



PRELIMINARY DRAFT

State Wetland Definition and Procedures for Discharges of Dredged or Fill Materials to Waters of the State

**[Proposed for Inclusion in the Water Quality Control Plans
for Inland Surface Waters and Enclosed Bays and
Estuaries and Ocean Waters of California]**

STATE WATER RESOURCES CONTROL BOARD

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Final Draft**

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Procedures for Discharges of Dredged or Fill Materials into Waters of the State

I. Introduction

The mission of the State Water Resources Control Board and the Regional Water Quality Control Boards (Water Boards) includes the preservation, enhancement, and restoration of the quality of California's water resources for the protection of the environment and all beneficial uses for the benefit of present and future generations. In accordance with the Porter-Cologne Water Quality Control Act (Water Code, § 13000 et seq.), the Water Boards are authorized to regulate discharges of waste that may affect the quality of waters of the state. As described below, waters of the state include some, but not all, features that are defined as wetlands, as well as other features, including the ocean, lakes, and rivers. These wetlands provide environmental and economic benefits to the people of this state, including flood and storm water control, surface and ground water supply, fish and wildlife habitat, erosion control, pollution treatment, nutrient cycling, and public enjoyment. Wetlands ameliorate the effects of global climate change by providing floodwater storage, sequestering carbon, and maintaining vulnerable plant and animal communities. Many of these invaluable areas statewide have been lost to fill and development. Presently, wetlands are threatened by impacts from increasing population growth, land development, sea level rise, and climate change. These Procedures for the Discharges of Dredged or Fill Materials to Waters of the State (Procedures) conform to Executive Order W-59-93, commonly referred to as California's "no net loss" policy for wetlands. In accordance with Executive Order W-59-93, the Procedures ensure that the Water Boards' regulation of dredged or fill activities will be conducted in a manner "to ensure no overall net loss and long-term net gain in the quantity, quality, and permanence of wetlands acreage and values..." The Water Boards are committed to increasing the quantity, quality, and diversity of wetlands that qualify as waters of the state.

These Procedures contain a wetland definition in section II and wetland delineation procedures in section III, both of which apply to all Water Board programs. The wetland definition encompasses the full range of wetland types commonly recognized in California, including some features not protected under federal law, and reflects current scientific understanding of the formation and functioning of wetlands. These Procedures also include procedures for the review and approval of activities that could result in the discharge of dredged or fill material to any waters of the state in section IV. The Procedures include elements of the Clean Water Act Section 404(b)(1) Guidelines, thereby bringing uniformity to Water Boards' regulation of discharges of dredged or fill material to all waters of the state.

II. Wetland Definition

The Water Boards define an area as wetland as follows:

An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

The Water Code defines "waters of the state" broadly to include "any surface water or groundwater, including saline waters, within the boundaries of the state." The following wetlands are waters of the state:

1. Natural wetlands,

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- 40 2. Wetlands created by modification of a water of the state,¹
- 41 3. Wetlands that meet current or historic definitions of “waters of the United States,”² and
- 42 4. Artificial wetlands³ that meet any of the following criteria:
- 43 a. Approved by an agency as mitigation for impacts to other waters of the state, except where
- 44 the approving agency explicitly identifies the mitigation as being of limited duration;
- 45 b. Specifically identified in a water quality control plan as a wetland or other water of the state;
- 46 c. Resulted from historic human activity and has become a relatively permanent part of the
- 47 natural landscape;
- 48 d. Greater than or equal to one acre in size, unless the artificial wetland was constructed and is
- 49 currently used and maintained primarily for one or more of the following purposes (i.e., the
- 50 following artificial wetlands are not waters of the state unless they also satisfy another one
- 51 of the above criteria):
- 52 i. Industrial or municipal wastewater treatment or disposal,
- 53 ii. Settling of sediment,
- 54 iii. Storm water detention, infiltration, or treatment,
- 55 iv. Agricultural crop irrigation or stock watering,
- 56 v. Fire suppression,
- 57 vi. Cooling water,
- 58 vii. Active surface mining – even if the site is managed for interim wetlands functions
- 59 and values, or
- 60 viii. Log storage.

61 If an aquatic feature meets the wetland definition, the burden is on the applicant to demonstrate that the

62 wetland is not a water of the state.

63 **III. Wetland Delineation**

64 The permitting authority shall rely on any wetland area delineation from a final aquatic resource report,

65 with a preliminary or approved jurisdictional determination issued by the United States Army Corps of

¹ “Created by modification of a water of the state” means that the wetland that is being evaluated must have been directly converted from a water of the state, and does not include a situation where the water of the state was completely eliminated.

² This includes features that have been determined by the U.S. Environmental Protection Agency or the U.S. Army Corps of Engineers to be “waters of the U.S.” in an approved jurisdictional determination; “waters of the U.S.” identified in a preliminary jurisdictional determination upon which a permitting decision was based; and features that are consistent with any current or historic final judicial interpretation of “waters of the U.S.” or any current or historic federal regulation defining “waters of the U.S.”

³ Artificial wetlands are wetlands that result from human activity.

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66 Engineers (Corps) for the purposes of determining the extent of wetland waters of the U.S. A
67 delineation of non-federal wetland areas potentially impacted by the project shall be performed using
68 the methods described in the three federal documents listed below (collectively referred to as “1987
69 Manual and Supplements”) to determine whether the area meets the state definition of a wetland as
70 defined above. As described in the 1987 Manual and Supplements, an area “lacks vegetation” if it has
71 less than 5 percent areal coverage of plants at the peak of the growing season. The methods shall be
72 modified only to allow for the fact that the lack of vegetation does not preclude the determination of
73 such an area that meets the definition of wetland. Terms as defined in these Procedures shall be used
74 if there is conflict with terms in the 1987 Manual and Supplements.

- 75 • Environmental Laboratory. 1987. U.S. Army Corps of Engineers Wetlands Delineation
76 Manual. Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station,
77 Vicksburg, MS.
- 78 • U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers
79 Wetland Delineation Manual: Arid West Region (Version 2.0). ed. J. S. Wakeley, R. W.
80 Lichvar, and C. V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research
81 and Development Center.
- 82 • U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers
83 Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0).
84 ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S.
85 Army Engineer Research and Development Center.

86 **IV. Procedures for Regulation of Discharges of Dredged or Fill Material to** 87 **Waters of the State**

88 The purpose of this section is to establish application procedures for discharges of dredged or fill
89 material to waters of the state, which includes both waters of the U.S. and non-federal waters of the
90 state. This section supplements existing state requirements for discharges of dredged or fill material to
91 waters of the U.S.⁴ These Procedures include Appendix A, which contains relevant portions of the U.S.
92 EPA's Section 404(b)(1) “Guidelines for Specification of Disposal Sites for Dredge or Fill Material”⁵
93 (Guidelines), 1980, with minor modifications to make them applicable to the state dredged or fill
94 program (hereafter State Supplemental Dredge or Fill Guidelines).⁶ This section applies to all
95 applications for discharges of dredged or fill material to waters of the state submitted after [insert the
96 effective date of the Plan Amendment].

97 **Project Application Submittal for Individual Orders**

98 Unless excluded by Section IV.D, applicants must file an application to the Water Boards for any
99 activity that could result in the discharge of dredged or fill material to waters of the state in accordance

⁴ California Code of Regulations, title 23, sections 3830-3869 (state's Clean Water Act (CWA) section 401 (33 USC § 1341) water quality certification program)

⁵ 40 C.F.R. § 230.

⁶ The State Supplemental Dredge and Fill Guidelines are included as Appendix A. Because Appendix A is derived directly from the 404(b)(1) guidelines, it uses slightly different terms than terms used in sections I through V of these Procedures. Appendix A will be applied in a manner consistent with sections I through V of these Procedures.

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100 with California Code of Regulations, title 23, section 3855.⁷ The applicant may consult with the Water
101 Boards to determine whether a project could result in impacts to waters of the state and/or discuss
102 submittals that would meet the application requirements listed below.

103 **A. Project Application Submittal**

104 Applicants must submit the items listed in subsection 1 to the permitting authority. In addition,
105 applicants shall consult with the permitting authority about the items listed in subsection 2. Within 30
106 days of receiving the items listed in subsection 1, the permitting authority may require the applicant to
107 submit one or more of the items in subsection 2 for a complete application. Within 30 days of receiving
108 all of the required items, the permitting authority shall determine whether the application is complete
109 and notify the applicant accordingly. If the applicant's federal license or permit application includes any
110 of the information required in subsections 1 or 2 below, the applicant may submit the federal application
111 materials to satisfy the corresponding state application information. If federal application materials are
112 submitted as part of the state application, the applicant shall indicate where the corresponding state
113 application information can be found in the federal application materials.

114 1. Items Required for a Complete Application

- 115 a. All items listed in California Code of Regulations, title 23, section 3856 "Contents of a Complete
116 Application."⁸
- 117 b. If waters of the U.S. are present, a final aquatic resource delineation report, with a preliminary or
118 approved jurisdictional determination issued by the Corps.
- 119 c. If waters of the state outside of federal jurisdiction are present, a delineation of those waters,
120 including wetlands delineated as described in section III.
- 121 d. The dates upon which the overall project activity will begin and end; and, if known, the date(s)
122 upon which the discharge(s) will take place.
- 123 e. Map(s) with a scale of at least 1:24000 (1" = 2000') and of sufficient detail to accurately show
124 (1) the boundaries of the lands owned or to be utilized by the applicant in carrying out the
125 proposed activity, including the grading limits, proposed land uses, and the location, dimensions
126 and type of any structures erected (if known) or to be erected and (2) all aquatic resources that
127 may qualify as waters of the state, within the boundaries of the project, and all aquatic
128 resources that may qualify as waters of the state outside of the boundary of the project that
129 could be affected by the project. A map submitted for a Corps' preliminary jurisdictional
130 determination may satisfy this requirement if it includes all potential waters of the state. The
131 permitting authority may require that the map(s) be submitted in electronic format (e.g., GIS
132 shapefiles).
- 133 f. A description of the waters proposed to receive a discharge of dredged or fill material, including
134 the beneficial uses as listed in the applicable water quality control plan. The description should

⁷ Note that California Code of Regulations, title 23, section 3855 applies only to individual water quality certifications, but these Procedures extend the application of section 3855 to individual waste discharge requirements for discharges of dredged or fill material to waters of the state.

⁸ Note that California Code of Regulations, title 23, section 3856 applies only to individual water quality certifications, but these Procedures extend the application of section 3856 to individual waste discharge requirements for discharges of dredged or fill material to waters of the state.

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- 135 also include: a description of discharge at each individual impact location; quantity of impact at
136 each location rounded to the nearest one-thousandth (0.001) of an acre, nearest linear foot, and
137 nearest cubic yard (as applicable); assessment of potential direct and indirect impacts to listed
138 beneficial uses and potential mitigation measures for those potential impacts to beneficial uses,
139 identification of existing water quality impairment(s); the source of water quality impairment(s), if
140 known; and the presence of rare, threatened or endangered species habitat.
- 141 g. An alternatives analysis,⁹ unless any of the following exemptions apply.
- 142 i. The project includes discharges to waters of the state outside of federal jurisdiction, but the
143 project would meet the terms and conditions of one or more Water Board certified Corps'
144 General Permits, if all discharges were to waters of the U.S. The permitting authority will
145 verify that the project would meet the terms and conditions of the Corps' General Permit(s)
146 if all discharges were to waters of the U.S. based on information supplied by the applicant.
- 147 ii. The project would be conducted in accordance with a watershed plan that has been
148 approved by the permitting authority and analyzed in an environmental document that
149 includes a sufficient alternatives analysis, monitoring provisions, and guidance on
150 compensatory mitigation opportunities.
- 151 iii. The project is an Ecological Restoration and Enhancement Project.
- 152 iv. The project has no permanent impacts to aquatic resources and no impacts to any bog,
153 fen, playa, seep wetland, vernal pool, headwater creek, eelgrass bed, anadromous fish
154 habitat, or habitat for rare, threatened or endangered species, and all implementation
155 actions in the restoration plan can reasonably be concluded within one year.
- 156 h. If none of the above exemptions apply, the applicant must submit an alternatives analysis
157 consistent with the requirements of 230.10 of the State Supplemental Dredge or Fill Guidelines
158 that allows the permitting authority to determine whether the proposed project is the Least
159 Environmentally Damaging Practicable Alternative (LEDPA). If the applicant submitted a draft
160 alternatives analysis to the Corps, the applicant shall provide a copy to the permitting authority.
161 Such alternatives analyses may satisfy some or all of the following requirements in accordance
162 with Section IV.B.3. Alternatives analyses shall be completed in accordance with the following
163 tiers, unless the permitting authority determines that a lesser level of analysis is appropriate.
164 The level of effort required for an alternatives analysis within each tier shall be commensurate
165 with the significance of the project's potential threats to water quality and beneficial uses¹⁰.

⁹ "Alternatives analysis" as used in these Procedures refer to the analysis required by Section IV.A.(h) and Appendix A, State Supplement Dredged or Fill Guidelines, section 230.10(a). An alternatives analysis also may be required in order to comply with other statutory or regulatory requirements, such as CEQA. The exemptions and the tiers set forth below do not affect any alternatives analysis conducted pursuant to another statutory or regulatory requirement. To the extent that the permitting authority is acting as the lead agency under CEQA, it may be necessary for the permitting authority to conduct further analysis to comply with CEQA.

¹⁰ As used below, "impacts" include both permanent and temporary impacts.

