, to the extent practicable, to account for the ecological characteristics of early developmental stages of aquatic ecosystems, so that a determination of ecological success can be made within five years. *(Page 19645)*

The information to be included in a monitoring report is at the discretion of the district engineer, who should take into account the characteristics of the compensatory mitigation project when determining those requirements. The content of monitoring reports will also depend on the ecological performance standards for the compensatory mitigation project, since the purpose of the monitoring report is to demonstrate how the project is progressing towards achieving those standards. If the performance standards require the use of functional assessments to assess the performance of the compensatory mitigation project, then the results of those assessments should be provided in the monitoring reports. *(Page 19645)*

We do not believe it is appropriate to require monitoring reports to include scientific comparisons of wetland functions between mitigation and impact sites, because the tools necessary to conduct such comparisons are not available in many areas, or they may not be practicable for certain types of projects, such as small compensatory mitigation projects provided for activities authorized by general permits. *(Page 19645)*

§ 332.7(a) – Site Protection. The goal of the rule is to ensure permanent protection of all compensatory mitigation project sites. However, we recognize that the terms of real estate or legal instruments used to protect compensatory mitigation project sites will differ, because of the variability in real estate laws among states and local jurisdictions. For example, in some states perpetual protection cannot be required, because the real estate or legal instruments may be in effect for a limited number of years. Therefore, we cannot require specific terms for real estate instruments in this rule. The terms for conservation easements, restrictive covenants, and other mechanisms are more appropriately addressed by district engineers on a case-by-case basis. *(Page 19646)*

For stream compensatory mitigation projects, appropriate means of site protection will be determined by district engineers, after considering the characteristics of the compensation activities and the real estate interests of the project proponent. For example, in-stream rehabilitation measures may not warrant long-term protection. Specific requirements for site protection are at the discretion of the district engineer. *(Page 19646)*

There are other examples of situations where it may not be feasible to require site protection through real estate or legal instruments for compensatory mitigation projects. One potential situation is the construction of oyster habitat or the restoration of sea grass

beds in state-owned tidal waters, where the project proponent does not have a real estate interest, but may obtain authorization to conduct those environmentally beneficial activities. Another example may be the restoration of tidal marshes or other coastal resources, since the long-term sustainability of those projects in the dynamic coastal environment cannot be assured because of the natural littoral processes that occur in those areas. *(Page 19646)*

§ 332.7(a)(2) – Site Protection and Incompatible Uses. To the extent appropriate and practicable, incompatible uses that might jeopardize the objectives of the compensatory mitigation project will be prohibited. District engineers will determine which uses are compatible and incompatible on a case-by-case basis. *(Page 19646)*

§ 332.7(a) – Corps as easement holder. The Corps, however, does not have authority to hold easements for compensatory mitigation projects. *(Page 19646)*

§ 332.7(b) – Sustainability. In general, compensatory mitigation should not require active engineering features such as pumps, but should be appropriately sited to ensure that natural hydrology and landscape position will support long-term sustainability. If this is not possible in some areas, district engineers may decide that active engineering features or active management may be necessary for a compensatory mitigation project to meet its objectives. *(Page 19647)*

§ 332.7(c) – Adaptive management. The focus of adaptive management should be on taking measures to achieve performance and satisfy the objectives of the compensatory mitigation project. Extending the monitoring period may not be an appropriate adaptive management approach to achieve the desired performance, however, if the district engineer determines that the project is progressing towards meeting performance standards and that more time is all that is needed, he may determine that extension of the monitoring period is an appropriate adaptive management response. *(Page 19647)*

A certain amount of responsiveness to conditions on the ground may be built into the mitigation plan itself. In such cases, as long as the project sponsor is operating in accordance with the approved mitigation plan, no special notification or additional approval is required, although monitoring reports should include appropriate information to allow the district engineer to assess how the project is progressing. *(Page 19647)*

Alternative compensatory mitigation may be required to offset a shortfall in aquatic resource functions. District engineers will also consider whether the compensatory mitigation project is providing ecological benefits that are comparable or superior to the approved compensatory mitigation project. *(Page 19648)*

If a natural disaster causes deficiencies in a compensatory mitigation project, the district engineer will evaluate the circumstances and determine whether it would be appropriate and practicable to require measures to address those deficiencies. Additional monitoring may be required to assess how a compensatory mitigation project is responding to a natural disaster. District engineers will determine on a case-by-case basis whether flood

events warrant taking action to repair compensatory mitigation projects. In cases where diseased plant stock may have been used at a compensatory mitigation project site, it may be appropriate either to require replanting, or to allow natural re-vegetation. It is appropriate for adaptive management plans to consider potential natural disasters that may occur, to the extent that they can be reasonably foreseen. Financial assurances may be used to provide alternative compensatory mitigation if the compensatory mitigation project fails as a result of a natural disaster that occurs before the monitoring period has ended. *(Page 19648)*

§ 332.7(d) – Long-term management. Although compensatory mitigation projects should, to the extent it is practicable to do so, be self-sustaining, active long-term management and maintenance are often necessary for a compensatory mitigation project to fulfill its objectives. In such cases, provisions for long-term management need to be provided as permit conditions or as stipulations in a mitigation banking or in-lieu fee program instrument. *(Page 19648)*

§ 332.7(d) – Long-term management funding. Funding for financial assurances is handled differently than funding for long-term management. *(Pages 19648)*

The final rule clearly differentiates between financial assurances for construction and establishment of compensatory mitigation projects and funding mechanisms for long-term management of those projects. In general, funding for long-term management should not be phased out over time, since those activities usually need to be conducted for substantial periods of time. There may be occasions where long-term management is no longer necessary because a compensatory mitigation project has developed to the point where active management measures are no longer needed to fulfill the objectives of that project. In such cases, the responsible party should contact the district engineer and request that the long-term management provisions be modified to release those obligations. *(Pages 19648 and 19649)*

In cases where compensatory mitigation project sites are owned by public entities, it may not be necessary to include provisions for the financing of any required long-term management if, for example, a formal, documented commitment from a government agency is provided (i.e., stewardship commitment). For public agencies, identifying adequate financing at the time of permit issuance may be problematic since agency funding can vary from year-to-year with budget cycles, thus underscoring the need for a formal, documented commitment. *(Page 19649)*

In cases where long-term financing for long-term management of compensatory mitigation projects is necessary, district engineers should consider the need to make inflationary adjustments and certain financial assumptions. For example, district engineers may consider total return assumptions and capitalization rates in the case of endowments, or Consumer Price Index adjustments in the case of annual payments. *(Page 19649)*

Mitigation Banks and In-lieu Fee Programs.

§ 332.8 – Permitting and Bank or ILF Project Establishment. District engineers have the discretion to determine that use of programmatic general permits may not be appropriate for authorizing the construction of mitigation banks, to ensure adequate coordination of instrument approval and any required DA authorization. District engineers are also free to enter into MOAs with state agencies administering programmatic general permits to perform some or all of the review functions associated with mitigation bank and in-lieu fee program approval; however, the district engineer retains the final responsibility and authority for ensuring that the requirements of the CWA and this part are met. *(Page 19651)*

§ 332.8(a) – General Considerations. There must be a mitigation banking or in-lieu fee program instrument approved by the district engineer in accordance with the procedures in this final rule. Any other compensatory mitigation arrangements are considered to be permittee-responsible mitigation where the permittee retains responsibility for providing the required compensatory mitigation. *(Page 19601)*

§ 332.8(a) – Bank site selection. The selection of mitigation bank sites should, to the extent practicable, follow a watershed approach. *(Page 19650)*

§ 332.8(a)(1) – Ad hoc mitigation. So called “ad hoc” third-party mitigation providers cannot operate as banks or in-lieu fee programs without an approved instrument. While a permittee-responsible mitigation project is free to use a third party to provide some or all of the design, construction and management services required for project implementation, liability for project success cannot be transferred to a third party except where there is an approved instrument. *(Page 19650)*

§ 332.8(b) – Interagency Review Team. District engineers have the flexibility to establish standing IRTs in their geographic areas of responsibility, or to establish a new IRT for each proposed mitigation bank or in-lieu fee program. *(Page 19650)*