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- 166 i. Tier 3 projects include any project that directly impacts more than two-tenths (0.2) of an
167 acre or 300 linear feet of waters of the state, or directly impacts a bog, fen, playa, seep
168 wetland, vernal pool, headwater creek, eelgrass bed, anadromous fish habitat, or habitat
169 for rare, threatened or endangered species; and is not a project that inherently cannot be
170 located at an alternate location. Tier 3 projects shall provide an analysis of off-site and on-
171 site alternatives.
- 172 ii. Tier 2 projects include any project that directly impacts more than one tenth (0.1) and less
173 than or equal to two tenths (0.2) of an acre or more than 100 and less than or equal to 300
174 linear feet of waters of the state, or any project that inherently cannot be located at an
175 alternate location (unless it meets the size requirements set forth in Tier 1). Tier 2 projects
176 shall provide an analysis of only on-site alternatives.
- 177 iii. Tier 1 projects include any project that directly impacts less than or equal to one tenth (0.1)
178 of an acre or less than or equal to 100 linear feet of waters of the state, unless it is a Tier 3
179 project because it impacts a specified habitat type. Tier 1 projects shall provide a
180 description of any steps that have been or will be taken to avoid and minimize loss of, or
181 significant adverse impacts to, beneficial uses of waters of the state.
- 182 2. Additional Information Required for a Complete Application
- 183 a. If required by the permitting authority on a case-by-case basis, if the wetland area delineations
184 were conducted in the dry season, supplemental field data from the wet season to substantiate
185 dry season delineations.
- 186 b. If required by the permitting authority on a case-by-case basis, an assessment of the potential
187 impacts associated with climate change related to the proposed project and any proposed
188 compensatory mitigation, and any measures to avoid or minimize those potential impacts.
- 189 c. If compensatory mitigation is required by the permitting authority on a case-by-case basis, an
190 assessment of the overall condition of aquatic resources proposed to receive a discharge of
191 dredged or fill material and their likely stressors, using an assessment method approved by the
192 permitting authority and a draft compensatory mitigation plan developed using a watershed
193 approach containing the items below. Compensatory mitigation plans are not required for
194 Ecological Restoration and Enhancement Projects. For permittees who intend to fulfill their
195 compensatory mitigation obligations by securing credits from approved mitigation banks or in-
196 lieu fee programs, their mitigation plans need include only the items i and ii, as described below,
197 as well as information required in Appendix A, section 230.94 (c)(5) and (c)(6), and the name of
198 the specific mitigation bank or in-lieu fee program proposed to be used.
- 199 Draft compensatory mitigation plans shall comport with the State Supplemental Dredge or Fill
200 Guidelines, Subpart J, and include the elements listed below.
- 201 i. A watershed profile for the project evaluation area for both the proposed dredged or fill
202 project and the proposed compensatory mitigation project.
- 203 ii. A description of how the project impacts and compensatory mitigation would not cause a
204 net loss of the overall abundance, diversity, and condition of aquatic resources, based on
205 the watershed profile. If the compensatory mitigation is located in the same watershed as

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- 206 the project, no net loss will be determined on a watershed basis. If the compensatory
207 mitigation and project impacts are located in multiple watersheds, no net loss will be
208 determined considering all affected watersheds. The level of detail in the plan shall be
209 sufficient to accurately evaluate whether compensatory mitigation offsets the adverse
210 impacts attributed to a project.
- 211 iii. Preliminary information about ecological performance standards, monitoring, and long-term
212 protection and management, as described in State Supplemental Dredge or Fill
213 Guidelines.
- 214 iv. A timetable for implementing the compensatory mitigation plan.
- 215 v. If the compensatory mitigation plan includes buffers, design criteria and monitoring
216 requirements for those buffers.
- 217 vi. If the compensatory mitigation involves restoration or establishment as the form of
218 mitigation, applicants shall notify state and federal land management agencies, airport land
219 use commission, fire control districts, flood control districts, local mosquito-vector control
220 district(s), and any other interested local entities prior to initial site selection. These entities
221 should be notified as early as possible during the initial compensatory mitigation project
222 design stage.
- 223 d. If required by the permitting authority on a case-by-case basis, if project activities include in-
224 water work or water diversions, a proposed water quality monitoring plan to monitor compliance
225 with water quality objectives of the applicable water quality control plan. At a minimum, the plan
226 should include type and frequency of sampling for each applicable parameter.
- 227 e. In all cases where temporary impacts are proposed, a draft restoration plan that outlines design,
228 implementation, assessment, and maintenance for restoring areas of temporary impact to pre-
229 project conditions. The design components shall include the objectives of the restoration plan;
230 grading plan of disturbed areas to pre-project contours; a planting palette with plant species
231 native to the area; seed collection locations; and an invasive species management plan. The
232 implementation component shall include all proposed actions to implement the plan (e.g., re-
233 contouring, initial planting, site stabilization, removal of temporary structures) and a schedule for
234 completing those actions. The maintenance and assessment components shall include a
235 description of performance standards used to evaluate attainment of objectives; the timeframe
236 for determining attainment of performance standards; and maintenance requirements (e.g.,
237 watering, weeding, replanting and invasive species control). The level of detail in the restoration
238 plan shall be sufficient to accurately evaluate whether the restoration offsets the adverse
239 impacts attributed to a project.
- 240 Prior to issuance of the Order, the applicant shall submit a final restoration plan that describes
241 the restoration of all temporarily disturbed areas to pre-project conditions.
- 242 f. For all Ecological Restoration and Enhancement Projects, a draft assessment plan including the
243 following: project objectives; description of performance standards used to evaluate attainment
244 of objectives; protocols for condition assessment; the timeframe and responsible party for
245 performing condition assessment; and assessment schedule. A draft assessment plan shall
246 provide for at least one assessment of the overall condition of aquatic resources and their likely
247 stressors, using an appropriate assessment method approved by the permitting authority, prior
248 to restoration and/or enhancement and two years following restoration and/or enhancement to
249 determine success of the restoration and/or enhancement.

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250 **B. Permitting Authority Review and Approval of Applications for Individual Orders**

- 251 1. The permitting authority will evaluate the potential impacts on the aquatic environment from the
252 proposed project and determine whether the proposed project complies with these Procedures.
253 The permitting authority has the discretion to approve a project only if the applicant has
254 demonstrated the following:
- 255 a. A sequence of actions has been taken to first avoid, then to minimize, and lastly compensate
256 for adverse impacts to waters of the state;
 - 257 b. The potential impacts will not contribute to a net loss of the overall abundance, diversity, and
258 condition of aquatic resources in a watershed;
 - 259 c. The discharge of dredged or fill material will not violate water quality standards and will be
260 consistent with all applicable water quality control plans and policies for water quality control;
261 and
 - 262 d. The discharge of dredged or fill material will not cause or contribute to significant degradation of
263 the waters of the state.
- 264 2. The permitting authority shall rely on any final aquatic resource report, with a preliminary or
265 approved jurisdictional determination issued by the Corps to determine boundaries of waters of the
266 U.S. For all other wetland area delineations, the permitting authority shall review and approve
267 delineations that are performed using the methods described in Section III.
- 268 3. Alternatives Analysis Review Requirements:
- 269 a. The purpose of the alternatives analysis is to identify the LEDPA. The permitting authority will
270 be responsible for determining the sufficiency of an alternatives analysis except as described in
271 3(b) below. In all cases, the alternatives analysis must establish that the proposed project
272 alternative is the LEDPA in light of all potential direct, secondary (indirect), and cumulative
273 impacts on the physical, chemical, and biological elements of the aquatic ecosystem.
 - 274 b. Discharges to waters of the U.S.
275 In reviewing and approving the alternatives analysis for discharges of dredged or fill material
276 that impact waters of the U.S., the permitting authority shall defer to the Corps' determinations
277 on the adequacy of the alternatives analysis, or rely on a draft alternatives analysis if no final
278 determination has been made, unless the Executive Officer or Executive Director determines
279 that (1) the permitting authority was not provided an adequate opportunity to collaborate in the
280 development of the alternatives analysis, (2) the alternatives analysis does not adequately
281 address issues identified in writing by the Executive Officer or Executive Director to the Corps
282 during the development of the alternatives analysis, or (3) the proposed project and all of the
283 identified alternatives would not comply with water quality standards.
284 If the project also includes discharges to waters of the state outside of federal jurisdiction, the
285 permitting authority shall require the applicant to supplement the alternatives analysis to include
286 waters of the state outside of federal jurisdiction. If an alternatives analysis is not required by
287 the Corps for waters of the U.S. impacted by the discharge of dredged or fill material, the
288 permitting authority shall require an alternatives analysis for the entire project in accordance
289 with the State Supplemental Dredge or Fill Guidelines, unless the project is exempt under
290 Section IV.A.1.(g) above.

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- 291 4. Prior to issuance of the Order, the permitting authority will review and approve the final restoration
292 plan for temporary impacts.
- 293 5. Compensatory Mitigation
- 294 a. Compensatory mitigation, in accordance with the State Supplemental Dredge or Fill Guidelines,
295 Subpart J, may be required to ensure that an activity complies with these Procedures.
- 296 b. Where feasible, the permitting authority will consult and coordinate with any other public
297 agencies that have concurrent mitigation requirements in order to achieve multiple
298 environmental benefits with a single mitigation project, thereby reducing the cost of compliance
299 to the applicant.
- 300 c. Amount: The amount of compensatory mitigation will be determined on a project-by-project
301 basis in accordance with State Supplemental Dredge or Fill Guidelines, section 230.93(f). The
302 permitting authority may take into account recent anthropogenic degradation to the aquatic
303 resource and the potential and existing functions and conditions of the aquatic resource. A
304 minimum of one-to-one acreage or length of stream reach replacement is necessary to
305 compensate for wetland or stream losses unless an appropriate function or condition
306 assessment method clearly demonstrates, on an exceptional basis, that a lesser amount is
307 sufficient. A reduction in the mitigation ratio for compensatory mitigation will be considered by
308 the permitting authority if buffer areas adjacent to the compensatory mitigation are also required
309 to be maintained as part of the compensatory mitigation management plan. The amount of
310 compensatory mitigation required by the permitting authority will vary depending on which of the
311 following strategies the applicant uses to locate the mitigation site within a watershed.
- 312 Strategy 1: Applicant locates compensatory mitigation using a watershed approach based on a
313 watershed profile developed from a watershed plan that has been approved by the permitting
314 authority and analyzed in an environmental document, includes monitoring provisions, and
315 includes guidance on compensatory mitigation opportunities;
- 316 Strategy 2: Applicant locates compensatory mitigation using a watershed approach based on a
317 watershed profile developed for a project evaluation area, and demonstrates that the mitigation
318 project will contribute to the sustainability of watershed functions and the overall health of the
319 watershed area's aquatic resources.
- 320 Generally, the amount of compensatory mitigation required under Strategy 1 will be less than
321 the amount of compensatory mitigation required under Strategy 2 since the level of certainty
322 that a compensatory mitigation project will meet its performance standards increases if the
323 compensatory mitigation project complies with a watershed plan as described above. Certainty
324 increases when there is a corresponding increase in understanding of watershed conditions,
325 which is increased when using a watershed plan as described above to determine
326 compensatory mitigation requirements.
- 327 d. Type and Location: The permitting authority will evaluate the applicant's proposed mitigation
328 type and location based on the applicant's use of a watershed approach based on a watershed
329 profile. The permitting authority will determine the appropriate type and location of
330 compensatory mitigation based on watershed conditions, impact size, location and spacing,
331 aquatic resource values, relevant watershed plans, and other considerations.
- 332 In general, the required compensatory mitigation should be located within the same watershed
333 as the impact site, but the permitting authority may approve compensatory mitigation in a

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334 different watershed. For example, if a proposed project may affect more than one watershed,
335 then the permitting authority may determine that locating all required project mitigation in one
336 area is ecologically preferable to requiring mitigation within each watershed.

337 e. Final Compensatory Mitigation Plan: The permitting authority will review and approve the final
338 compensatory mitigation plan submitted by the applicant to ensure mitigation comports with the
339 State Supplemental Dredge or Fill Guidelines, Water Code requirements, applicable water
340 quality standards, and other appropriate requirements of state law. The level of detail in the
341 final plan shall be sufficient to accurately evaluate whether compensatory mitigation offsets the
342 adverse impacts attributed to a project considering the overall size and scope of impact. The
343 compensatory mitigation plan shall be sufficient to provide the permitting authority with a
344 reasonable assurance that replacement of the full range of lost aquatic resource(s) and/or
345 functions will be provided in perpetuity.

346 The permitting authority may include as a condition of an Order that the applicant receive
347 approval of a final mitigation plan prior to discharging dredged or fill materials to waters of the
348 state. In this case, the permitting authority will approve the final mitigation plan by amending the
349 Order.

350 f. Financial Security: Where deemed necessary by the permitting authority, provision of a
351 financial security (e.g., letter of credit or performance bond) shall be a condition of the Order. In
352 this case, the permitting authority will approve the financial security to ensure compliance with
353 compensatory mitigation plan requirements.

354 g. Term of Mitigation Obligation: The permitting authority may specify in the Order the conditions
355 that must be met in order for the permitting authority to release the permittee from the mitigation
356 obligation, including compensatory mitigation performance standards and long-term
357 management funding obligations.

358 6. The permitting authority shall provide public notice in accordance with Water Code section 13167.5
359 for waste discharge requirements. The permitting authority shall provide public notice of an
360 application for water quality certification in accordance with California Code of Regulations, title 23,
361 section 3858. If the permitting authority receives comments on the application or there is
362 substantial public interest in the project, the permitting authority shall also provide public notice of
363 the draft Order, or draft amendment of the Order, unless circumstances warrant a shorter notice
364 period.

365 7. The permitting authority will review and approve the final monitoring and reporting requirements for
366 all projects. Monitoring and reporting may be required to demonstrate compliance with the terms of
367 the Order.

368 **C. General Orders**

369 The permitting authority may issue general orders for specific classes of dredged or fill discharge
370 activities that are similar; involve the same or similar types of discharges and possible adverse impacts
371 requiring the same or similar conditions or limitations in order to alleviate potential adverse impacts to
372 water quality; and are determined by the permitting authority to more appropriately be regulated under
373 a general order rather than under an individual Order.

374 General orders shall be reviewed, noticed, and issued in accordance with the applicable requirements
375 of division 7 of the Water Code and the California Code of Regulations, division 3 of title 23.

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376 Applicants applying to enroll under a general order shall follow the instructions specified in the general
377 order for obtaining coverage.

378 **D. Activities and Areas Excluded from the Application Procedures for Regulation of**
379 **Discharges of Dredged or Fill Material to Waters of the State**

380 The application procedures specified in sections IV.A and IV.B do not apply to proposed discharges of
381 dredged or fill material to waters of the state from the following activities or to the following areas.
382 These exclusions do not, however, affect the Water Board’s authority to issue or waive waste discharge
383 requirements (WDRs) or take other actions for the following activities or areas to the extent authorized
384 by the Water Code.

385 1. Activities excluded from application procedures in sections IV.A and IV.B:

386 a. Activities that are exempt under CWA section 404(f) (33 USC § 1344(f)). The following federal
387 regulations (Table 1), guidance letters (Table 2), and memoranda (Table 3), that have been
388 adopted pursuant to CWA section 404(f) or that are used to interpret or implement section
389 404(f) shall be used when determining whether certain activities are excluded from these
390 procedures. These documents are hereby incorporated by reference and shall apply to all
391 waters of the state. Consistent with CWA section 404(f)(2) and 40 CFR section 232.3, any
392 discharge of dredged or fill material to a water of the state incidental to any of these activities is
393 not exempt under CWA section 404(f) and shall be subject to the application procedures
394 sections IV.A and IV.B, if (1) the purpose of the activity is bringing a water of the state into a use
395 to which it was not previously subject, where the flow or circulation of water of the state may be
396 impaired or the reach of such waters be reduced, or (2) the discharge contains any toxic
397 pollutant listed in CWA section 307.

398

399 b. **Table 1: CFR References¹¹**

Title	Section	Name
33 CFR	323.4	Discharges not requiring permits (1986)
40 CFR	232.3	Activities not requiring permits (1988)

400 **Table 2: Applicable U.S. Army Corps of Engineers (Corps) Regulatory Guidance Letters**
401 **(RGLs)¹²**

RGL	Title
82-03	Irrigation Exemption in Section 404(F)(1)(C) of the Clean Water Act
84-01	Regulatory Jurisdiction Over Vegetative Operations

¹¹ The documents in Table 1 are available at the U.S. Government Printing Office, Code of Federal Regulations webpage:
<http://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=C.F.R.>

¹² The documents in Table 2 are available at the U.S. Army Corps of Engineers, Regulatory Program and Permits, Related Resources,
Regulatory Guidance Letters webpage: <http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/GuidanceLetters.aspx>

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84-05	Fifth Circuit Decision in <i>Avoyelles vs. Marsh</i>
85-04	Agricultural Conversion
86-01	Exemptions to Clean Water Act - Plowing
86-03	Exemption of Farm and Forest Roads
87-07	Exemption for Drainage Ditch Maintenance
87-09	Exemption for Construction or Maintenance of Farm or Stock Ponds
92-02	Water Dependency and Cranberry Production
93-03	Rescission of RGL's 90-5 and 90-8
96-02	Applicability of Exemptions under Section 404(f) to "Deep Ripping" Activities in Wetlands
07-02	Exemptions for Construction or Maintenance of Irrigation Ditches and Maintenance of Drainage Ditches Under Section 404 of Clean Water Act

402

403

Table 3: Memoranda¹³

Memorandum for the Field: Clean Water Act Section 404 Regulatory Program and Agricultural Activities (1990)

404

405

c. Suction dredge mining activities for mineral recovery regulated under CWA section 402.

406

2. Areas excluded from application procedures in sections IV.A and IV.B:

407

a. Discharges of dredged or fill material that occur within wetland areas that have been certified as prior converted cropland (PCC) by the Natural Resources Conservation Service. The PCC exclusion will no longer apply if: (1) the PCC changes to a non-agricultural use, or (2) the PCC is abandoned, meaning it is not planted to an agricultural commodity for more than five consecutive years and wetland characteristics return, and the land was not left idle in accordance with a USDA program.

413

i. For purposes of D.2.(a), agricultural commodity means any crop planted and produced by annual tilling of the soil, including tiling by one-trip planters, or sugarcane.¹⁴

414

415

ii. For purposes of D.2.(a), agricultural use means open land planted to an agricultural crop, used for the production of (1) food or fiber, (2) used for haying or grazing, (3) left idle per a

416

¹³ These documents are available at the U.S. Army Corps of Engineers Regulatory Program and Permits, Related Resources, Memoranda of Understanding/Agreement webpage: <http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/MOUMOAs.aspx>

¹⁴ Joint Guidance from the Natural Resources Conservation Service and the Army Corps of Engineers Concerning Wetland Determinations for the Clean Water Act and the Food Security Act of 1985, February 25, 2005.

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417 USDA program, or (4) diverted from crop production to an approved cultural practice by
418 NRCS that prevents erosion or other degradation.¹⁵

419 b. Discharges of dredged or fill material that are associated with routine maintenance of storm
420 water facilities regulated under another Water Board Order, such as sedimentation/storm water
421 detention basins.

422 For activities associated with (1) an appropriation of water subject to Part 2 (commencing with section
423 1200) of Division 2 of the Water Code, (2) a hydroelectric facility where the proposed activity requires a
424 Federal Energy Regulatory Commission (FERC) license or amendment to a FERC license, or (3) any
425 other diversion of water for beneficial use, the Division of Water Rights will inform the applicant whether
426 the application procedures in sections IV.A and IV.B will apply to the application.

427 V. Definitions

428 The following definitions apply to these Procedures, including the State Supplemental Dredge or Fill
429 Guidelines. Unless otherwise indicated, any term that is not defined in these Procedures shall have the
430 same meaning as defined in Water Code section 13050, and title 23, section 3831 of the California
431 Code of Regulations.

432 **Abundance** means an estimate of the amount of aquatic resources by type in a watershed area, and
433 what types of aquatic resources are most and least prevalent.

434 **Alternatives Analysis** is the process of analyzing project alternatives, including the proposed project,
435 to determine the alternative that is both practicable and the least environmentally damaging.

436 **Application** means a written request, including a report of waste discharge or request for water quality
437 certification, for authorization of any activity that may result in the discharge of dredged or fill material
438 and is subject to these Procedures.

439 **Wetland Delineation** means the application of a technical and procedural method to identify the
440 boundary of a wetland area within a specified study site by identifying the presence or absence of
441 wetland indicators at multiple points at the site and by establishing boundaries that group together sets
442 of points that share the same status as wetland versus non-wetland.

443 **Discharge of Dredged Material** means addition of dredged material, material that is excavated or
444 dredged from waters of the state, including redeposit of dredged material other than incidental fallback
445 within, to the waters of state.

446 **Diversity** means the relative proportion of aquatic resource types, classification, connectivity, and
447 spatial distribution in a watershed area.

448 **Discharge of Fill Material** means the addition of fill material where the material has the effect of
449 replacing any portion of a water of the state with dry land or changing the bottom elevation of any
450 portion of a water of the state.

451 **Ecological Restoration and Enhancement Project** means the project is voluntarily undertaken for the
452 purpose of assisting or controlling the recovery of an aquatic ecosystem that has been degraded,
453 damaged or destroyed to restore some measure of its natural condition and to enhance the beneficial

¹⁵ Joint Guidance from the Natural Resources Conservation Service and the Army Corps of Engineers Concerning Wetland Determinations for the Clean Water Act and the Food Security Act of 1985, February 25, 2005

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454 uses, including potential beneficial uses of water. Such projects are undertaken: 1) in accordance with
455 the terms and conditions of a binding stream or wetland enhancement or restoration agreement, or a
456 wetland establishment agreement, between the landowner and the U.S. Fish and Wildlife Service,
457 Natural Resources Conservation Service, Farm Service Agency, National Marine Fisheries Service,
458 National Oceanic and Atmospheric Administration, U.S. Forest Service, U.S. Bureau of Land
459 Management, California Department of Fish and Wildlife, California Wildlife Conservation Board,
460 California Coastal Conservancy, or other federal or state resource agency or non-governmental
461 conservation organization; or 2) by a state or federal agency. These projects do not include the
462 conversion of a stream or natural wetland to uplands or stream channelization. It is recognized that
463 ecological restoration and enhancement projects may require filling gullied stream channels and similar
464 rehabilitative activities to re-establish stream and meadow hydrology. Changes in wetland plant
465 communities that occur when wetland hydrology is more fully restored during rehabilitation activities are
466 not considered a conversion to another aquatic habitat type. These projects also do not include actions
467 required under a Water Board order (e.g., WDRs, waivers of WDRs, or water quality certification) for
468 mitigation, actions to service required mitigation, or actions undertaken for the primary purpose of land
469 development.

470 **Environmental Document** means a document prepared for compliance with the California
471 Environmental Quality Act or the National Environmental Policy Act.

472 **Hydrophyte** means any macrophyte that grows in water or on a substrate that is at least periodically
473 deficient in oxygen as a result of excessive water content; plants typically found in wet habitats.

474 **LEDPA** means the least environmentally damaging practicable alternative. The determination of
475 practicable alternatives shall be consistent with the State Supplemental Guidelines, section 230.10(a).

476 **Normal Circumstances** is the soil and hydrologic conditions that are normally present, without regard
477 to whether the vegetation has been removed. The determination of whether normal circumstances
478 exist in a disturbed area involves an evaluation of the extent and relative permanence of the physical
479 alteration of wetlands hydrology and hydrophytic vegetation and consideration of the purpose and
480 cause of the physical alterations to hydrology and vegetation.

481 **Order** means Waste Discharge Requirements, waivers of Waste Discharge Requirements, or water
482 quality certification.

483 **Permitting Authority** means the entity or person issuing the Order (i.e., the applicable Water Board,
484 Executive Director or Executive Officer, or his or her designee).

485 **Project Evaluation Area** means an area that includes the project impact site, and/or the compensatory
486 mitigation site, and is sufficiently large to evaluate the effects of the project and/or the compensatory
487 mitigation on the abundance, diversity, and condition of aquatic resources in an ecologically meaningful
488 unit of the watershed. The size and location of the ecologically meaningful unit shall be based on a
489 reasonable rationale.

490 **Water Boards** mean any of the nine Regional Water Quality Control Boards, the State Water
491 Resources Control Board, or all of them collectively.

492 **Watershed** means a land area that drains to a common waterway, such as a stream, lake, estuary,
493 wetland, or ultimately the ocean.

494 **Watershed Approach** means an analytical process for evaluating the environmental effects of a
495 proposed project and making decisions that support the sustainability or improvement of aquatic

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496 resources in a watershed. The watershed approach recognizes that the abundance, diversity, and
497 condition of aquatic resources in a watershed support beneficial uses. Diversity of aquatic resources
498 includes both the types of aquatic resources and the locations of those aquatic resources in a
499 watershed. Consideration is also given to understanding historic and potential aquatic resource
500 conditions, past and projected aquatic resource impacts in the watershed, and terrestrial connections
501 between aquatic resources. The watershed approach can be used to evaluate avoidance and
502 minimization of direct, indirect, secondary, and cumulative project impacts. It also can be used in
503 determining compensatory mitigation requirements.

504 **Watershed Plan** means a document developed in consultation with relevant stakeholders, for the
505 specific goal of aquatic resource restoration, establishment, enhancement, and preservation within a
506 watershed. A watershed plan addresses aquatic resource conditions in the watershed, multiple
507 stakeholder interests, and land uses. Watershed plans should include information about implementing
508 the watershed plan. Watershed plans may also identify priority sites for aquatic resource restoration
509 and protection. Examples of watershed plans include special area management plans, advance
510 identification programs, and wetland management plans. The permitting authority may approve the use
511 of HCPs and NCCPs as watershed plans.

512 **Watershed Profile** means a compilation of data or information on the abundance, diversity, and
513 condition of aquatic resources in a project evaluation area. The watershed profile shall include a map
514 and a report characterizing the location, abundance and diversity of aquatic resources in the project
515 evaluation area, assessing the condition of aquatic resources in the project evaluation area, and
516 describing the environmental stress factors affecting that condition.

517 The watershed profile shall include information sufficient to evaluate direct, secondary, and cumulative
518 impacts of project and factors that may favor or hinder the success of compensatory mitigation projects,
519 and help define watershed goals. It may include such things as current trends in habitat loss or
520 conservation, cumulative impacts of past development activities, current development trends, the
521 presence and need of sensitive species, and chronic environmental problems or site conditions such as
522 flooding or poor water quality.

523 The scope and detail of the watershed profile shall be commensurate with the magnitude of impact
524 associated with the proposed project. Information sources include online searches, maps, watershed
525 plans, and possibly some fieldwork if necessary. In some cases, field data may need to be collected in
526 the project evaluation area to confirm the reported condition. Some or all of the information may be
527 obtained from a watershed plan. Watershed profiles for subsequent projects in a watershed can be
528 used to track the cumulative effectiveness of the permitting authority's decisions.