Representatives of the U.S. EPA, National Marine Fisheries Service, and U.S. Fish and Wildlife Service will automatically be included on the IRT if they choose to participate. Beyond this, the district engineer determines the composition of the IRT. The district engineer will seek to include in the IRT all public agencies with a substantive interest in the establishment of a mitigation bank or in-lieu fee program. *(Page 19650)*

The district engineer retains the final authority for approving mitigation banking instruments or in-lieu fee program instruments, since these third-party mitigation sources will be used to satisfy compensatory mitigation requirements for DA permits. If there is a co-chair, that co-chair will decide whether the proposed mitigation bank or in-lieu fee program can be used to provide compensatory mitigation under the other federal, tribal, state, or local program. The district engineer may approve an instrument regardless of whether or not other IRT member agencies sign it. *(Pages 19650 and 19651)*

§ 332.8(c) – In-Lieu Fee Program Compensation Planning Framework. The level of detail necessary for the compensation planning framework is at the discretion of the district engineer, and will take into account the characteristics of the service area(s) and the scope of the in-lieu fee program. Once the planning framework is approved as part of the in-lieu fee program instrument, all specific mitigation projects developed by the in-lieu fee program to provide compensation for DA permits must be consistent with it. *(Page 19651)*

Any modification to the framework must be approved as a significant modification to the instrument by the district engineer, after consultation with the IRT. *(Page 19651)*

§ 332.8(d)(1) – Permitting third party mitigation. District engineers have the discretion to determine that use of programmatic general permits may not be appropriate for authorizing the construction of mitigation banks, to ensure adequate coordination of instrument approval and any required DA authorization. District engineers are also free to enter into MOAs with state agencies administering programmatic general permits to perform some or all of the review functions associated with mitigation bank and in-lieu fee program approval; however, the district engineer retains the final responsibility and authority for ensuring that the requirements of the CWA and this part are met. *(Page 19652)*

§ 332.8(d)(4) – Public review and comment. We do not believe it is necessary to subject draft mitigation banking instruments to a public notice and comment process, because these documents are essentially contractual in nature. The principle aspects of a proposed mitigation bank or in-lieu fee program that would benefit from the public notice and comment process are covered by the prospectus. *(Page 19653)*

District engineers may announce the approval of a mitigation banking instrument or an in-lieu fee program instrument by issuing a public notice. Approved third-party mitigation instruments are public information that will be provided to interested parties upon request. *(Page 19653)*

If a permit is required to construct a mitigation bank or in-lieu fee project, and an alternatives analysis was required to issue that permit, then the documentation of the alternatives analysis would be in the administrative record for the permit action. *(Page 19653)*

§ 332.8(d)(5) – Initial Evaluation. The initial evaluation process does not apply to modifications of previously approved instruments. *(Page 19653)*

§ 332.8(d)(6)(ii)(A) – Service areas for third-party mitigation. Mitigation banks and in-lieu fee programs must be sited in such a way as to effectively replace lost aquatic resource functions and services and address key watershed needs within their service areas. However, consideration of economic factors is also important in determining the service area, to make it possible for third-party mitigation sponsors to develop and implement these projects. If service areas are too small to support economically viable

mitigation banks or in-lieu fee programs, then we would have to rely on permittee-responsible mitigation. To ensure the benefits of third-party mitigation, economic factors should not supersede ecological considerations in the final service area determination. *(Page 19606)*

District engineers can take into account the sponsor's needs and capabilities (as well as relevant statutory or regulatory authorities if the sponsor is a government agency) when determining service areas for a third party mitigation operation. *(Page 19654)*

§ 332.8(d)(6)(ii) – Bank Service Area and Watershed Plans. We do not believe it is practical to require watershed plans prior to establishing service areas for mitigation banks. The Corps believes that ecologically-suitable service area sizes can be established through the review processes required for mitigation banks even in the absence of a formal watershed plan, though district engineers must use a watershed approach in making this determination to the extent practicable. *(Page 19654)*

§ 332.8(d)(6)(ii)(A) – Bank Service Area. The district engineer, in consultation with the IRT, will determine the appropriate service area(s) for mitigation banks and in-lieu fee programs. *(Page 19654)*

§ 332.8(d)(6)(ii)(A) and §332.3(c) – Watershed Scale and Service Area. District engineers will determine appropriate watershed scales for compensatory mitigation projects, including services areas for mitigation banks and in-lieu fee programs. In general, compensatory mitigation projects should be located in the same watershed as the permitted impacts, at a scale determined to be appropriate by the district engineer based on the factors specified in the rule. *(Pages 19625 and 19626)*

§ 332.8(d)(6)(ii)(D) – Closure Provisions. Specific closure procedures for mitigation banks are at the discretion of the district engineer. *(Page 19655)*

§ 332.8(d)(7) – IRT Review of Draft Instrument. The district engineer will give full consideration to any timely comments and advice provided by the IRT, but the district engineer alone retains final authority for approval of instruments for mitigation banks or in-lieu fee programs used to provide compensatory mitigation for DA permits. *(Page 19655)*

Use of a consensus-based approach does not alter the responsibility of the district engineer to make a final determination regarding the draft instrument within the specified time frames. *(Page 19655)*

§ 332.8(d)(8) – Final Instrument. This final rule does not include a default approval provision. *(Page 19655)*

If a proposed mitigation bank or in-lieu fee program is not approved, a prospective sponsor can modify that proposal to correct these deficiencies and resubmit it for consideration. *(Page 19655)*

§ 332.8(e) – Dispute Resolution Process. This process is intended to resolve disputes that are within the purview of the Corps to address. If there is a co-chair involved in the approval process, and there is an IRT objection that is solely under the authority of the tribal, state, or local co-chair to address, then the co-chair should address those objections. The co-chair also has the option of not approving the instrument. *(Page 19656)*

District engineers should try to address state objections to proposed mitigation banks and in-lieu fee programs, but final decisions must be based on federal interests, including applicable federal laws, regulations, and executive orders. *(Page 19656)*

§ 332.8(g) – Instrument Modification. What constitutes appropriate documentation for an instrument modification is at the discretion of the district engineer, and is dependent on the type of modification. *(Page 19653)*

§ 332.8(g)(2) – Streamlined Modification of Instruments. District engineers have the discretion to determine what changes that are not listed in § 332.8(g) warrant use of the streamlined review process. Examples might include minor changes to a mitigation project plan that do not substantively change the character of the project or its ability to provide appropriate mitigation for DA permits. *(Page 19656)*

§ 332.8(i) – In-lieu Fee Program Account. The purpose of the program account is to ensure that the funds collected from permittees by the in-lieu fee program sponsor are used within a reasonable time period to provide compensatory mitigation for DA permits, instead of other activities. Requiring the sponsor to establish the account with a member of the FDIC is intended to protect those funds from being lost through default. The interest and other earnings accruing to the account must remain in the account, to fund in-lieu fee projects. The funds placed into the in-lieu fee program account may only be used for the selection, design, acquisition, implementation, and management of in-lieu fee projects, with a small percentage being allowed for administrative costs. The percentage that can be used for administrative costs will be determined by the district engineer, in consultation with the IRT. If the sponsor conducts activities, such as educational programs, in addition to aquatic resource restoration, establishment, enhancement, and/or preservation activities that are used to provide compensatory mitigation for DA permits, the in-lieu fee program account must be separate from the accounts that fund those supplemental activities. *(Page 19657)*

The district engineer does not need to authorize each individual disbursement from the account, but must provide written approval for the project, based on a review of the project mitigation plan, which will include a description of activities and projected costs. Once the project is authorized, funds disbursed from the account must be spent for the project in a manner consistent with the approved project mitigation plan. The terms of the in-lieu fee program account must specify that the district engineer has the authority to direct those funds to alternative compensatory mitigation projects if the sponsor does not provide the compensatory mitigation in accordance with required time frames. As with

financial assurances, the Corps lacks statutory authority to accept directly, retain, and draw upon funds that are in the in-lieu fee program account, because of the requirements of the Miscellaneous Receipts Statute (31 U.S.C. 3302(b)). Therefore, the terms of the in-lieu fee program instrument must be carefully crafted to ensure that the district engineer can direct the funds deposited in the in-lieu fee program account to be used for providing compensatory mitigation for DA permits, without the Corps directly accepting or disbursing the funds. *(Page 19657)*

§ 332.8(j) – In-Lieu Fee Project Approval. In-lieu fee projects may be conducted by other parties on behalf of the in-lieu fee program sponsor, but the project must still be approved by the district engineer and the sponsor remains responsible for compliance with the terms of the instrument and the approved mitigation plan. *(Page 19657)*

§ 332.8(m) – Credit Withdrawal from Mitigation Banks. We do not believe it would be appropriate to place a limit on the percentage of credits that can be produced through aquatic resource establishment activities. Such decisions should be made on a case by case basis by the district engineer, after consulting with the IRT. *(Page 19658)*

§ 332.8(m) and § 332.8(o)(9) – Release of Credits from Third Party Mitigation. A proportion of projected credits for a specific mitigation bank or in-lieu fee project may be released upon approval of the mitigation plan. *(Page 19624)*

§ 332.8(n) – Advance Credits for ILF Programs. If the in-lieu fee program instrument covers more than one service area, the advance credit limit will be specified for each service area. *(Page 19613)*

The goal of the requirements in this paragraph is not to place an arbitrary limit on the availability of advance credits within a service area, but rather to ensure that in-lieu fee programs do not sell more advance credits than they can reasonably deliver in the time frame, generally 3 years. This does not mean that the number of advance credits will necessarily be small. District engineers will determine the number of advance credits allowed per service area, after consulting with the IRT in accordance with the procedures in § 332.8(d). For example, in service areas with larger numbers of permitted impacts, and where a sponsor with demonstrated past successes is likely to produce a substantial amount of compensatory mitigation within the time frame specified in § 332.8(n)(4), district engineers can authorize a higher number of advance credits. As another example, if an in-lieu fee program is being established by a sponsor that does not have a history of successfully implementing aquatic resource restoration, establishment, enhancement, and/or preservation projects, the district engineer may authorize a smaller number of advance credits to address potential risks. *(Page 19658)*

District engineers have the discretion to allow more time to plan and initiate in-lieu fee projects. An example of where this discretion may be appropriate would be a service area where credit demand is lower than expected, and the in-lieu fee program has not been able to collect enough funds to secure an in-lieu fee project site and plan and implement the compensatory mitigation project within the three growing season time period. The

district engineer also has the discretion to direct the sponsor to use the funds in the in-lieu fee program account to provide alternative compensatory mitigation to fulfill the obligations created through the sale or transfer of advance credits. *(Pages 19658 and 19659)*

The amount of available advance credits will be based on an evaluation of the compensation planning framework, the size of the service area(s), the resources available to the program (e.g., an independent funding stream for government sponsored in-lieu fee programs) and other considerations identified by the district engineer during consultation with the IRT. If the in-lieu fee program instrument covers more than one service area, the advance credit limit will be specified for each service area. *(Page 19613)*

§ 332.8(n) – ILF, Advance Credits, and Service Areas. In rare circumstances, the district engineer may allow an in-lieu fee program to fulfill advance credits sold in one service area with released credits from a different service area. This should only occur in situations where the number of unfulfilled advance credits is small, the prospects for collecting more fees in the service area are poor, and the district engineer determines that fulfilling the advance credits in another service area will provide adequate compensation for the previously authorized impacts represented by the advance credits. This may happen in the case of state-wide in lieu fee programs that have some remote service areas with very small numbers of authorized impacts. *(Page 19613 and 19659)*

In certain limited cases, such as when there is insufficient permitted activity in a given service area to support a viable mitigation project within a reasonable time frame, the district engineer may authorize the use of released credits from a different service area to fulfill advance credits sales. In such cases, the district engineer should ensure that the approved mitigation compensates for the lost resources to the extent feasible, even though it may be some distance away, or in a different watershed. *(Page 19613)*

§ 332.8(o)(2) – Assessments. We do not agree that functional assessment methods should be standardized within watershed, districts, or states. Functional assessment methods will vary among resource type, and sometimes by regional categories, such as ecoregion or physiographic region. *(Page 19659)*

In many areas of the country, and for certain types of wetlands, there may not be functional or condition assessment methods available, so other measures such as acres, may need to be used to quantify credits and debits. *(Page 19659)*

§ 332.8(o)(5) – ILF Credit Costs. We do not believe it is appropriate for district engineers to determine credit costs for in-lieu fee programs, but they will review the fees set by sponsors to determine whether they comply with the requirement for full cost accounting to ensure that the required compensatory mitigation is provided and maintained. *(Page 19615)*

The Corps will not determine the price of compensatory mitigation credits. *(Page 19609)*

The cost per unit credit must also reflect resources needed for long-term management and protection of the in-lieu fee project site, as well as any financial assurances that may be necessary to ensure successful completion of those projects. District engineers can evaluate the fee structure of an in-lieu fee program to determine whether the sponsor is complying with this provision. *(Page 19660)*

§ 332.8(o)(6) – Credits Provided by Preservation. Preservation may also be used as the only form of compensatory mitigation, at the discretion of the district engineer, but this should only be allowed where preservation of specific resources has been identified as a high priority using a watershed approach. *(Page 19660)*

When using a watershed approach, the district engineer may determine that preservation of out-of-kind aquatic resources is an appropriate means of providing compensatory mitigation. *(Page 19660)*

If there are existing aquatic resources on a mitigation bank site or an in-lieu fee project site, and those aquatic resources will not be enhanced or rehabilitated to produce enhancement or restoration credits, then the district engineer may determine that there are preservation credits being provided, once the appropriate site protection mechanisms are implemented. *(Page 19660)*

§ 332.8(o)(7) – Credits provided by riparian areas, buffers, and uplands. In general, third-party mitigation credits provided by riparian areas, buffers, and uplands will supplement the credits produced through aquatic resource restoration, establishment, enhancement, and/or preservation activities, to provide a compensatory mitigation package that is appropriate for offsetting the permitted losses of aquatic resource functions. Non-aquatic resources can only be used for compensatory mitigation when they are essential for maintaining the ecological viability of adjoining aquatic resources. *(Page 19661)*

Riparian areas are critical components of stream ecosystems, as well as other open waters. Riparian areas provide important ecological functions, and directly influence the functions of streams, especially in terms of habitat quality and water quality. Therefore, it is important for mitigation banks and in-lieu fee projects containing streams and other open waters to include riparian areas as part of the overall compensatory mitigation project. In such cases, compensatory mitigation credits should also be awarded to those riparian areas. *(Page 19661)*

Buffers next to wetlands, and uplands that provide habitat connectivity and other ecological functions, may also generate compensatory mitigation credits because of their contribution to the ecological functions of the overall mitigation bank or in-lieu fee project site. *(Page 19661)*

Although the definition of “credit” refers to the accrual or attainment of aquatic functions at a compensatory mitigation site, riparian areas, buffers, and uplands are often critical for maintaining the integrity and sustainability of aquatic resource functions.

Therefore, compensatory mitigation credits can be produced through the restoration, establishment, enhancement, and/or preservation of riparian areas, buffers, and uplands that support aquatic resources. *(Page 19661)*

District engineers will determine on a case-by-case basis when buffers are essential to maintaining the ecological viability of adjoining aquatic resources, and thus eligible to produce compensatory mitigation credits. *(Page 19661)*

§ 332.8(o)(8)(i) – Credit Release Schedule. The final rule states that the credit release schedule should reserve a significant share of the total credits for release only after full achievement of ecological performance standards. What constitutes a significant share is at the discretion of the district engineer, after consulting with the IRT and may vary depending on the nature of the mitigation compensatory project and the risks and uncertainty associated with successful completion of that mitigation project. “Significant share” does not necessarily mean a majority. Rather, for the purposes of this paragraph, the term “significant share” refers to a proportion of projected credits that will provide the sponsor with a significant incentive to complete a mitigation bank or in-lieu fee project and ensure that all performance standards are achieved. *(Page 19662)*

§ 332.8(o)(9) – Credit Release Approval and Site Visits. The need to conduct site visits to evaluate requests for credit releases is at the discretion of the district engineer. The rule allows a total of 45 days for the district engineer to make a decision after distributing documentation to the IRT, or after the site visit, whichever is later. We believe this is a reasonable time frame that appropriately balances the need of the project sponsor for timely credit releases with the need to ensure that performance based milestones have indeed been met before credits are released. *(Page 19662)*

§ 332.8(q)(1) – Ledger Report. If a permittee secures third-party credits from a sponsor, but decides not to proceed with the authorized work, he or she should notify the district engineer. It is at the sponsor’s discretion whether to buy back any unused credits. Any such transactions should be documented in the ledger reports. *(Page 19664)*

[Appendix 2. Questions and Answers to assist Project Managers in providing general information to the public.](#)

Q: When is compensatory mitigation required?