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530 **Appendix A: State Supplemental Dredge or Fill Guidelines**

531 It is the intent of the Water Boards to be consistent with the EPA's 404(b)(1) Guidelines where feasible.
532 Due to jurisdictional and procedural differences, some modifications to the EPA's Guidelines were
533 necessary. Generally, these changes or deletions were made to reduce redundancy (especially where
534 sufficiently described elsewhere in these Procedures) and to account for other state requirements.
535 Note that the numbering scheme of the EPA's 404(b)(1) Guidelines has been retained in these State
536 Supplemental Dredge or Fill Guidelines for the benefit of practitioners who are familiar with the federal
537 Guidelines. The State Supplemental Dredge or Fill Guidelines describe how the Water Boards will
538 implement the 404(b)(1) Guidelines under these Procedures. The definitions contained herein apply to
539 these Procedures, including the State Supplemental Dredge or Fill Guidelines.

540 **Subpart A – General¹⁶**

541 § 230.3 Definitions.

542 For purposes of these Procedures, the following terms shall have the meanings indicated:

543 (c) The terms aquatic environment and aquatic ecosystem mean waters of the state, including
544 wetlands, that serve as habitat for interrelated and interacting communities and populations of
545 plants and animals.

546 (h) The term discharge point means the point within the disposal site at which the dredged or fill
547 material is released.

548 (i) The term disposal site means that portion of the "waters of the state" where the discharge of
549 dredged or fill material is permitted and involves a bottom surface area and any overlying volume of
550 water. In the case of wetlands or ephemeral streams on which surface water is not present, the
551 disposal site consists of the wetland or ephemeral stream surface area.

552 (k) The term extraction site means the place from which the dredged or fill material proposed for
553 discharge is to be removed.

554 (n) The term permitting authority means as defined above in the main text of these Procedures.

555 (q) The term practicable means available and capable of being done after taking into consideration
556 cost, existing technology, and logistics in light of overall project purposes.

557 (q1) Special aquatic sites are geographic areas, large or small, possessing special ecological
558 characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted
559 ecological values. These areas are generally recognized as significantly influencing or positively
560 contributing to the general overall environmental health or vitality of the entire ecosystem of a
561 region. (See § 230.10 (a)(3))

562 § 230.6 Adaptability¹⁷

¹⁶ Note that the numbering scheme of the Corps' 404(b)(1) Guidelines has been retained for the benefit of practitioners who are familiar with the Corps' 404(b)(1) Guidelines.

¹⁷ Note that the numbering scheme of the Corps' 404(b)(1) Guidelines has been retained for the benefit of practitioners who are familiar with the Corps' 404(b)(1) Guidelines.

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563 (a) The manner in which these Guidelines are used depends on the physical, biological, and
564 chemical nature of the proposed extraction site, the material to be discharged, and the candidate
565 disposal site, including any other important components of the ecosystem being evaluated.
566 Documentation to demonstrate knowledge about the extraction site, materials to be extracted, and
567 the candidate disposal site is an essential component of guideline application. These Guidelines
568 allow evaluation and documentation for a variety of activities, ranging from those with large,
569 complex impacts on the aquatic environment to those for which the impact is likely to be innocuous.
570 It is unlikely that the Guidelines will apply in their entirety to any one activity, no matter how
571 complex. It is anticipated that substantial numbers of applications will be for minor, routine activities
572 that have little, if any, potential for significant degradation of the aquatic environment. It generally is
573 not intended or expected that extensive testing, evaluation or analysis will be needed to make
574 findings of compliance in such routine cases.(b) The Guidelines user, including the agency or
575 agencies responsible for implementing the Guidelines, must recognize the different levels of effort
576 that should be associated with varying degrees of impact and require or prepare commensurate
577 documentation. The level of documentation should reflect the significance and complexity of the
578 discharge activity.

579 (c) An essential part of the evaluation process involves making determinations as to the relevance
580 of any portion(s) of the Guidelines and conducting further evaluation only as needed. However,
581 where portions of the Guidelines review procedure are “short form” evaluations, there still must be
582 sufficient information (including consideration of both individual and cumulative impacts) to support
583 the decision of whether to specify the site for disposal of dredged or fill material and to support the
584 decision to curtail or abbreviate the evaluation process. The presumption against the discharge in [§](#)
585 [230.1](#) applies to this decision-making.

586 **Subpart B – Compliance with Guidelines¹⁸**

587 § 230.10 Restrictions on Discharge

588 (a) No discharge of dredged or fill material shall be permitted if there is a practicable alternative to
589 the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long
590 as the alternative does not have other significant adverse environmental consequences.

591 (1) For the purpose of this requirement, practicable alternatives include, but are not limited to:

592 (i) Activities which do not involve a discharge of dredged or fill material to waters of the state
593 or ocean waters;

594 (ii) Discharges of dredged or fill material at other locations in waters of the state or ocean
595 waters;

596 (2) An alternative is practicable if it is available and capable of being done after taking into
597 consideration cost, existing technology, and logistics in light of overall project purposes. If it is
598 otherwise a practicable alternative, an area not presently owned by the applicant which could
599 reasonably be obtained, utilized, expanded or managed in order to fulfill the basic purpose of
600 the proposed activity may be considered.

¹⁸Note that the numbering scheme of the Corps' 404(b)(1) Guidelines has been retained for the benefit of practitioners who are familiar with the Corps' 404(b)(1) Guidelines.

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601 (3) Where activity associated with a discharge which is proposed for a special aquatic site (as
602 defined in subpart E) does not require access or proximity to or siting within the special aquatic
603 site in question to fulfill its basic purpose (i.e., is not “water dependent”), practicable alternatives
604 that do not involve special aquatic sites are presumed to be available, unless clearly
605 demonstrated otherwise. In addition, where a discharge is proposed for a special aquatic site,
606 all practicable alternatives to the proposed discharge which do not involve a discharge into a
607 special aquatic site are presumed to have less adverse impact on the aquatic ecosystem,
608 unless clearly demonstrated otherwise.

609 (b) No discharge of dredged or fill material shall be permitted if it:

610 (1) Causes or contributes, after consideration of disposal site dilution and dispersion, to
611 violations of any applicable State water quality standard;

612 (2) Violates any applicable toxic effluent standard or prohibition under section 307 of the Clean
613 Water Act;

614 (c) No discharge of dredged or fill material shall be permitted which will cause or contribute to
615 significant degradation of the waters of the state. Under these Guidelines, effects contributing to
616 significant degradation considered individually or collectively, include:

617 (1) Significantly adverse effects of the discharge of pollutants on human health or welfare,
618 including but not limited to effects on municipal water supplies, plankton, fish, shellfish, wildlife,
619 and special aquatic sites;

620 (2) Significantly adverse effects of the discharge of pollutants on life stages of aquatic life and
621 other wildlife dependent on aquatic ecosystems, including the transfer, concentration, and
622 spread of pollutants or their byproducts outside of the disposal site through biological, physical,
623 and chemical processes.

624 (3) Significantly adverse effects of the discharge of pollutants on aquatic ecosystem diversity,
625 productivity, and stability. Such effects may include, but are not limited to, loss of fish and
626 wildlife habitat or loss of the capacity of a wetland to assimilate nutrients, purify water, or reduce
627 wave energy; or

628 (4) Significantly adverse effects of the discharge of pollutants on recreational, aesthetic, and
629 economic values.

630 (d) No discharge of dredged or fill material shall be permitted unless appropriate and practicable
631 steps have been taken which will minimize potential adverse impacts of the discharge on the
632 aquatic ecosystem. Subpart H identifies such possible steps.

633 **Subpart E – Potential Impacts on Special Aquatic Sites**

634 § 230.40 Sanctuaries and refuges¹⁹

635 (a) Sanctuaries and refuges consist of areas designated under State and Federal laws or local
636 ordinances to be managed principally for the preservation and use of fish and wildlife resources.

637 § 230.41 Wetlands.

¹⁹ Note that the numbering scheme of the Corps' 404(b)(1) Guidelines has been retained for the benefit of practitioners who are familiar with the Corps' 404(b)(1) Guidelines.

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638 (a)(1) Wetlands are as defined above in the main text of these Procedures.

639 § 230.42 Mud Flats.

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

646 § 230.43 Vegetated shallows.

647 (a) Vegetated shallows are permanently inundated areas that under normal circumstances support
648 communities of rooted aquatic vegetation, such as turtle grass and eel grass in estuarine or marine
649 systems as well as a number of freshwater species in rivers and lakes.

650 § 230.45 Riffle and Pool Complexes.

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

657 **Subpart H – Actions to Minimize Adverse Effects**

658 Note: There are many actions which can be undertaken in response to 230.10(d) to minimize the
659 adverse effects of discharges of dredged or fill material. Some of these, grouped by type of activity,
660 are listed in this subpart. Additional criteria for compensation measures are provided in subpart J of
661 these procedures.

662 § 230.70 Actions concerning the location of the discharge.

663 The effects of the discharge can be minimized by the choice of the disposal site. Some of the ways
664 to accomplish this are by:

665 (a) Locating and confining the discharge to minimize smothering of organisms;

666 (b) Designing the discharge to avoid a disruption of periodic water inundation patterns;

667 (c) Selecting a disposal site that has been used previously for dredged material discharge;

668 (d) Selecting a disposal site at which the substrate is composed of material similar to that being
669 discharged, such as discharging sand on sand or mud on mud;

670 (e) Selecting a disposal site, the discharge point, and the method of discharge to minimize the
671 extent of any plume;

672 (f) Designing the discharge of dredged or fill material to minimize or prevent the creation of standing
673 bodies of water in areas of normally fluctuating water levels, and minimize or prevent the drainage
674 of areas subject to such fluctuations.

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675 § 230.71 Actions concerning the material to be discharged²⁰

676 The effects of a discharge can be minimized by treatment of, or limitations on the material itself, such
677 as:

678 (a) Disposal of dredged material in such a manner that physiochemical conditions are maintained
679 and the potency and availability of pollutants are reduced.

680 (b) Limiting the solid, liquid, and gaseous components of material to be discharged at a particular
681 site;

682 (c) Adding treatment substances to the discharge material;

683 (d) Utilizing chemical flocculants to enhance the deposition of suspended particulates in diked
684 disposal areas.

685 § 230.72 Actions controlling the material after discharge.

686 The effects of the dredged or fill material after discharge may be controlled by:

687 (a) Selecting discharge methods and disposal sites where the potential for erosion, slumping or
688 leaching of materials into the surrounding aquatic ecosystem will be reduced. These sites or
689 methods include, but are not limited to:

690 (1) Using containment levees, sediment basins, and cover crops to reduce erosions:

691 (2) Using lined containment areas to reduce leaching where leaching of chemical constituents
692 from the discharged material is expected to be a problem;

693 (b) Capping in-place contaminated material with clean material or selectively discharging the most
694 contaminated material first to be capped with the remaining material;

695 (c) Maintaining and containing discharged material properly to prevent point and nonpoint sources
696 of pollution;

697 (d) Timing the discharge to minimize impact, for instance during periods of unusual high water
698 flows, wind, wave, and tidal actions.

699 § 230.73 Actions affecting the method of dispersion.

700 The effects of a discharge can be minimized by the manner in which it is dispersed, such as:

701 (a) Where environmentally desirable, distributing the dredged material widely in a thin layer at the
702 disposal site maintain natural substrate contours and elevation;

703 (b) Orienting a dredged or fill material mound to minimize undesirable obstruction to the water
704 current or circulation pattern, and utilizing natural bottom contours to minimize the size of the
705 mound;

706 (c) Using silt screens or other appropriate methods to confine suspended particulate/turbidity to a
707 small area where settling or removal can occur;

708 (d) Making use of currents and circulation patterns to mix, disperse and dilute the discharge;

²⁰ Note that the numbering scheme of the Corps' 404(b)(1) Guidelines has been retained for the benefit of practitioners who are familiar with the Corps' 404(b)(1) Guidelines.

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- 709 (e) Minimizing water column turbidity by using a submerged diffuser system. A similar effect can be
710 accomplished by submerging pipeline discharges or otherwise releasing materials near the bottom;
- 711 (f) Selecting sites or managing discharges to confine and minimize the release of suspended
712 particulates to give decreased turbidity levels and to maintain light penetration for organisms;
- 713 (g) Setting limitations on the amount of material to be discharged per unit of time or volume of
714 receiving water.
- 715 § 230.74 Actions related to technology.
- 716 Discharge technology should be adapted to the needs of each site. In determining whether the
717 discharge operation sufficiently minimizes adverse environmental impacts, the applicant should
718 consider:
- 719 (a) Using appropriate equipment or machinery, including protective devices, and the use of such
720 equipment or machinery in activities related to the discharge of dredged or fill material;
- 721 (b) Employing appropriate maintenance and operation on equipment or machinery, including
722 adequate training, staffing, and working procedures;
- 723 (c) Using machinery and techniques that are especially designed to reduce damage to wetlands.
724 This may include machines equipped with devices that scatter rather than mound excavated
725 materials, machines with specially designed wheels or tracks, and the use of mats under heavy
726 machines to reduce wetland surface compaction and rutting;
- 727 (d) Designing access roads and channels spanning structures using culverts, open channels, and
728 diversions that will pass both low and high water flows, accommodate fluctuating water levels, and
729 maintain circulation and faunal movement;
- 730 (e) Employing appropriate machinery and methods of transport of the material for discharge.
- 731 § 230.75 Actions affecting plant and animal populations.²¹
- 732 Minimization of adverse effects on populations of plant and animals can be achieved by:
- 733 (a) Avoiding changes in water current and circulation patterns which would interfere with the
734 movement of animals;
- 735 (b) Selecting sites or managing discharges to prevent or avoid creating habitat conducive to the
736 development of undesirable predators or species which have a competitive edge ecologically over
737 indigenous plants or animals;
- 738 (c) Avoiding sites having unique habitat or other value, including habitat of threatened or
739 endangered species;
- 740 (d) Using planning and construction practices to institute habitat development and restoration to
741 produce a new or modified environmental state of higher ecological value by displacement of some
742 or all of the existing environmental characteristics. Habitat development and restoration techniques
743 can be used to minimize adverse impacts and to compensate for destroyed habitat. Additional
744 criteria for compensation measures are provided in subpart J of this part. Use techniques that have

²¹ Note that the numbering scheme of the Corps' 404(b)(1) Guidelines has been retained for the benefit of practitioners who are familiar with the Corps' 404(b)(1) Guidelines.