A: Compensatory mitigation may be required to offset losses of aquatic resources that result from activities authorized by DA permits.

Q: What are the policies or rules for requiring compensatory mitigation?

A: There are two general policies in the Corps regulations that discuss the thresholds for requiring compensatory mitigation. The general mitigation policy published in the Corps’ November 13, 1986, final rule at 33 CFR Part 320.4(r)(2) states that:

All compensatory mitigation will be for significant resource losses which are specifically identifiable, reasonably likely to occur, and of importance to the human or aquatic environment. Also, all mitigation will be directly related to the impacts of the proposal, appropriate to the scope and degree of those impacts, and reasonably enforceable.

For general permits, Corps districts generally follow the Nationwide Permit Program mitigation policy stated in 33 CFR 330.1(e)(3), which states that mitigation (including compensatory mitigation) may be required by district engineers to ensure that activities authorized by nationwide permits result in minimal individual and cumulative adverse environmental effects. 33 CFR 2017 Issuance and Reissuance of Nationwide Permits; Final Rule (C)(23)(c) states that:

Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require preconstruction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require preconstruction notification, the district engineer may determine on a case-by case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.)

Q: Does this mean that there are different thresholds for individual permits and general permits to determine when compensatory mitigation should be required?

A. Yes, for individual permits, compensatory mitigation is required to offset significant resource losses, and for general permits it is required to ensure authorized activities comply with the minimal effects requirement for those permits.

Q: Is there any other time when compensatory mitigation may be required?

A. Yes, compensatory mitigation may be required for several other reasons.

1. To ensure that the authorized activity is not contrary to the public interest.
2. To ensure compliance with the Section 404(b)(1) Guidelines, which are the environmental criteria for evaluating permit applications under Section 404 of the CWA.
3. To ensure an activity does not have significant effects on the human environment, so that compliance with the National Environmental Policy Act (NEPA) can be accomplished through the preparation of an environmental assessment instead of an environmental impact statement.
4. Losses of specific aquatic resource functions may also require compensatory mitigation. For example, a regulated activity may not result in a loss of jurisdictional wetlands or waters, but reduces or eliminates a specific function. An example is the conversion of a forested wetland to an emergent wetland in a utility line right-of-way, in which there is a loss of forest habitat functions and thus compensatory mitigation could be required.

Q: Are there any general trends in the requirement for compensatory mitigation?

A. Compensatory mitigation is most frequently utilized for activities that result in a permanent loss of aquatic resources. It is less likely to be required for activities that do not result in permanent loss of an aquatic resource, such as navigational dredging, the installation of structures in navigable waters such as piers and buoys, temporary fills, aquatic resource restoration activities, or aquaculture activities.

Generally, compensatory mitigation is not typically required for impacts authorized under only Section 10 of the Rivers and Harbors Act or Section 103 of the Marine Protection, Research, and Sanctuaries Act, and is more commonly required for Section 10 of the RHA and CWA Section 404 authorizations, where appropriate.

Q: How often does the Corps require compensatory mitigation?

A: In general, about 10 percent of general permit verifications require compensatory mitigation and an average of 48 percent of standard permits issued during 2010-2013 required compensatory mitigation. (HQ numbers)

Q: How often does the Alaska District require compensatory mitigation?

A: The Alaska District required compensatory mitigation for approximately 50% of individual permits in 2014.

Q: Does the Alaska District consider the geographic uniqueness and small population base when making compensatory mitigation decisions?

A: The Alaska District considers the inherent flexibility that exists in Federal Rule as well as the 1994 Alaska Wetlands Initiative when making compensatory mitigation decisions.

Q: What options does a citizen have if compensatory mitigation is required for their project?

A: Compensatory mitigation includes avoidance, minimization and compensatory mitigation. Compensatory mitigation may take the form of permittee responsible mitigation and/or third party mitigation (mitigation bank or in lieu fee provider).

Q: What is the purpose of third party mitigation?

A: The purpose of third party mitigation is offset functional losses of aquatic resources. The Alaska District encourages the restoration and enhancement of aquatic resources through third party mitigation.

Q: What does the Alaska District predict for the future?

A: The Alaska District will continue to make case by case determinations for compensatory mitigation and will work with each applicant to ensure that all appropriate avoidance and minimization measures will be taken prior any requirement for compensatory mitigation.

Q. What actions did the 1994 Alaska Wetlands Initiative Recommend?

1. Implementation of abbreviated permit processing procedures for the construction of water, wastewater, and sanitation facilities in wetlands in Alaskan villages.

2. Development of general permits which efficiently allow activities with minimal impacts to proceed without the need for individual permit authorization.

3. Strengthening relationships with the State, local governments, and Native Corporations and villages through such measures as establishing written partnerships regarding the regulatory program and placing greater emphasis on providing assistance for local wetlands planning mechanisms as they relate to the regulatory program.

4. Clarification of "practicability" and "flexibility" considerations that allow implementation of the regulatory program to reflect circumstances in Alaska.

Q. How is the Alaska District addressing these recommendations?

A. The Alaska District is providing clarification to staff regarding practicability and flexibility.

The District is also working with State and Federal partners through the Statewide Interagency Review Team to develop guidance for third party mitigation sponsors and the public regarding mitigation requirements and opportunities in Alaska.

Q: What is the status of third party mitigation in Alaska?

A: The Alaska District currently has approved three in-lieu fee programs and four mitigation banks. There are ten proposed mitigation banks and one proposed in-lieu fee program.

Q: Where can members of the public find current information on approved and pending third party mitigation sponsors?

A: The District maintains up to date information on the RIBITS (Regulatory In-Lieu Fee and Bank Information Tracking System) found on the World Wide Web at:
<https://ribits.usace.army.mil/>.

Appendix 3. CFR 40 Part 230 Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material Subpart B--Compliance With the Guidelines

AUTHORITY: Secs. 404(b) and 501(a) of the Clean Water Act of 1977 (33 U.S.C. 1344(b) and 1361(a)).

Subpart A - General

Section 230.3 - Definitions

For purposes of this part, the following terms shall have the meanings indicated:

- a. The term Act means the Clean Water Act (also known as the Federal Water Pollution Control Act or FWPCA) Pub. L. 92-500, as amended by Pub. L. 95-217, 33 U.S.C. 1251, et seq.
- b. The term adjacent means bordering, contiguous, or neighboring. Wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes, and the like are "adjacent wetlands."
- c. The terms aquatic environment and aquatic ecosystem mean waters of the U.S., including wetlands that serve as habitat for interrelated and interacting communities and populations of plants and animals.
- d. The term carrier of contaminant means dredged or fill material that contains contaminants.
- e. The term contaminant means a chemical or biological substance in a form that can be incorporated into, onto or be ingested by and that harms aquatic organisms, consumers of aquatic organisms, or users of the aquatic environment, and includes but is not limited to the substances on the 307(a)(1) list of toxic pollutants promulgated on January 31, 1978 (43 FR 4109).
- f. (Reserved)
- g. (Reserved)
- h. The term discharge point means the point within the disposal site at which the dredged or fill material is released.
- i. The term disposal site means that portion of the "waters of the United States" where specific disposal activities are permitted and consist of a bottom surface area and any overlying volume of water. In the case of wetlands on which surface water is not present, the disposal site consists of the wetland surface area.
- j. (Reserved)
- k. The term extraction site means the place from which the dredged or fill material proposed for discharge is to be removed.
- l. (Reserved)
- m. The term mixing zone means a limited volume of water serving as a zone of initial dilution in the immediate vicinity of a discharge point where receiving water quality may not meet quality standards or other requirements otherwise applicable to the receiving water. The mixing zone should be considered as a place where wastes and water mix and not as a place where effluents are treated.
- n. The term permitting authority means the District Engineer of the U.S. Army Corps of Engineers or such other individual as may be designated by the Secretary of the Army to issue or deny permits under section 404 of the Act; or the State Director of a permit program approved by EPA under section 404(g) and section 404(h) or his delegated representative.
- o. The term pollutant means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials not covered by the Atomic Energy Act, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water. The legislative history of the Act reflects that "radioactive materials" as included within the definition of "pollutant" in section 502 of the Act means only radioactive

materials which are not encompassed in the definition of source, byproduct, or special nuclear materials as defined by the Atomic Energy Act of 1954, as amended, and regulated under the Atomic Energy Act. Examples of radioactive materials not covered by the Atomic Energy Act and, therefore, included within the term "pollutant", are radium and accelerator produced isotopes. See *Train v. Colorado Public Interest Research Group, Inc.*, 426 U.S. 1 (1976).

- p. The term pollution means the man-made or man-induced alteration of the chemical, physical, biological or radiological integrity of an aquatic ecosystem.
- q. The term practicable means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.
- r. Special aquatic sites means those sites identified in Subpart E. They are geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the general overall environmental health or vitality of the entire ecosystem of a region. (See 230.10(a)(3))
- s. The term territorial sea means the belt of the sea measured from the baseline as determined in accordance with the Convention on the Territorial Sea and the Contiguous Zone and extending seaward a distance of three miles.
- t. The term waters of the United States means:
 - 1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
 - 2. All interstate waters including interstate wetlands;
 - 3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
 - i. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
 - ii. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - iii. Which are used or could be used for industrial purposes by industries in interstate commerce;
 - 4. All impoundments of waters otherwise defined as waters of the U.S. under this definition;
 - 5. Tributaries of waters identified in paragraphs (s)(1) through (4) of this section;
 - 6. The territorial sea;
 - 7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (s)(1) through (6) of this section; waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the U.S.
- u. The term wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in

saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.

Subpart B - Compliance With the Guidelines

Section 230.10 - Restrictions on discharge

Note: Because other laws may apply to particular discharges and because the Corps or State 404 agency may have additional procedural and substantive requirements, a discharge complying with the requirement of these Guidelines will not automatically receive a permit. Although all requirements in 230.10 must be met, the compliance evaluation procedures will vary to reflect the seriousness of the potential for adverse impacts on the aquatic ecosystems posed by specific dredged or fill material discharge activities.

- a. Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.
 1. For the purpose of this requirement, practicable alternatives include, but are not limited to:
 - i. Activities which do not involve a discharge of dredged or fill material into the waters of the U.S. or ocean waters;
 - ii. Discharges of dredged or fill material at other locations in waters of the U.S. or ocean waters;
 2. An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. If it is otherwise a practicable alternative, an area not presently owned by the applicant which could reasonably be obtained, utilized, expanded or managed in order to fulfill the basic purpose of the proposed activity may be considered.
 3. Where the activity associated with a discharge which is proposed for a special aquatic site (as defined in Subpart E) does not require access or proximity to or siting within the special aquatic site in question to fulfill its basic purpose (i.e., is not "water dependent"), practicable alternatives that do not involve special aquatic sites are presumed to be available, unless clearly demonstrated otherwise. In addition, where a discharge is proposed for a special aquatic site, all practicable alternatives to the proposed discharge which do not involve a discharge into a special aquatic site are presumed to have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise.
 4. For actions subject to NEPA, where the Corps is the permitting agency, the analysis of alternatives required for NEPA environmental documents, including supplemental Corps NEPA documents, will in most cases provide the information for the evaluation of alternatives under these Guidelines. On occasion, these NEPA documents may address a broader range of alternatives than required to be

considered under this paragraph or may not have considered the alternatives in sufficient detail to respond to the requirements of these Guidelines. In the latter case, it may be necessary to supplement these NEPA documents with this additional information.

5. To the extent that practicable alternatives have been identified and evaluated under a Coastal Zone Management program, a section 208 program, or other planning process, such evaluation shall be considered by the permitting authority as part of the consideration of alternatives under the Guidelines. Where such evaluation is less complete than that contemplated under this subsection, it must be supplemented accordingly.
- b. No discharge of dredged or fill material shall be permitted if it:
1. Causes or contributes, after consideration of disposal site dilution and dispersion, to violations of any applicable State water quality standard;
 2. Violates any applicable toxic effluent standard or prohibition under section 307 of the Act;
 3. Jeopardizes the continued existence of species listed as endangered or threatened under the Endangered Species Act of 1973, as amended, or results in likelihood of the destruction or adverse modification of a habitat which is determined by the Secretary of Interior or Commerce, as appropriate, to be a critical habitat under the Endangered Species Act of 1973, as amended. If an exemption has been granted by the Endangered Species Committee, the terms of such exemption shall apply in lieu of this subparagraph;
 4. Violates any requirement imposed by the Secretary of Commerce to protect any marine sanctuary designated under Title III of the Marine Protection, Research, and Sanctuaries Act of 1972.
- c. Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted which will cause or contribute to significant degradation of the waters of the U.S. Findings of significant degradation related to the proposed discharge shall be based upon appropriate factual determinations, evaluations, and tests required by Subparts B and G, after consideration of Subparts C through F, with special emphasis on the persistence and permanence of the effects outlined in those subparts. Under these Guidelines, effects contributing to significant degradation considered individually or collectively, include:
1. Significantly adverse effects of the discharge of pollutants on human health or welfare, including but not limited to effects on municipal water supplies, plankton, fish, shellfish, wildlife, and special aquatic sites.
 2. Significantly adverse effects of the discharge of pollutants on life stages of aquatic life and other wildlife dependent on aquatic ecosystems, including the transfer, concentration, and spread of pollutants or their byproducts outside of the disposal site through biological, physical, and chemical processes;
 3. Significantly adverse effects of the discharge of pollutants on aquatic ecosystem diversity, productivity, and stability. Such effects may include, but are not limited to, loss of fish and wildlife habitat or loss of the capacity of a wetland to assimilate nutrients, purify water, or reduce wave energy; or
 4. Significantly adverse effects of discharge of pollutants on recreational, aesthetic, and economic values.

- d. Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem. Subpart H identifies such possible steps.

Section 230.12 - Findings of compliance or non-compliance with the restrictions on discharge.

- a. On the basis of these Guidelines (Subparts C through G) the proposed disposal sites for the discharge of dredged or fill material must be:
 - 1. Specified as complying with the requirements of these Guidelines; or
 - 2. Specified as complying with the requirements of these Guidelines with the inclusion of appropriate and practicable discharge conditions (see Subpart H) to minimize pollution or adverse effects to the affected aquatic ecosystems; or
 - 3. Specified as failing to comply with the requirements of these Guidelines where:
 - i. There is a practicable alternative to the proposed discharge that would have less adverse effect on the aquatic ecosystem, so long as such alternative does not have other significant adverse environmental consequences; or
 - ii. The proposed discharge will result in significant degradation of the aquatic ecosystem under 230.10(b) or (c); or
 - iii. The proposed discharge does not include all appropriate and practicable measures to minimize potential harm to the aquatic ecosystem; or
 - iv. There does not exist sufficient information to make a reasonable judgment as to whether the proposed discharge will comply with these Guidelines.
- b. Findings under this section shall be set forth in writing by the permitting authority for each proposed discharge and made available to the permit applicant. These findings shall include the factual determinations required by 230.11, and a brief explanation of any adaptation of these Guidelines to the activity under consideration. In the case of a General permit, such findings shall be prepared at the time of issuance of that permit rather than for each subsequent discharge under the authority of that permit.

Subpart C - Potential Impacts on Physical and Chemical Characteristics of the Aquatic Ecosystem

Note: The effects described in this subpart should be considered in making the factual determinations and the findings of compliance or non-compliance in Subpart B.

Section 230.25 - Salinity gradients.

- a. Salinity gradients form where salt water from the ocean meets and mixes with fresh water from land.

- b. Possible loss of environmental characteristics and values: Obstructions which divert or restrict flow of either fresh or salt water may change existing salinity gradients. For example, partial blocking of the entrance to an estuary or river mouth that significantly restricts the movement of the salt water into and out of that area can effectively lower the volume of salt water available for mixing within that estuary. The downstream migration of the salinity gradient can occur, displacing the maximum sedimentation zone and requiring salinity-dependent aquatic biota to adjust to the new conditions, move to new locations if possible, or perish. In the freshwater zone, discharge operations in the upstream regions can have equally adverse impacts. A significant reduction in the volume of fresh water moving into an estuary below that which is considered normal can affect the location and type of mixing thereby changing the characteristic salinity patterns. The resulting changed circulation pattern can cause the upstream migration of the salinity gradient displacing the maximum sedimentation zone. This migration may affect those organisms that are adapted to freshwater environments. It may also affect municipal water supplies.