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745 been demonstrated to be effective in circumstances similar to those under consideration wherever
746 possible. Where proposed development and restoration techniques have not yet advanced to the
747 pilot demonstration stage, initiate their use on a small scale to allow corrective action if
748 unanticipated adverse impacts occur;

749 (e) Timing discharge to avoid spawning or migration seasons and other biologically critical time
750 periods;

751 (f) Avoiding the destruction of remnant natural sites within areas already affected by development.

752 § 230.76 Actions affecting human use.

753 Minimization of adverse effects on human use potential may be achieved by:

754 (a) Selecting discharge sites and following discharge procedures to prevent or minimize any
755 potential damage to the aesthetically pleasing features of the aquatic site (e.g. viewsapes),
756 particularly with respect to water quality;

757 (b) Selecting disposal sites which are not valuable as natural aquatic areas;

758 (c) Timing the discharge to avoid the seasons or periods when human recreational activity
759 associated with the aquatic site is most important;

760 (d) Following discharge procedures which avoid or minimize the disturbance of aesthetic features
761 on an aquatic site or ecosystem;

762 (e) Selecting sites that will not be detrimental or increase incompatible human activity, or require the
763 need for frequent dredge or fill maintenance activity in remote fish and wildlife areas;

764 (f) Locating the disposal site outside of the vicinity of a public water supply intake.

765 § 230.77 Other actions.

766 (a) In the case of fills, controlling runoff and other discharges from activities to be conducted on the
767 fill;

768 (b) In the case of dams, designing water releases to accommodate the needs of fish and wildlife;

769 (c) In dredging projects funded by Federal agencies other than the Corps of Engineers, maintain
770 desired water quality of the return discharge through agreement with the Federal funding authority
771 on scientifically defensible pollutant concentration levels in addition to any applicable water quality
772 standards;

773 (d) When a significant ecological change in the aquatic environment is proposed by the discharge of
774 dredged or fill material, the permitting authority should consider the ecosystem that will be lost as
775 well as the environmental benefits of the new system.

776 **Subpart J – Compensatory Mitigation for Losses of Aquatic Resources²²**

777 § 230.91 Purpose and general considerations.

778 (a) Purpose.

²² Note that the numbering scheme of the Corps' 404(b)(1) Guidelines has been retained for the benefit of practitioners who are familiar with the Corps' 404(b)(1) Guidelines.

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779 (1) The purpose of this subpart is to establish standards and criteria for the use of all types of
780 compensatory mitigation, including on-site and off-site permittee-responsible mitigation,
781 mitigation banks, and in-lieu fee mitigation to offset unavoidable impacts to waters of the state
782 authorized through the issuance of Orders.

783 (d) Accounting for regional variations. Where appropriate, the permitting authority shall account for
784 regional characteristics of aquatic resource types, functions and services when determining
785 performance standards and monitoring requirements for compensatory mitigation projects.

786 § 230.92 Definitions.²³

787 For the purposes of this subpart, the following terms are defined:

788 Adaptive management means the development of a management strategy that anticipates likely
789 challenges associated with compensatory mitigation projects and provides for the implementation of
790 actions to address those challenges, as well as unforeseen changes to those projects. It requires
791 consideration of the risk, uncertainty, and dynamic nature of compensatory mitigation projects and
792 guides modification of those projects to optimize performance. It includes the selection of appropriate
793 measures that will ensure that the aquatic resource functions are provided and involves analysis of
794 monitoring results to identify potential problems of a compensatory mitigation project and the
795 identification and implementation of measures to rectify those problems.

796 Buffer means an upland, wetland, and/or riparian area that protects and/or enhances aquatic
797 resource functions associated with waters of the state from disturbances associated with adjacent
798 land uses.

799 Compensatory mitigation means the restoration (re-establishment or rehabilitation), establishment
800 (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the
801 purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable
802 avoidance and minimization has been achieved.

803 Compensatory mitigation project means compensatory mitigation implemented by the permittee as a
804 requirement of an Order (i.e., permittee-responsible mitigation), or by a mitigation bank or an in-lieu
805 fee program.

806 Condition means the relative ability of an aquatic resource to support and maintain a community of
807 organisms having a species composition, diversity, and functional organization comparable to
808 reference aquatic resources in the region.

809 Credit means a unit of measure (e.g., a functional or areal measure or other suitable metric)
810 representing the accrual or attainment of aquatic functions at a compensatory mitigation site. The
811 measure of aquatic functions is based on the resources restored, established, enhanced, or
812 preserved.

813 Days means calendar days.

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Procedures for Discharges of Dredged or Fill Materials to Waters of the State

- 814 Debit means a unit of measure (e.g., a functional or areal measure or other suitable metric)
815 representing the loss of aquatic functions at an impact or project site. The measure of aquatic
816 functions is based on the resources impacted by the authorized activity.
- 817 Enhancement means the manipulation of the physical, chemical, or biological characteristics of an
818 aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s).
819 Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a
820 decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic
821 resource area.²⁴
- 822 Establishment (creation) means the manipulation of the physical, chemical, or biological
823 characteristics present to develop an aquatic resource that did not previously exist at an upland site.
824 Establishment results in a gain in aquatic resource area and functions.
- 825 Functional capacity means the degree to which an area of aquatic resource performs a specific
826 function.
- 827 Functions means the physical, chemical, and biological processes that occur in ecosystems.
- 828 Impact means adverse effect.
- 829 In-kind means a resource of a similar structural and functional type to the impacted resource.
- 830 In-lieu fee program means a program involving the restoration, establishment, enhancement, and/or
831 preservation of aquatic resources through funds paid to a governmental or non-profit natural
832 resources management entity to satisfy compensatory mitigation requirements for Orders. Similar to
833 a mitigation bank, an in-lieu fee program sells compensatory mitigation credits to permittees whose
834 obligation to provide compensatory mitigation is then transferred to the in-lieu program sponsor.
835 However, the rules governing the operation and use of in-lieu fee programs are somewhat different
836 from the rules governing operation and use of mitigation banks. The operation and use of an in-lieu
837 fee program are governed by an in-lieu fee program instrument.
- 838 In-lieu fee program instrument means the legal document for the establishment, operation, and use of
839 an in-lieu fee program.
- 840 Instrument means mitigation banking instrument or in-lieu fee program instrument.
- 841 Mitigation bank means a site, or suite of sites, where resources (e.g., wetlands, streams, riparian
842 areas) are restored, established, enhanced, and/or preserved for the purpose of providing
843 compensatory mitigation for impacts authorized by Orders. In general, a mitigation bank sells
844 compensatory mitigation credits to permittees whose obligation to provide compensatory mitigation is
845 then transferred to the mitigation bank sponsor. The operation and use of a mitigation bank are
846 governed by a mitigation banking instrument.
- 847 Mitigation banking instrument means the legal document for the establishment, operation, and use of
848 an in-lieu fee program.
- 849 Off-site means an area that is neither located on the same parcel of land as the impact site, nor on a
850 parcel of land contiguous to the parcel containing the impact site.

²⁴ Note that the numbering scheme of the Corps' 404(b)(1) Guidelines has been retained for the benefit of practitioners who are familiar with the Corps' 404(b)(1) Guidelines.

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- 851 On-site means an area located on the same parcel of land as the impact site, or on a parcel of land
852 contiguous to the impact site.
- 853 Out-of-kind means a resource of a different structural and functional type from the impacted resource.
- 854 Performance standards are observable or measurable physical (including hydrological), chemical
855 and/or biological attributes that are used to determine if a compensatory mitigation project meets its
856 objectives.²⁵
- 857 Permittee-responsible mitigation means an aquatic resource restoration, establishment,
858 enhancement, and/or preservation activity undertaken by the permittee (or an authorized agent or
859 contractor) to provide compensatory mitigation for which the permittee retains full responsibility.
- 860 Preservation means the removal of a threat to, or preventing the decline of, aquatic resources by an
861 action in or near those aquatic resources. This term includes activities commonly associated with the
862 protection and maintenance of aquatic resources through the implementation of appropriate legal and
863 physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.
- 864 Re-establishment means the manipulation of the physical, chemical, or biological characteristics of a
865 site with the goal of returning natural/historic functions to a former aquatic resource. Re-
866 establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource
867 area and functions.
- 868 Reference aquatic resources are a set of aquatic resources that represent the full range of variability
869 exhibited by a regional class of aquatic resources as a result of natural processes and anthropogenic
870 disturbances.
- 871 Rehabilitation means the manipulation of the physical, chemical, or biological characteristics of a site
872 with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation
873 results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.
- 874 Restoration means the manipulation of the physical, chemical, or biological characteristics of a site
875 with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the
876 purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-
877 establishment and rehabilitation.
- 878 Riparian areas are lands adjacent to waters of the state. Riparian areas provide a variety of
879 ecological functions and services and help improve or maintain local water quality.
- 880 Service area means the geographic area within which impacts can be mitigated at a specific
881 mitigation bank or an in-lieu fee program, as designated in its instrument.
- 882 Services mean the benefits that human populations receive from functions that occur in ecosystems.
- 883 Sponsor means any public or private entity responsible for establishing, and in most circumstances,
884 operating a mitigation bank or in-lieu fee program.
- 885 Temporal loss is the time lag between the loss of aquatic resource functions caused by the permitted
886 impacts and the replacement of aquatic resource functions at the compensatory mitigation site.
887 Higher compensation ratios may be required to compensate for temporal loss. When the

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888 compensatory mitigation project is initiated prior to, or concurrent with, the permitted impacts, the
889 permitting authority may determine that compensation for temporal loss is not necessary, unless the
890 resource has a long development time.

891 Watershed means a land area that drains to a common waterway, such as a stream, lake, estuary,
892 wetland, or ultimately the ocean.²⁶

893 Watershed approach is defined above in the main text of these Procedures.

894 Watershed plan is defined above in the main text of these Procedures.

895 § 230.93 General compensatory mitigation requirements.

896 (a) General Considerations.

897 (1) The fundamental objective of compensatory mitigation is to offset environmental losses
898 resulting from unavoidable impacts to waters of the state authorized by Orders. The permitting
899 authority must determine the compensatory mitigation to be required in an Order, based on
900 what would be environmentally preferable. In making this determination, the permitting authority
901 must assess the likelihood for ecological success and sustainability, and the location of the
902 compensation site relative to the impact site and their significance within the watershed, and the
903 costs of the compensatory mitigation project. In many cases, the environmentally preferable
904 compensatory mitigation may be provided through mitigation banks or in-lieu fee programs
905 because they usually involve consolidating compensatory mitigation projects where ecologically
906 appropriate, consolidating resources, providing financial planning and scientific expertise (which
907 often is not practical for permittee-responsible compensatory mitigation projects), reducing
908 temporal losses of functions, and reducing uncertainty over project success. Compensatory
909 mitigation requirements must be commensurate with the amount and type of impact that is
910 associated with a particular Order. Applicants are responsible for proposing an appropriate
911 compensatory mitigation option to offset unavoidable impacts.

912 (2) Compensatory mitigation may be performed using methods or restoration, enhancement,
913 establishment, and in certain circumstances preservation. Restoration should generally be the
914 first option considered because the likelihood of success is greater and the impacts to
915 potentially ecologically important uplands are reduced compared to establishment, and the
916 potential gains in terms of aquatic resource functions are greater, compared to enhancement
917 and preservation.

918 (3) Compensatory mitigation projects may be sited on public or private lands. Credits for
919 compensatory mitigation projects on public land must be based solely on aquatic resource
920 functions provided by the compensatory mitigation project, over and above those provided by
921 public programs already planned or in place. All compensatory mitigation projects must comply
922 with the standards in section IV of these Procedures, if they are to be used to provide
923 compensatory mitigation for activities authorized by Orders, regardless of whether they are sited
924 on public or private lands and whether the sponsor is a governmental or private entity.

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925 (b) Type and location of compensatory mitigation.²⁷

926 (1) In general, the required compensatory mitigation should be located within the same
927 watershed as the impact site, and should be located where it is most likely to successfully
928 replace lost functions and services, taking into account such watershed scale features as
929 aquatic habitat diversity, habitat connectivity, relationships to hydrologic sources (including the
930 availability of water rights), trends in land use, ecological benefits, and compatibility with
931 adjacent land uses. When compensating for impacts to marine resources, the location of the
932 compensatory mitigation site should be chosen to replace lost functions and services within the
933 same marine ecological system (e.g., reef complex, littoral drift cell). Compensation for impacts
934 to aquatic resources in coastal watersheds (watersheds that include a tidal water body) should
935 also be located in a coastal watershed where practicable. Compensatory mitigation projects
936 should not be located where they will increase risks to aviation by attracting wildlife to areas
937 where aircraft-wildlife strikes may occur (e.g., near airports).