Note: Possible actions to minimize adverse impacts regarding site characteristics can be found in Subpart H.

Subpart D - Potential Impacts on Biological Characteristics of the Aquatic Ecosystem

Section 230.30 - Threatened and endangered species

- a. An endangered species is a plant or animal in danger of extinction throughout all or a significant portion of its range. A threatened species is one in danger of becoming an endangered species in the foreseeable future throughout all or a significant portion of its range. Listings of threatened and endangered species as well as critical habitats are maintained by some individual States and by the U.S. Fish and Wildlife Service of the Department of the Interior (codified annually at 50 CFR 17.11). The Department of Commerce has authority over some threatened and endangered marine mammals, fish and reptiles.
- b. Possible loss of values: The major potential impacts on threatened or endangered species from the discharge of dredged or fill material include:
 - 1. Covering or otherwise directly killing species;
 - 2. The impairment or destruction of habitat to which these species are limited. Elements of the aquatic habitat which are particularly crucial to the continued survival of some threatened or endangered species include adequate good quality water, spawning and maturation areas, nesting areas, protective cover, adequate and reliable food supply, and resting areas for migratory species. Each of these elements can be adversely affected by changes in either the normal water conditions for clarity, chemical content, nutrient balance, dissolved oxygen, pH, temperature, salinity, current patterns, circulation and fluctuation, or the physical removal of habitat; and
 - 3. Facilitating incompatible activities.

- c. Where consultation with the Secretary of the Interior occurs under section 7 of the Endangered Species Act, the conclusions of the Secretary concerning the impact(s) of the discharge on threatened and endangered species and their habitat shall be considered final.
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Section 230.31 - Fish, crustaceans, mollusks, and other aquatic organisms in the food web

- a. Aquatic organisms in the food web include, but are not limited to, finfish, crustaceans, mollusks, insects, annelids, planktonic organisms, and the plants and animals on which they feed and depend upon for their needs. All forms and life stages of an organism, throughout its geographic range, are included in this category.
 - b. Possible loss of values: The discharge of dredged or fill material can variously affect populations of fish, crustaceans, mollusks and other food web organisms through the release of contaminants which adversely affect adults, juveniles, larvae, or eggs, or result in the establishment or proliferation of an undesirable competitive species of plant or animal at the expense of the desired resident species. Suspended particulates settling on attached or buried eggs can smother the eggs by limiting or sealing off their exposure to oxygenated water. Discharge of dredged and fill material may result in the debilitation or death of sedentary organisms by smothering, exposure to chemical contaminants in dissolved or suspended form, exposure to high levels of suspended particulates, reduction in food supply, or alteration of the substrate upon which they are dependent. Mollusks are particularly sensitive to the discharge of material during periods of reproduction and growth and development due primarily to their limited mobility. They can be rendered unfit for human consumption by tainting, by production and accumulation of toxins, or by ingestion and retention of pathogenic organisms, viruses, heavy metals or persistent synthetic organic chemicals. The discharge of dredged or fill material can redirect, delay, or stop the reproductive and feeding movements of some species of fish and crustacea, thus preventing their aggregation in accustomed places such as spawning or nursery grounds and potentially leading to reduced populations. Reduction of detrital feeding species or other representatives of lower trophic levels can impair the flow of energy from primary consumers to higher trophic levels. The reduction or potential elimination of food chain organism populations decreases the overall productivity and nutrient export capability of the ecosystem.
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Section 230.32 - Other wildlife

- a. Wildlife associated with aquatic ecosystems are resident and transient mammals, birds, reptiles, and amphibians.
- b. Possible loss of values: The discharge of dredged or fill material can result in the loss or change of breeding and nesting areas, escape cover, travel corridors, and preferred food sources for resident and transient wildlife species associated with the aquatic ecosystem. These adverse impacts upon wildlife habitat may result from changes in water levels, water flow and circulation, salinity, chemical content, and substrate characteristics and

elevation. Increased water turbidity can adversely affect wildlife species which rely upon sight to feed, and disrupt the respiration and feeding of certain aquatic wildlife and food chain organisms. The availability of contaminants from the discharge of dredged or fill material may lead to the bioaccumulation of such contaminants in wildlife. Changes in such physical and chemical factors of the environment may favor the introduction of undesirable plant and animal species at the expense of resident species and communities. In some aquatic environments lowering plant and animal species diversity may disrupt the normal functions of the ecosystem and lead to reductions in overall biological productivity.

Note: Possible actions to minimize adverse impacts regarding characteristics of biological components of the aquatic ecosystem can be found in subpart H.

Subpart E - Potential Impacts on Special Aquatic Sites

Note: The impacts described in this subpart should be considered in making the factual determinations and the findings of compliance or non-compliance in Subpart B. The definition of special aquatic sites is found in 230.3(q-1).

Section 230.40 - Sanctuaries and refuges.

- a. Sanctuaries and refuges consist of areas designated under State and Federal laws or local ordinances to be managed principally for the preservation and use of fish and wildlife resources.
- b. Possible loss of values: Sanctuaries and refuges may be affected by discharges of dredged or fill material which will:
 1. Disrupt the breeding, spawning, migratory movements or other critical life requirements of resident or transient fish and wildlife resources;
 2. Create unplanned, easy and incompatible human access to remote aquatic areas;
 3. Create the need for frequent maintenance activity;
 4. Result in the establishment of undesirable competitive species of plants and animals;
 5. Change the balance of water and land areas needed to provide cover, food, and other fish and wildlife habitat requirements in a way that modifies sanctuary or refuge management practices;
 6. Result in any of the other adverse impacts discussed in Subparts C and D as they relate to a particular sanctuary or refuge.

Section 230.41 - Wetlands

- a. General.

1. Wetlands consist of areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.
2. Where wetlands are adjacent to open water, they generally constitute the transition to upland. The margin between wetland and open water can best be established by specialists familiar with the local environment, particularly where emergent vegetation merges with submerged vegetation over a broad area in such places as the lateral margins of open water, headwaters, rainwater catch basins, and groundwater seeps. The landward margin of wetlands also can best be identified by specialists familiar with the local environment when vegetation from the two regions merges over a broad area.

3. Wetland vegetation consists of plants that require saturated soils to survive (obligate wetland plants) as well as plants, including certain trees that gain a competitive advantage over others because they can tolerate prolonged wet soil conditions and their competitors cannot. In addition to plant populations and communities, wetlands are delimited by hydrological and physical characteristics of the environment. These characteristics should be considered when information about them is needed to supplement information available about vegetation, or where wetland vegetation has been removed or is dormant.
- b. Possible loss of values: The discharge of dredged or fill material in wetlands is likely to damage or destroy habitat and adversely affect the biological productivity of wetlands ecosystems by smothering, by dewatering, by permanently flooding, or by altering substrate elevation or periodicity of water movement. The addition of dredged or fill material may destroy wetland vegetation or result in advancement of succession to dry land species. It may reduce or eliminate nutrient exchange by a reduction of the system's productivity, or by altering current patterns and velocities. Disruption or elimination of the wetland system can degrade water quality by obstructing circulation patterns that flush large expanses of wetland systems, by interfering with the filtration function of wetlands, or by changing the aquifer recharge capability of a wetland. Discharges can also change the wetland habitat value for fish and wildlife as discussed in Subpart D. When disruptions in flow and circulation patterns occur, apparently minor loss of wetland acreage may result in major losses through secondary impacts. Discharging fill material in wetlands as part of municipal, industrial or recreational development may modify the capacity of wetlands to retain and store floodwaters and to serve as a buffer zone shielding upland areas from wave actions, storm damage and erosion.

Section 230.42 - Mud flats

Mud flats are broad flat areas along the sea coast and in coastal rivers to the head of tidal influence and in inland lakes, ponds, and riverine systems. When mud flats are inundated, wind and wave action may re-suspend bottom sediments. Coastal mud flats are exposed at extremely low tides and inundated at high tides with the water table at or near the surface of the substrate. The substrate of mud flats contains organic material and particles smaller in size than sand. They are either un-vegetated or vegetated only by algal mats.

Possible loss of values: The discharge of dredged or fill material can cause changes in water circulation patterns which may permanently flood or dewater the mud flat or disrupt periodic inundation, resulting in an increase in the rate of erosion or accretion. Such changes can deplete or eliminate mud flat biota, foraging areas, and nursery areas. Changes in inundation patterns can affect the chemical and biological exchange and decomposition process occurring on the mud flat and change the deposition of suspended material affecting the productivity of the area. Changes may reduce the mud flat's capacity to dissipate storm surge runoff.

Section 230.43 - Vegetated shallows

- a. Vegetated shallows are permanently inundated areas that under normal circumstances support communities of rooted aquatic vegetation, such as turtle grass and eelgrass in estuarine or marine systems as well as a number of freshwater species in rivers and lakes.
 - b. Possible loss of values: The discharge of dredged or fill material can smother vegetation and benthic organisms. It may also create unsuitable conditions for their continued vigor by:
 - 1. (1) Changing water circulation patterns;
 - 2. (2) Releasing nutrients that increase undesirable algal populations;
 - 3. (3) Releasing chemicals that adversely affect plants and animals;
 - 4. (4) Increasing turbidity levels, thereby reducing light penetration and hence photosynthesis; and
 - 5. (5) Changing the capacity of a vegetated shallow to stabilize bottom materials and decrease channel shoaling. The discharge of dredged or fill material may reduce the value of vegetated shallows as nesting, spawning, nursery, cover, and forage areas, as well as their value in protecting shorelines from erosion and wave actions. It may also encourage the growth of nuisance vegetation.
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Section 230.44 - Coral reefs

- a. (a) Coral reefs consist of the skeletal deposit, usually of calcareous or siliceous materials, produced by the vital activities of entozoan polyps or other invertebrate organisms present in growing portions of the reef.
 - b. (b) Possible loss of values: The discharge of dredged or fill material can adversely affect colonies of reef building organisms by burying them, by releasing contaminants such as hydrocarbons into the water column, by reducing light penetration through the water, and by increasing the level of suspended particulates. Coral organisms are extremely sensitive to even slight reductions in light penetration or increases in suspended particulates. These adverse effects will cause a loss of productive colonies which in turn provide habitat for many species of highly specialized aquatic organisms.
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Section 230.45 - Riffle and pool complexes

- a. (a) Steep gradient sections of streams are sometimes characterized by riffle and pool complexes. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a coarse substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. Pools are characterized by a slower stream velocity, a steaming flow, a smooth surface, and a finer substrate. Riffle and pool complexes are particularly valuable habitat for fish and wildlife.

- b. (b) Possible loss of values: Discharge of dredged or fill material can eliminate riffle and pool areas by displacement, hydrologic modification, or sedimentation. Activities which affect riffle and pool areas and especially riffle/pool ratios, may reduce the aeration and filtration capabilities at the discharge site and downstream, may reduce stream habitat diversity, and may retard repopulation of the disposal site and downstream waters through sedimentation and the creation of unsuitable habitat. The discharge of dredged or fill material which alters stream hydrology may cause scouring or sedimentation of riffles and pools. Sedimentation induced through hydrological modification or as a direct result of the deposition of unconsolidated dredged or fill material may clog riffle and pool areas, destroy habitats, and create anaerobic conditions. Eliminating pools and meanders by the discharge of dredged or fill material can reduce water holding capacity of streams and cause rapid runoff from a watershed. Rapid runoff can deliver large quantities of flood water in a short time to downstream areas resulting in the destruction of natural habitat, high property loss, and the need for further hydraulic modification.

Note: Possible actions to minimize adverse impacts on site or material characteristics can be found in Subpart H.

Subpart H - Actions To Minimize Adverse Effects

Note: There are many actions which can be undertaken in response to 203.10(d) to minimize the adverse effects of discharges of dredged or fill material. Some of these, grouped by type of activity, are listed in this subpart.

Section 230.74 - Actions related to technology

Discharge technology should be adapted to the needs of each site. In determining whether the discharge operation sufficiently minimizes adverse environmental impacts, the applicant should consider:

- a. (a) Using appropriate equipment or machinery, including protective devices, and the use of such equipment or machinery in activities related to the discharge of dredged or fill material;
- b. (b) Employing appropriate maintenance and operation on equipment or machinery, including adequate training, staffing, and working procedures;
- c. (c) Using machinery and techniques that are especially designed to reduce damage to wetlands. This may include machines equipped with devices that scatter rather than mound excavated materials, machines with specially designed wheels or tracks, and the use of mats under heavy machines to reduce wetland surface compaction and rutting;
- d. (d) Designing access roads and channel spanning structures using culverts, open channels, and diversions that will pass both low and high water flows, accommodate fluctuating water levels, and maintain circulation and faunal movement;
- e. (e) Employing appropriate machinery and methods of transport of the material for discharge.

Subpart I - Planning To Shorten Permit Processing Time

Section 230.80 - Advanced identification of disposal areas

1. (a) Consistent with these Guidelines, EPA and the permitting authority, on their own initiative or at the request of any other party and after consultation with any affected State that is not the permitting authority, may identify sites which will be considered as:
 1. (1) Possible future disposal sites, including existing disposal sites and non-sensitive areas; or
 2. (2) Areas generally unsuitable for disposal site specification;
2. (b) The identification of any area as a possible future disposal site should not be deemed to constitute a permit for the discharge of dredged or fill material within such area or a specification of a disposal site. The identification of areas that generally will not be available for disposal site specification should not be deemed as prohibiting applications for permits to discharge dredged or fill material in such areas. Either type of identification constitutes information to facilitate individual or general permit application and processing.
3. (c) An appropriate public notice of the proposed identification of such areas shall be issued;
4. (d) To provide the basis for advanced identification of disposal areas, and areas unsuitable for disposal, EPA and the permitting authority shall consider the likelihood that use of the area in question for dredged or fill material disposal will comply with these Guidelines. To facilitate this analysis, EPA and the permitting authority should review available water resources management data including data available from the public, other Federal and State agencies, and information from approved Coastal Zone Management programs and River Basin Plans;
5. (e) The permitting authority should maintain a public record of the identified areas and a written statement of the basis for identification.

Appendix 4. Assessment Methodologies Currently in Use within the Alaska District.

USACE. 2016. Alaska District: Credit Debit Methodology, Version 1.0. US Army Corps of Engineers, Alaska District. SPN-2016-00187_21Sep2016. The purpose of this document is to address the requirements for making a determination of credits and debits in Sections 332.3(f) and 332.4(c)(6) of the Mitigation Rule and does not replace any other mitigation plan requirements or components identified in the Mitigation Rule. The Alaska District Credit Debit Methodology utilizes the numerous functional and condition assessment methodologies in the State of Alaska.

The following assessment methods have been used in the area of responsibility for the Central/Northern Region of Alaska:

AK RGL 09-01 Appendix: most commonly used in the past. This was repealed in 2015.

ADOT&PF Alaska Wetland Assessment Method: Adapted with permission from Montana Department of Transportation Montana Wetland Assessment Method. Alaska Department of Transportation and Public Facilities (ADOT&PF) identified the need to choose a single rapid wetland assessment method for use on the routine projects it conducted throughout Alaska. AKWAM assessments result in a relative rating for up to 10 wetland functions and services. This rating provides no information on the magnitude at which a function (such as flood attenuation, sediment retention and removal, production export, or groundwater recharge) is performed. The actual magnitude at which a measurable function is performed is dependent on site-specific conditions, requires specialized equipment and repeated measurements, and is beyond the scope of this methodology. ADOT&PF has added a component to evaluate water bodies, in addition to wetlands.

North Slope Rapid Assessment Method: *Berkowitz, J. F., N. R. Beane, K. Philley, and M. W. Ferguson. 2017.* Operational draft regional guidebook for the rapid assessment of wetlands in the North Slope region of Alaska. ERDC/EL TR-17-14. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

Interior Permafrost HGM Guidebook: State of Alaska Department of Environmental Conservation/U. S. Army Corps of Engineers Waterways Experiment Station Technical Report Number: WRP-DE-____1999. Operational Draft Guidebook for Reference Based Assessment of the Functions of Precipitation-Driven Wetlands on Discontinuous Permafrost in Interior Alaska. Anchorage, AK.

The following assessment methods have been used in the area of responsibility for the Kenai Field Office:

AK RGL 09-01 Appendix: most commonly used in the past. This was repealed in 2015.