938 (2) Mitigation bank credits. When permitted impacts are located within the service area of an
939 approved mitigation bank, and the bank has the appropriate number and resource type of
940 credits available, the permittee's compensatory mitigation requirements may be met by securing
941 those credits from the sponsor. Since an approved instrument (including an approved mitigation
942 plan and appropriate real estate and financial assurances) for a mitigation bank is required to be
943 in place before its credits can begin to be used to compensate for authorized impacts, use of a
944 mitigation bank can help reduce risk and uncertainty, as well as temporal loss of resource
945 functions and services. Mitigation bank credits are not released for debiting until specific
946 milestones associated with the mitigation bank site's protection and development are achieved,
947 thus use of mitigation bank credits can also help reduce risk that mitigation will not be fully
948 successful. Mitigation banks typically involve larger, more ecologically valuable parcels, and
949 more rigorous scientific and technical analysis, planning and implementation than permittee-
950 responsible mitigation. Also, development of a mitigation bank requires site identification in
951 advance, project-specific planning, and significant investment of financial resources that is often
952 not practicable for many in-lieu fee programs. For these reasons, the permitting authority
953 should give preference to the use of mitigation bank credits when these considerations are
954 applicable. However, these same considerations may also be used to override this preference,
955 where appropriate, as, for example, where an in-lieu fee program has released credits available
956 from a specific approved in-lieu fee project, or a permittee-responsible project will restore an
957 outstanding resource based on rigorous scientific and technical analysis.

958 (3) In-lieu fee program credits. Where permitted impacts are located within the service area of
959 an approved in-lieu fee program, and the sponsor has the appropriate number and resource
960 type of credits available, the permittee's compensatory mitigation requirements may be met by
961 securing those credits from the sponsor. Where permitted impacts are not located in the service
962 area of an approved mitigation bank, or the approved mitigation bank does not have the
963 appropriate number and resource type of credits available to offset those impacts, in-lieu fee
964 mitigation, if available, is generally preferable to permittee-responsible mitigation. In-lieu fee

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965 projects typically involve larger, more ecologically valuable parcels, and more rigorous scientific
966 and technical analysis, planning and implementation than permittee-responsible mitigation.
967 They also devote significant resources to identifying and addressing high-priority resource
968 needs on a watershed scale, as reflected in their compensation planning framework. For these
969 reasons, the permitting authority should give preference to in-lieu fee program credits over
970 permittee-responsible mitigation, where these considerations are applicable. However, as with
971 the preference for mitigation bank credits, these same considerations may be used to override
972 this preference where appropriate. Additionally, in cases where permittee-responsible
973 mitigation is likely to successfully meet performance standards before advance credits secured
974 from an in-lieu fee program are fulfilled, the permitting authority should also give consideration
975 to this factor in deciding between in-lieu fee mitigation and permittee-responsible mitigation.

976 (4) Permittee-responsible mitigation under a watershed approach. Where permitted impacts
977 are not in the service area of an approved mitigation bank or in-lieu fee program that has the
978 appropriate number and resource type of credits available, permittee-responsible mitigation is
979 the only option. Where practicable and likely to be successful and sustainable, the resource
980 type and location for the required permittee-responsible compensatory mitigation should be
981 determined using the principles of a watershed approach as outlined in paragraph (c) of this
982 section.

983 (5) Permittee-responsible mitigation through on-site and in-kind mitigation. In cases where a
984 watershed approach is not practicable, the permitting authority should consider opportunities to
985 offset anticipated aquatic resource impacts by requiring on-site and in-kind compensatory
986 mitigation. The permitting authority must also consider the practicability of on-site
987 compensatory mitigation and its compatibility with the proposed project.

988 (6) Permittee-responsible mitigation through off-site and/or out-of-kind mitigation. If, after
989 considering opportunities for on-site, in-kind compensatory mitigation as provided in paragraph
990 (b)(5) of this section, the permitting authority determines that these compensatory mitigation
991 opportunities are not practicable, are unlikely to compensate for the permitted impacts, or will be
992 incompatible with the proposed project, and an alternative, practicable off-site and/or out-of-kind
993 mitigation opportunity is identified that has a greater likelihood of offsetting the permitted
994 impacts or is environmentally preferable to on-site or in-kind mitigation, the permitting authority
995 should require that this alternative compensatory mitigation be provided.

996 (c) Watershed approach to compensatory mitigation.²⁸

997 (1) The permitting authority must use a watershed approach to establish compensatory
998 mitigation requirements in Orders as described in the main text of the Procedures. Where a
999 watershed plan is available, the permitting authority will determine whether the plan meets the
1000 definition of watershed plan in the Procedures and therefore is appropriate for use in the
1001 watershed approach for compensatory mitigation. In cases where the permitting authority

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1002 determines that an appropriate watershed plan is available, the watershed approach should be
1003 based on that plan. Where no such plan is available, the watershed approach should be based
1004 on information provided by the project sponsor or available from other sources. The ultimate
1005 goal of a watershed approach is to maintain and improve the abundance, diversity, and
1006 condition of aquatic resources within watersheds through strategic selection of compensatory
1007 mitigation sites.

1008 (2) Considerations.

1009 (i) A watershed approach to compensatory mitigation considers the importance of condition,
1010 landscape position and resource type of compensatory mitigation projects for the
1011 sustainability of aquatic resource functions within the watershed. Such an approach
1012 considers how the condition, types, and locations of compensatory mitigation projects will
1013 provide the desired aquatic resource functions, and will continue to function over time in a
1014 changing landscape. It also considers the habitat requirements of important species, habitat
1015 loss or conversion trends, sources of watershed impairment, and current development
1016 trends, as well as the requirements of other regulatory and non-regulatory programs that
1017 affect the watershed, such as storm water management or habitat conservation programs. It
1018 includes the protection and maintenance of terrestrial resources, such as non-wetland
1019 riparian areas and uplands, when those resources contribute to or improve the overall
1020 ecological functioning of aquatic resources in the watershed. Compensatory mitigation
1021 requirements determined through the watershed approach should not focus exclusively on
1022 specific functions (e.g., water quality or habitat for certain species), but should provide, where
1023 practicable, the suite of functions typically provided by the affected aquatic resource.

1024 (ii) Locational factors (e.g., hydrology, surrounding land use) are important to the success of
1025 compensatory mitigation for impacted habitat functions and may lead to siting of such
1026 mitigation away from the project area. However, consideration should also be given to
1027 functions and services (e.g., water quality, flood control, shoreline protection) that will likely
1028 need to be addressed at or near the areas impacted by the permitted impacts.²⁹

1029 (iii) A watershed approach may include on-site compensatory mitigation, off-site
1030 compensatory mitigation (including mitigation banks or in-lieu fee programs), or a
1031 combination of on-site and off-site compensatory mitigation.

1032 (iv) A watershed approach to compensatory mitigation should include, to the extent
1033 practicable, inventories of historic and existing aquatic resources, including identification of
1034 degraded aquatic resources, and identification of immediate and long-term aquatic resource
1035 needs within watersheds that can be met through permittee-responsible mitigation projects,
1036 mitigation banks, or in-lieu fee programs. Planning efforts should identify and prioritize
1037 aquatic resource restoration, establishment, and enhancement activities, and preservation of
1038 existing aquatic resources that are important for maintaining or improving ecological functions

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1039 of the watershed. The identification and prioritization of resource needs should be as specific
1040 as possible, to enhance the usefulness of the approach in determining compensatory
1041 mitigation requirements.

1042 (v) A watershed approach is not appropriate in areas where watershed boundaries do not
1043 exist, such as marine areas. In such cases, an appropriate spatial scale should be used to
1044 replace lost functions and services within the same ecological system (e.g., reef complex,
1045 littoral drift cell).

1046 (3) Information Needs.

1047 (i) In the absence of a watershed plan determined by the permitting authority under
1048 paragraph (c)(1) of this section to be appropriate for use in the watershed approach, the
1049 permitting authority will use a watershed approach based on analysis of information
1050 regarding watershed conditions (as identified in the watershed profile) and needs, including
1051 potential sites for aquatic resource restoration activities and priorities for aquatic resource
1052 restoration and preservation. Such information includes: Current trends in habitat loss or
1053 conversion; cumulative impacts of past development activities, current development trends,
1054 the presence and needs of sensitive species; site conditions that favor or hinder the success
1055 of compensatory mitigation projects; and chronic environmental problems such as flooding or
1056 poor water quality.

1057 (ii) This information may be available from sources such as wetland maps; soil surveys; U.S.
1058 Geological Survey topographic and hydrologic maps; aerial photographs; information on rare,
1059 endangered and threatened species and critical habitat; local ecological reports or studies;
1060 and other information sources that could be used to identify locations for suitable
1061 compensatory mitigation projects in the watershed.

1062 (iii) The level of information and analysis needed to support a watershed approach must be
1063 commensurate with the scope and scale of the proposed impacts requiring an Order, as well
1064 as the functions lost as a result of those impacts.

1065 (4) Watershed Scale. The size of watershed addressed using a watershed approach should not
1066 be larger than is appropriate to ensure that the aquatic resources provided through
1067 compensation activities will effectively compensate for adverse environmental impacts resulting
1068 from activities authorized by Orders. The permitting authority should consider relevant
1069 environmental factors and appropriate locally-developed standards and criteria when
1070 determining the appropriate watershed scale in guiding compensation activities.

1071 (d) Site selection.³⁰

³⁰ Note that the numbering scheme of the Corps' 404(b)(1) Guidelines has been retained for the benefit of practitioners who are familiar with the Corps' 404(b)(1) Guidelines.

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1072 (1) The compensatory mitigation project site must be ecologically suitable for providing the
1073 desired aquatic resource functions. In determining the ecological suitability of the compensatory
1074 mitigation project site, the permitting authority must consider, to the extent practicable, the
1075 following factors:

1076 (i) Hydrological conditions, soil characteristics, and other physical and chemical
1077 characteristics;

1078 (ii) Watershed-scale features, such as aquatic habitat diversity, habitat connectivity, and
1079 other landscape scale functions;

1080 (iii) The size and location of the compensatory mitigation site relative to hydrologic sources
1081 (including the availability of water rights) and other ecological features;

1082 (iv) Compatibility with adjacent land uses and watershed management plans;

1083 (v) Reasonably foreseeable effects the compensatory mitigation project will have on
1084 ecologically important aquatic or terrestrial resources (e.g., shallow sub-tidal habitat, mature
1085 forests), cultural sites, or habitat for federally- or state-listed threatened and endangered
1086 species; and

1087 (vi) Other relevant factors including, but not limited to, development trends, anticipated land
1088 use changes, habitat status and trends, the relative locations of the impact and mitigation
1089 sites in the stream network, local or regional goals for the restoration or protection of
1090 particular habitat types or functions (e.g., re-establishment of habitat corridors or habitat for
1091 species of concern), water quality goals, floodplain management goals, and the relative
1092 potential for chemical contamination of the aquatic resources.

1093 (2) Permitting authorities may require on-site, off-site, or a combination of on-site and off-site
1094 compensatory mitigation to replace permitted losses of aquatic resource functions and services.

1095 (3) Applicants should propose compensation sites adjacent to existing aquatic resources or
1096 where aquatic resources previously existed.

1097 (e) Mitigation type.

1098 (1) In general, in-kind mitigation is preferable to out-of-kind mitigation because it is most likely to
1099 compensate for the functions and services lost at the impact site. For example, tidal wetland
1100 compensatory mitigation projects are most likely to compensate for unavoidable impacts to tidal
1101 wetlands, while perennial stream compensatory mitigation projects are most likely to
1102 compensate for unavoidable impacts to perennial streams. Thus, except as provided in
1103 paragraph (e)(2) of this section, the required compensatory mitigation shall be of a similar type
1104 to the affected aquatic resource.

1105 (2) If the permitting authority determines, using the watershed approach in accordance with
1106 paragraph (c) of this section that out-of-kind compensatory mitigation will serve the aquatic

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1107 resource needs of the watershed, the permitting authority may authorize the use of such out-of-
1108 kind compensatory mitigation. The basis for authorization of out-of-kind compensatory
1109 mitigation must be documented in the administrative record for the Order action.

1110 (3) For difficult-to-replace resources (e.g., bogs, fens, springs, streams, vegetated seasonal
1111 wetlands, slope and seep wetlands, vernal pools, and wet meadows) if further avoidance and
1112 minimization is not practicable, the required compensation should be provided, if practicable,
1113 through in-kind rehabilitation, enhancement, or preservation since there is greater certainty that
1114 these methods of compensation will successfully offset permitted impacts.

1115 (f) Amount of compensatory mitigation.

1116 (1) If the permitting authority determines that compensatory mitigation is necessary to offset
1117 unavoidable impacts to aquatic resources, the amount of required compensatory mitigation
1118 must be, to the extent practicable, sufficient to replace lost aquatic resource functions. In cases
1119 where appropriate functional or condition assessment methods or other suitable metrics are
1120 available, these methods should be used where practicable to determine how much
1121 compensatory mitigation is required. If a functional or condition assessment or other suitable
1122 metric is not used, a minimum one-to-one acreage or linear foot compensation ratio must be
1123 used.

1124 (2) The permitting authority must require a mitigation ratio greater than one-to-one where
1125 necessary to account for the method of compensatory mitigation (e.g., preservation), the
1126 likelihood of success, differences between the functions lost at the impact site and the functions
1127 expected to be produced by the compensatory mitigation project, temporal losses of aquatic
1128 resource functions, the difficulty of restoring or establishing the desired aquatic resource type
1129 and functions, and/or the distance between the affected aquatic resource and the compensation
1130 site. The rationale for the required replacement ratio must be documented in the administrative
1131 record for the Order action.

1132 (3) If an in-lieu fee program will be used to provide the required compensatory mitigation, and
1133 the appropriate number and resource type of released credits are not available, the permitting
1134 authority must require sufficient compensation to account for the risk and uncertainty associated
1135 with in-lieu fee projects that have not been implemented before the permitted impacts have
1136 occurred.