ADOT&PF Alaska Wetland Assessment Method: Adapted with permission from Montana Department of Transportation Montana Wetland Assessment Method. Alaska Department of Transportation and Public Facilities (ADOT&PF) identified the need to choose a single rapid wetland assessment method for use on the routine projects it conducted throughout Alaska. AKWAM assessments result in a relative rating for up to 10 wetland functions and services. This rating provides no information on the magnitude at which a function (such as flood attenuation, sediment retention and removal, production export, or groundwater recharge) is performed. The actual magnitude at which a measurable function is performed is dependent on site-specific conditions, requires specialized equipment and repeated measurements, and is beyond the scope of this methodology. ADOT&PF has added a component to evaluate water bodies, in addition to wetlands.

2006 Functional Assessment of Wetlands within the City of Homer and the Bridge Creek Watershed Protection District: This methodology was adapted in a joint effort by USACE, USEPA, USFWS, ADF&G, DNR, NRCS, Cook Inlet Keeper, and the City of Homer. Questions were answered based primarily on GIS and available mapping, as well as the input of local experts. This group assessed three wetland function components (hydrologic, habitat, and species occurrence) and scored Homer wetlands using a documented methodology from the 1996 Anchorage Wetlands Management Plan and adjusted for the Homer environs.

Southcentral Coastal Riverine HGM Guidebook: *Powell, J. E., D'Amore, D. V., Thompson, R., Huberth P., Bigelow, B., Walter, M. T., and Brock, T.* "Wetland Functional Assessment Guidebook, Operational Draft Guidebook for Assessing the Functions for Riverine and Slope River Proximal Wetlands in Coastal Southeast and Southcentral Alaska Using the HGM Approach," State of Alaska Department of Environmental Conservation June 2003 / U.S. Army Corps of Engineers Waterways Experiment Station Technical Report: WRP-DE-__.

Cook Inlet Slope/Flat HGM Guidebook: *Hall, J. V., Powell, J. E., Carrack, S., Rockwell, T., Hollands, G., Walter, T., and White, J.,* 2003. "Wetland Functional Assessment Guidebook, Operational Draft Guidebook for Assessing the Functions of Slope/Flat Wetland Complexes in the Cook Inlet Basin Ecoregion Alaska, using the HGM Approach," State of Alaska Department of Environmental Conservation / U.S. Army Corps of Engineers Waterways Experiment Station Technical Report: WRP-DE-__ .

The following assessment methods have been used in the area of responsibility for the Southeast Alaska Field Office:

WESPAK – Southeast Alaska: *Paul R. Adamus, Ph.D* Adamus Resource Assessment, Inc. WESPAK-SE is intended to fill a need for rapid, standardized, field-based assessment of wetland ecosystem services such as provided because few agencies or organizations have sufficient personnel who can interpret the implications of wetland hydrology, soils, and biogeochemical interactions during a brief site visit, as well as having the skills to identify all of the region's wetland plants and animals. Moreover, biodiversity alone cannot validly be used to predict many of a wetland's ecosystem services that are valued by society.

WESPAK-SE: uses assessments of weighted ecological characteristics (indicators) to generate scores for a wetland's functions and values. The number of indicators that is applied to estimate

a particular wetland function or value depends on what the function or value is. The indicators are combined using mathematical formulas (models) to generate the score for each wetland function or value. The models are logic based rather than deterministic. Together they provide a profile of “what a wetland does.” WESPAK-SE indicators and models attempt to incorporate the best and most recent scientific knowledge available on the ecosystem services of wetlands.

Most Current and Commonly Used:

1987 Functional Assessment of Wetlands within the City of Juneau: This methodology was adapted in a joint effort by USEPA, City and Borough of Juneau, Adamus Resource Assessment and CZM Program.

The Wetland Evaluation Technique: (WET) developed for the Juneau area wetlands is to date, the only method which has been calibrated for narrowly defined area within southeast Alaska and generally accepted by resource and regulatory agencies. The method established a probability rating high to low as to whether a particular function occurs at a site, and relies heavily on best professional judgment. WET is not designed to measure project related changes in functions for specific types of wetlands (Brinson, 1995(a)).

The Juneau Area has been inventoried using this system:

AK RGL 09-01 Appendix: Commonly used in other areas of Southeast Alaska in the past. This was repealed in 2015.

Southeast Alaska Freshwater Wetland Assessment Method: Corps of Engineers – Regulatory Branch – East Section Version 1.4 Revised August 2000 – *Ralph Thompson*.

The method was developed by conducting a literature review and by calibrating indicators from a number of existing wetland assessment methods to typical wetland settings in Southeast Alaska. The method was designed to be open, in that the functions evaluated are not an exhaustive treatment of all wetland functions that occur in southeast Alaska. The method can be refined, modified, and/or improved with information obtained through field application, research efforts and literature review. Used in East Section from 1998 – 2005.

Southcentral Coastal Riverine HGM Guidebook: *Powell, J. E., D’Amore, D. V., Thompson, R., Huberth P., Bigelow, B., Walter, M. T., and Brock, T.* “Wetland Functional Assessment Guidebook, Operational Draft Guidebook for Assessing the Functions for Riverine and Slope River Proximal Wetlands in Coastal Southeast and Southcentral Alaska Using the HGM Approach,” State of Alaska Department of Environmental Conservation June 2003 / U.S. Army Corps of Engineers Waterways Experiment Station Technical Report: WRP-DE-___.

Magee, D.W. and Hollands: G.G. 1998. A Rapid Procedure for Assessing Wetland Functional Capacity Based on Hydrogeomorphic (HGM) Classification. Bedford, NH. Has been used in other parts of Southeast. This method was not approved for use in Alaska in 2015.

The following assessment methods have been used in the Municipality of Anchorage:

The Anchorage Debit Credit Methodology: Anchorage Debit-Credit Method (ADCM) Was Originally Developed By EPA, U.S. Fish And Wildlife Service (FWS), Corps, Municipality Of Anchorage, With Substantial Assistance From Representatives Of The Alaska Departments Of Environmental Conservation, Fish And Game, And Transportation And Public Facilities(ADOT&PF), The Alaska Division Of Governmental Coordination, Alaska Railroad, Anchorage International Airport, Anchorage Waterways Council, HDR Alaska, Inc., Land Design North, National Marine Fisheries Service, National Wildlife Federation, Dowl Hkm, Great Land Trust, Shannon And Wilson, Inc., and the URS Corporation. The ADCM provides a mathematical means of expressing adverse impacts as debits and beneficial impacts as credits. The procedures take into account several factors, including:

- The pre- and post-project relative ecological values (rev(s)) of the site and surrounding area;
- The nature and extent disturbance already affecting the site and surrounding area;
- The extent, nature, and permanence of anticipated direct and indirect adverse impacts;
- The type and extent of improvements in function expected to result from restoration, enhancement, and creation/establishment projects; and
- The extent of the threat of future development or other adverse impacts at proposed preservation sites.

Currently this is the “default” method of determining debits and credits associated with DA authorizations in the Muni. We have compared the ADCM to a version of HGM analysis (“HGM lite”- proposed and used in some of the Matanuska-Susitna Borough), and the two quantifications for a site near Furrow Creek in Anchorage were very close.

The Anchorage Wetland Assessment Methodology: This methodology was used by the Municipality for its wetland management plan in which was established in 1982. The assessment is based on the Hydrologic, Biologic, Habitat and Social functions of freshwater wetlands. The methodology was modeled after the Canadian Wildlife Service, Ontario Region’s “An Evaluation Systems for Wetlands of Ontario” (1984). The original development of the methodology by the Municipality had a peer reviewed research component as well to assist in the refinement of the parameters to be assessed.

Currently this is used to determine what “class” or hierarchy in the management plan specific wetland sites are and can be used to inform “baseline” of a site.

Cook Inlet Slope/Flat HGM Guidebook: *Hall, J. V., Powell, J. E., Carrack, S., Rockwell, T., Hollands, G., Walter, T., and White, J., 2003. “Wetland Functional Assessment Guidebook, Operational Draft Guidebook for Assessing the Functions of Slope/Flat Wetland Complexes in the Cook Inlet Basin Ecoregion Alaska, using the HGM Approach,” State of Alaska Department of Environmental Conservation / U.S. Army Corps of Engineers Waterways Experiment Station Technical Report: WRP-DE-__ .*