1137 (g) Use of mitigation banks and in-lieu fee programs. Mitigation banks and in-lieu fee programs
1138 may be used to compensate for impacts to aquatic resources authorized by general Orders and
1139 individual Orders in accordance with the preference hierarchy in paragraph (b) of this section.
1140 Mitigation banks and in-lieu fee programs may also be used to satisfy requirements arising out of an
1141 enforcement action, such as supplemental environmental projects.

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1142 (h) Preservation.³¹

1143 (1) Preservation may be used to provide compensatory mitigation for activities authorized by
1144 Orders when all the following criteria are met:

1145 (i) The resources to be preserved provide important physical, chemical, or biological
1146 functions for the watershed;

1147 (ii) The resources to be preserved contribute significantly to the ecological sustainability of
1148 the watershed. In determining the contribution of those resources to the ecological
1149 sustainability of the watershed, the permitting authority must use appropriate quantitative
1150 assessment tools where available;

1151 (iii) Preservation is determined by the permitting authority to be appropriate and practicable;

1152 (iv) The resources are under threat of destruction or adverse modifications; and

1153 (v) The preserved site will be permanently protected through an appropriate real estate or
1154 other legal instrument (e.g., easement, title transfer to state resource agency or land trust).

1155 (2) Where preservation is used to provide compensatory mitigation, to the extent appropriate
1156 and practicable the preservation shall be done in conjunction with aquatic resource restoration,
1157 establishment, and/or enhancement activities. This requirement may be waived by the
1158 permitting authority where preservation has been identified as a high priority using a watershed
1159 approach described in paragraph (c) of this section, but compensation ratios shall be higher.

1160 (i) Buffers. The permitting authority may require the restoration, establishment,
1161 enhancement, and preservation, as well as the maintenance, of riparian areas and/or buffers
1162 around aquatic resources where necessary to ensure the long-term viability of those
1163 resources. Buffers may also provide habitat or corridors necessary for the ecological
1164 functioning of aquatic resources. If buffers are required by the permitting authority as part of
1165 the compensatory mitigation project, compensatory mitigation credit will be provided for those
1166 buffers, as provided in section IV B.5 (c).

1167 (j) Relationship to other federal, tribal, state, and local programs.

1168 (1) Compensatory mitigation projects for Orders may also be used to satisfy the environmental
1169 requirements of other programs, such as tribal, state, or local wetlands regulatory programs,
1170 other federal programs such as the Surface Mining Control and Reclamation Act, Corps civil
1171 works projects, and Department of Defense military construction projects, consistent with the
1172 terms and requirements of these programs and subject to the following considerations:

³¹ Note that the numbering scheme of the Corps' 404(b)(1) Guidelines has been retained for the benefit of practitioners who are familiar with the Corps' 404(b)(1) Guidelines.

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1173 (i) The compensatory mitigation project must include appropriate compensation required by
1174 the Order for unavoidable impacts to aquatic resources authorized by that Order.

1175 (ii) Under no circumstances may the same credits be used to provide mitigation for more than
1176 one permitted activity. However, where appropriate, compensatory mitigation projects,
1177 including mitigation banks and in-lieu fee projects, may be designed to holistically address
1178 requirements under multiple programs and authorities for the same activity.

1179 (2) Except for projects undertaken by federal agencies, or where federal funding is specifically
1180 authorized to provide compensatory mitigation, federally-funded aquatic resource restoration or
1181 conservation projects undertaken for purposes other than compensatory mitigation, such as the
1182 Wetlands Reserve Program, Conservation Reserve Program, and Partners for Wildlife Program
1183 activities, cannot be used for the purpose of generating compensatory mitigation credits for
1184 activities authorized by Orders. However, compensatory mitigation credits may be generated by
1185 activities undertaken in conjunction with, but supplemental to, such programs in order to
1186 maximize the overall ecological benefits of the restoration or conservation project.

1187 (3) Compensatory mitigation projects may also be used to provide compensatory mitigation
1188 under the federal and state Endangered Species Act or for Natural Community Conservation
1189 Plans and Habitat Conservation Plans, as long as they comply with the requirements of
1190 paragraph (j)(1) of this section.

1191 (k) Order conditions.

1192 (1) The compensatory mitigation requirements for an Order, including the amount and type of
1193 compensatory mitigation, must be clearly stated in the special conditions of the individual Order
1194 or authorization to use the general Order. The special conditions must be enforceable.³²

1195 (2) For an Order that requires permittee-responsible mitigation, the special conditions must:

1196 (i) Identify the party responsible for providing the compensatory mitigation;

1197 (ii) Incorporate, by reference, the final or draft mitigation plan approved by the permitting
1198 authority;

1199 (iii) State the objectives, performance standards, and monitoring required for the
1200 compensatory mitigation project, unless they are provided in the approved final mitigation
1201 plan; and

1202 (iv) Describe any required financial assurances or long-term management provisions for the
1203 compensatory mitigation project, unless they are specified in the approved final mitigation
1204 plan.

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1205 (4) If a mitigation bank or in-lieu fee program is used to provide the required compensatory
1206 mitigation, the special conditions must indicate whether a mitigation bank or in-lieu fee program
1207 will be used, and specify the number and resource type of credits the permittee is required to
1208 secure. In the case of an individual Order, the special condition must also identify the specific
1209 mitigation bank or in-lieu fee program that will be used. For authorizations to use a general
1210 Order, the special conditions may either identify the specific mitigation bank or in-lieu fee
1211 program, or state that the specific mitigation bank or in-lieu fee program used to provide the
1212 required compensatory mitigation must be approved by the permitting authority before the
1213 credits are secured.

1214 (l) Party responsible for compensatory mitigation.

1215 (1) For permittee-responsible mitigation, the special conditions of the Order must clearly
1216 indicate the party or parties responsible for the implementation, performance, and long-term
1217 management of the compensatory mitigation project.

1218 (3) If use of a mitigation bank or in-lieu fee program is approved by the permitting authority to
1219 provide part or all of the required compensatory mitigation for an Order, the permittee retains
1220 responsibility for providing the compensatory mitigation until the appropriate number and
1221 resource type of credits have been secured from a sponsor and the permitting authority has
1222 received documentation that confirms that the sponsor has accepted the responsibility for
1223 providing the required compensatory mitigation. This documentation may consist of a letter or
1224 form signed by the sponsor, with the Order number and a statement indicating the number and
1225 resource type of credits that have been secured from the sponsor. Copies of this
1226 documentation will be retained in the administrative records for both the Order and the
1227 instrument. If the sponsor fails to provide the required compensatory mitigation, the permitting
1228 authority may pursue measures against the sponsor to ensure compliance.³³

1229 (m) Timing. Implementation of the compensatory mitigation project shall be, to the maximum extent
1230 practicable, in advance of or concurrent with the activity causing the authorized impacts. The
1231 permitting authority shall require, to the extent appropriate and practicable, additional compensatory
1232 mitigation to offset temporal losses of aquatic functions that will result from the permitted activity.

1233 (n) Financial assurances.

1234 (1) The permitting authority shall require sufficient financial assurances to ensure a high level of
1235 confidence that the compensatory mitigation project will be successfully completed, in
1236 accordance with applicable performance standards. In cases where an alternate mechanism is
1237 available to ensure a high level of confidence that the compensatory mitigation will be provided
1238 and maintained (e.g., a formal, documented commitment from a government agency or public
1239 authority) the permitting authority may determine that financial assurances are not necessary for
1240 that compensatory mitigation project.

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1241 (2) The amount of the required financial assurances must be determined by the permitting
1242 authority, in consultation with the project sponsor, and must be based on the size and
1243 complexity of the compensatory mitigation project, the degree of completion of the project at the
1244 time of project approval, the likelihood of success, the past performance of the project sponsor,
1245 and any other factors the permitting authority deems appropriate. Financial assurances may be
1246 in the form of performance bonds, escrow accounts, casualty insurance, letters of credit,
1247 legislative appropriations for government sponsored projects, or other appropriate instruments,
1248 subject to the approval of the permitting authority. The rationale for determining the amount of
1249 the required financial assurances must be documented in the administrative record for either the
1250 Order or the instrument. In determining the assurance amount, the permitting authority shall
1251 consider the cost of providing replacement mitigation, including costs for land acquisition,
1252 planning and engineering, legal fees, mobilization, construction, and monitoring.

1253 (3) If financial assurances are required, the Order must include a special condition requiring the
1254 financial assurances to be in place prior to commencing the permitted activity.³⁴

1255 (4) Financial assurances shall be phased out once the compensatory mitigation project has
1256 been determined by the permitting authority to be successful in accordance with its performance
1257 standards. The Order or instrument must clearly specify the conditions under which the
1258 financial assurances are to be released to the permittee, sponsor, and/or other financial
1259 assurance provider, including, as appropriate, linkage to achievement of performance
1260 standards, adaptive management, or compliance with special conditions.

1261 (5) A financial assurance must be in a form that ensures that the permitting authority will receive
1262 notification at least 120 days in advance of any termination or revocation. For third-party
1263 assurance providers, this may take the form of a contractual requirement for the assurance
1264 provider to notify the permitting authority at least 120 days before the assurance is revoked or
1265 terminated.

1266 (6) Financial assurances shall be payable at the direction of the permitting authority to his
1267 designee or to a standby trust agreement. When a standby trust is used (e.g., with performance
1268 bonds or letters of credit) all amounts paid by the financial assurance provider shall be
1269 deposited directly into the standby trust fund for distribution by the trustee in accordance with
1270 the permitting authority's instructions.

1271 (o) Compliance with applicable law. The compensatory mitigation project must comply with all
1272 applicable federal, state, and local laws. The Order, mitigation banking instrument, or in-lieu fee
1273 program instrument must not require participation by the permitting authority in project
1274 management, including receipt or management of financial assurances or long-term financing
1275 mechanisms, except as determined by the permitting authority to be consistent with its statutory
1276 authority, mission, and priorities.

1277 § 230.94 Planning and documentation.

³⁴ Note that the numbering scheme of the Corps' 404(b)(1) Guidelines has been retained for the benefit of practitioners who are familiar with the Corps' 404(b)(1) Guidelines.

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1278 (a) Pre-application consultations. Potential applicants for Orders are encouraged to participate in
1279 pre-application meetings with the permitting authority and appropriate agencies to discuss potential
1280 mitigation requirements and information needs.

1281 (c) Mitigation plan.

1282 (1) Preparation and Approval.

1283 (i) For individual Orders, the permittee must prepare a draft mitigation plan and submit it to
1284 the permitting authority for review prior to certification. After addressing any comments
1285 provided by the permitting authority, the permittee must prepare a final mitigation plan, which
1286 must be approved by the permitting authority prior to commencing work in waters of the state.
1287 The approved final mitigation plan must be incorporated into the individual Order either as an
1288 attachment or by reference. The final mitigation plan must include the items described in
1289 paragraphs (c)(2) through (c)(14) of this section, but the level of detail of the mitigation plan
1290 should be commensurate with the scale and scope of the impacts. As an alternative, the
1291 permitting authority may determine that it would be more appropriate to address any of the
1292 items described in paragraphs (c)(2) through (c)(14) of this section as Order conditions,
1293 instead of components of a compensatory mitigation plan. For permittees who intend to fulfill
1294 their compensatory mitigation obligations by securing credits from approved mitigation banks
1295 or in-lieu fee programs, their mitigation plans need include only the items described in
1296 paragraphs (c)(5) and (c)(6) of this section, and the name of the specific mitigation bank or
1297 in-lieu fee program to be used.³⁵

1298 (ii) For general Orders, if compensatory mitigation is required, the permitting authority may
1299 approve a conceptual or detailed compensatory mitigation plan to meet required time frames
1300 for general Order enrollments, but a final mitigation plan incorporating the elements in
1301 paragraphs (c)(2) through (c)(14) of this section, at a level of detail commensurate with the
1302 scale and scope of the impacts, must be approved by the permitting authority before the
1303 permittee commences work in waters of the state. As an alternative, the permitting authority
1304 may determine that it would be more appropriate to address any of the items described in
1305 paragraphs (c)(2) through (c)(14) of this section as Order conditions, instead of components
1306 of a compensatory mitigation plan. For permittees who intend to fulfill their compensatory
1307 mitigation obligations by securing credits from approved mitigation banks or in-lieu fee
1308 programs, their mitigation plans need include only the items described in paragraphs (c)(5)
1309 and (c)(6) of this section, and either the name of the specific mitigation bank or in-lieu fee
1310 program to be used or a statement indicating that a mitigation bank or in-lieu fee program will
1311 be used (contingent upon approval by the permitting authority).

1312 (2) Objectives. A description of the resource type(s) and amount(s) that will be provided, the
1313 method of compensation (i.e., restoration, establishment, enhancement, and/or preservation),
1314 and the manner in which the resource functions of the compensatory mitigation project will
1315 address the needs of the watershed, ecoregion, physiographic province, or other geographic
1316 area of interest.

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1317 (3) Site selection. A description of the factors considered during the site selection process.
1318 This should include consideration of watershed needs, on-site alternatives where applicable,
1319 and the practicability of accomplishing ecologically self-sustaining aquatic resource restoration,
1320 establishment, enhancement, and/or preservation at the compensatory mitigation project site.
1321 (See [§ 230.93\(d\)](#).)

1322 (4) Site protection instrument. A description of the legal arrangements and instrument, including
1323 site ownership, that will be used to ensure the long-term protection of the compensatory
1324 mitigation project site (see [§ 230.97\(a\)](#)).³⁶

1325 (5) Baseline information. A description of the ecological characteristics of the proposed
1326 compensatory mitigation project site and, in the case of an application for an Order, the impact
1327 site. This may include descriptions of historic and existing plant communities, historic and
1328 existing hydrology, soil conditions, a map showing the locations of the impact and mitigation
1329 site(s) or the geographic coordinates for those site(s), and other site characteristics appropriate
1330 to the type of resource proposed as compensation. The baseline information should also
1331 include a delineation of waters of the state on the proposed compensatory mitigation project
1332 site. A prospective permittee planning to secure credits from an approved mitigation bank or in-
1333 lieu fee program only needs to provide baseline information about the impact site, not the
1334 mitigation bank or in-lieu fee project site.

1335 (6) Determination of credits. A description of the number of credits to be provided, including a
1336 brief explanation of the rationale for this determination. (See [§ 230.93\(f\)](#).)

1337 (i) For permittee-responsible mitigation, this should include an explanation of how the
1338 compensatory mitigation project will provide the required compensation for unavoidable
1339 impacts to aquatic resources resulting from the permitted activity.

1340 (ii) For permittees intending to secure credits from an approved mitigation bank or in-lieu fee
1341 program, it should include the number and resource type of credits to be secured and how
1342 these were determined.

1343 (7) Mitigation work plan. Detailed written specifications and work descriptions for the
1344 compensatory mitigation project, including, but not limited to, the geographic boundaries of the
1345 project; construction methods, timing, and sequence; source(s) of water, including connections
1346 to existing waters and uplands; methods for establishing the desired plant community; plans to
1347 control invasive plant species; the proposed grading plan, including elevations and slopes of the
1348 substrate; soil management; and erosion control measures. For stream compensatory
1349 mitigation projects, the mitigation work plan may also include other relevant information, such as
1350 planform geometry, channel form (e.g., typical channel cross-sections), watershed size, design
1351 discharge, and riparian area plantings.

1352 (8) Maintenance plan. A description and schedule of maintenance requirements to ensure the
1353 continued viability of the resource once initial construction is completed.

1354 (9) Performance standards. Ecologically-based standards that will be used to determine
1355 whether the compensatory mitigation project is achieving its objectives. (See [§ 230.95](#).)

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1356 (10) Monitoring requirements. A description of parameters to be monitored in order to
1357 determine if the compensatory mitigation project is on track to meet performance standards and
1358 if adaptive management is needed. A schedule for monitoring and reporting on monitoring
1359 results to the permitting authority must be included. (See [§ 230.96.](#))³⁷

1360 (11) Long-term management plan. A description of how the compensatory mitigation project will
1361 be managed after performance standards have been achieved to ensure the long-term
1362 sustainability of the resource, including long-term financing mechanisms and the party
1363 responsible for long-term management. (See [§ 230.97\(d\).](#))

1364 (12) Adaptive management plan. A management strategy to address unforeseen changes in
1365 site conditions or other components of the compensatory mitigation project, including the party
1366 or parties responsible for implementing adaptive management measures. The adaptive
1367 management plan will guide decisions for revising compensatory mitigation plans and
1368 implementing measures to address both foreseeable and unforeseen circumstances that
1369 adversely affect compensatory mitigation success. (See [§ 230.97\(c\).](#))

1370 (13) Financial assurances. A description of financial assurances that will be provided and how
1371 they are sufficient to ensure a high level of confidence that the compensatory mitigation project
1372 will be successfully completed, in accordance with its performance standards (see [§ 230.93\(n\).](#))

1373 (14) Other information. The permitting authority may require additional information as
1374 necessary to determine the appropriateness, feasibility, and practicability of the compensatory
1375 mitigation project.

1376 § 230.95 Ecological performance standards.

1377 (a) The approved mitigation plan must contain performance standards that will be used to assess
1378 whether the project is achieving its objectives. Performance standards should relate to the
1379 objectives of the compensatory mitigation project, so that the project can be objectively evaluated to
1380 determine if it is developing into the desired resource type, providing the expected condition or
1381 functions, and attaining any other applicable metrics (e.g., acres).

1382 (b) Performance standards must be based on attributes that are objective and verifiable. Ecological
1383 performance standards must be based on the best available science that can be measured or
1384 assessed in a practicable manner. Performance standards may be based on variables or
1385 measures of functional capacity or condition as described in assessment methodologies,
1386 measurements of hydrology or other aquatic resource characteristics, and/or comparisons to
1387 reference aquatic resources of similar type and landscape position. The use of reference aquatic
1388 resources to establish performance standards will help ensure that those performance standards
1389 are reasonably achievable, by reflecting the range of variability exhibited by the regional class of
1390 aquatic resources as a result of natural processes and anthropogenic disturbances. Performance
1391 standards based on measurements of hydrology should take into consideration the hydrologic
1392 variability exhibited by reference aquatic resources, especially wetlands. Where practicable,
1393 performance standards should take into account the expected stages of the aquatic resource
1394 development process, in order to allow early identification of potential problems and appropriate
1395 adaptive management.

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1396 § 230.96 Monitoring.³⁸

1397 (a) General.

1398 (1) Monitoring the compensatory mitigation project site is necessary to determine if the project is
1399 meeting its performance standards, and to determine if measures are necessary to ensure that
1400 the compensatory mitigation project is accomplishing its objectives. The submission of
1401 monitoring reports to assess the development and condition of the compensatory mitigation
1402 project is required, but the content and level of detail for those monitoring reports must be
1403 commensurate with the scale and scope of the compensatory mitigation project, as well as the
1404 compensatory mitigation project type. The mitigation plan must address the monitoring
1405 requirements for the compensatory mitigation project, including the parameters to be monitored,
1406 the length of the monitoring period, the party responsible for conducting the monitoring, the
1407 frequency for submitting monitoring reports to the permitting authority, and the party responsible
1408 for submitting those monitoring reports to the permitting authority.

1409 (2) The permitting authority may conduct site inspections on a regular basis (e.g., annually)
1410 during the monitoring period to evaluate mitigation site performance.

1411 (b) Monitoring period. The mitigation plan must provide for a monitoring period that is sufficient to
1412 demonstrate that the compensatory mitigation project has met performance standards, but not less
1413 than five years. A longer monitoring period must be required for aquatic resources with slow
1414 development rates (e.g., forested wetlands, bogs). Following project implementation, the permitting
1415 authority may reduce or waive the remaining monitoring requirements upon a determination that the
1416 compensatory mitigation project has achieved its performance standards. Conversely the
1417 permitting authority may extend the original monitoring period upon a determination that
1418 performance standards have not been met or the compensatory mitigation project is not on track to
1419 meet them. The permitting authority may also revise monitoring requirements when remediation
1420 and/or adaptive management is required.

1421 (c) Monitoring reports.

1422 (1) The permitting authority must determine the information to be included in monitoring reports.
1423 This information must be sufficient for the permitting authority to determine how the
1424 compensatory mitigation project is progressing towards meeting its performance standards, and
1425 may include plans (such as as-built plans), maps, and photographs to illustrate site conditions.
1426 Monitoring reports may also include the results of functional, condition, or other assessments
1427 used to provide quantitative or qualitative measures of the functions provided by the
1428 compensatory mitigation project site.

1429 (2) The permittee or sponsor is responsible for submitting monitoring reports in accordance with
1430 the special conditions of the Order or the terms of the instrument. Failure to submit monitoring
1431 reports in a timely manner may result in compliance action by the permitting authority.

1432 (3) Monitoring reports must be provided by the permitting authority to interested federal, tribal,
1433 state, and local resource agencies, and the public, upon request.

1434 § 230.97 Management.³⁹

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1435 (a) Site protection.

1436 (1) The aquatic habitats, riparian areas, buffers, and uplands that comprise the overall
1437 compensatory mitigation project must be provided long-term protection through real estate
1438 instruments or other available mechanisms, as appropriate. Long-term protection may be
1439 provided through real estate instruments such as conservation easements held by entities such
1440 as federal, tribal, state, or local resource agencies, non-profit conservation organizations, or
1441 private land managers; the transfer of title to such entities; or by restrictive covenants. For
1442 government property, long-term protection may be provided through state or federal facility
1443 management plans or integrated natural resources management plans. When approving a
1444 method for long-term protection of non-government property other than transfer of title, the
1445 permitting authority shall consider relevant legal constraints on the use of conservation
1446 easements and/or restrictive covenants in determining whether such mechanisms provide
1447 sufficient site protection. To provide sufficient site protection, a conservation easement or
1448 restrictive covenant should, where practicable, establish in an appropriate third party (e.g.,
1449 governmental or non-profit resource management agency) the right to enforce site protections
1450 and provide the third party the resources necessary to monitor and enforce these site
1451 protections.

1452 (2) The real estate instrument, management plan, or other mechanism providing long-term
1453 protection of the compensatory mitigation site must, to the extent appropriate and practicable,
1454 prohibit incompatible uses (e.g., clear cutting or mineral extraction) that might otherwise
1455 jeopardize the objectives of the compensatory mitigation project. Where appropriate, multiple
1456 instruments recognizing compatible uses (e.g., fishing or grazing rights) may be used.

1457 (3) The real estate instrument, management plan, or other long-term protection mechanism
1458 must contain a provision requiring 60-day advance notification to the permitting authority before
1459 any action is taken to void or modify the instrument, management plan, or long-term protection
1460 mechanism, including transfer of title to, or establishment of any other legal claims over, the
1461 compensatory mitigation site.

1462 (4) For compensatory mitigation projects on public lands, where state or Federal facility
1463 management plans or integrated natural resources management plans are used to provide long-
1464 term protection, and changes in statute, regulation, or agency needs or mission results in an
1465 incompatible use on public lands originally set aside for compensatory mitigation, the public
1466 agency authorizing the incompatible use is responsible for providing alternative compensatory
1467 mitigation that is acceptable to the permitting authority for any loss in functions resulting from
1468 the incompatible use.⁴⁰

1469 (5) A real estate instrument, management plan, or other long-term protection mechanism used
1470 for site protection of permittee-responsible mitigation must be approved by the permitting
1471 authority in advance of, or concurrent with, the activity causing the authorized impacts.

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1472 (b) Sustainability. Compensatory mitigation projects shall be designed, to the maximum extent
1473 practicable, to be self-sustaining once performance standards have been achieved. This includes
1474 minimization of active engineering features (e.g., pumps) and appropriate siting to ensure that
1475 natural hydrology and landscape context will support long-term sustainability. Where active long-
1476 term management and maintenance are necessary to ensure long-term sustainability (e.g.,
1477 prescribed burning, invasive species control, maintenance of water control structures, easement
1478 enforcement), the responsible party must provide for such management and maintenance. This
1479 includes the provision of long-term financing mechanisms where necessary. Where needed, the
1480 acquisition and protection of water rights must be secured and documented in the Order conditions
1481 or instrument.

1482 (c) Adaptive management.

1483 (1) If the compensatory mitigation project cannot be constructed in accordance with the
1484 approved mitigation plans, the permittee or sponsor must notify the permitting authority. A
1485 significant modification of the compensatory mitigation project requires approval from the
1486 permitting authority.

1487 (2) If monitoring or other information indicates that the compensatory mitigation project is not
1488 progressing towards meeting its performance standards as anticipated, the responsible party
1489 must notify the permitting authority as soon as possible. The permitting authority will evaluate
1490 and pursue measures to address deficiencies in the compensatory mitigation project. The
1491 permitting authority will consider whether the compensatory mitigation project is providing
1492 ecological benefits comparable to the original objectives of the compensatory mitigation project.

1493 (3) The permitting authority, in consultation with the responsible party (and other federal, tribal,
1494 state, and local agencies, as appropriate), will determine the appropriate measures. The
1495 measures may include site modifications, design changes, revisions to maintenance
1496 requirements, and revised monitoring requirements. The measures must be designed to ensure
1497 that the modified compensatory mitigation project provides aquatic resource functions
1498 comparable to those described in the mitigation plan objectives.⁴¹

1499 (4) Performance standards may be revised in accordance with adaptive management to
1500 account for measures taken to address deficiencies in the compensatory mitigation project.
1501 Performance standards may also be revised to reflect changes in management strategies and
1502 objectives if the new standards provide for ecological benefits that are comparable or superior to
1503 the approved compensatory mitigation project. No other revisions to performance standards will
1504 be allowed except in the case of natural disasters.

1505 (d) Long-term management.

1506 (1) The Order conditions or instrument must identify the party responsible for ownership and all
1507 long-term management of the compensatory mitigation project. The Order conditions or
1508 instrument may contain provisions allowing the permittee or sponsor to transfer the long-term
1509 management responsibilities of the compensatory mitigation project site to a land stewardship
1510 entity, such as a public agency, non-governmental organization, or private land manager, after
1511 review and approval by the permitting authority. The land stewardship entity need not be

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1512 identified in the original Order or instrument, as long as the future transfer of long-term
1513 management responsibility is approved by the permitting authority.

1514 (2) A long-term management plan should include a description of long-term management
1515 needs, annual cost estimates for these needs, and identify the funding mechanism that will be
1516 used to meet those needs.

1517 (3) Any provisions necessary for long-term financing must be addressed in the original Order or
1518 instrument. The permitting authority may require provisions to address inflationary adjustments
1519 and other contingencies, as appropriate. Appropriate long-term financing mechanisms include
1520 non-wasting endowments, trusts, contractual arrangements with future responsible parties, and
1521 other appropriate financial instruments. In cases where the long-term management entity is a
1522 public authority or government agency, that entity must provide a plan for the long-term
1523 financing of the site.

1524 (4) For permittee-responsible mitigation, any long-term financing mechanisms must be
1525 approved in advance of the activity causing the authorized impacts.