



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

**[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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Procedures for Discharges of Dredged or Fill Material to Waters of the State

I. Introduction¹

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, which includes discharges of dredged or fill material, 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 stormwater 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 Material 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 dredge 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 submission, review and approval of applications for 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. The effective date of these Procedures shall be [insert date that is six months after approval by the Office of Administrative Law].

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.

¹ [NOTE: These Procedures will be incorporated into the Water Quality Control Plans for (1) Inland Surface Waters Enclosed Bays and Estuaries and (2) Ocean Waters of California. Because the Procedures will already have been adopted, future incorporation of the Procedures, as adopted, into the water quality control plans will be considered non-substantive amendments. At that time, formatting and other organizational edits necessary for incorporation into the water quality control plans will be addressed.]

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- 39 The Water Code defines “waters of the state” broadly to include “any surface water or groundwater,
40 including saline waters, within the boundaries of the state.” The following wetlands are waters of the
41 state:
- 42 1. Natural wetlands,
 - 43 2. Wetlands created by modification of a water of the state,²
 - 44 3. Wetlands that meet current or historic definitions of “waters of the U.S.,”³ and
 - 45 4. Artificial wetlands⁴ that meet any of the following criteria:
 - 46 a. Approved by an agency as mitigation for impacts to other waters of the state, except where
47 the approving agency explicitly identifies the mitigation as being of limited duration;
 - 48 b. Specifically identified in a water quality control plan as a wetland or other water of the state;
 - 49 c. Resulted from historic human activity, is not subject to ongoing operation and maintenance,
50 and has become a relatively permanent part of the natural landscape; or
 - 51 d. Greater than or equal to one acre in size, unless the artificial wetland was constructed, and
52 is currently used and maintained, primarily for one or more of the following purposes (i.e.,
53 the following artificial wetlands are not waters of the state unless they also satisfy the criteria
54 set forth in 2, 3, 4a, or 4b):
 - 55 i. Industrial or municipal wastewater treatment or disposal,
 - 56 ii. Settling of sediment,
 - 57 iii. Stormwater detention, infiltration, or treatment,
 - 58 iv. Agricultural crop irrigation or stock watering,
 - 59 v. Fire suppression,
 - 60 vi. Industrial processing or cooling,
 - 61 vii. Active surface mining – even if the site is managed for interim wetlands functions
62 and values,
 - 63 viii. Log storage,
 - 64 ix. Treatment, storage, or distribution of recycled water, or
 - 65 x. Maximizing groundwater recharge (this does not include wetlands that have
66 incidental groundwater recharge benefits).

² “Created by modification of a water of the state” means that the wetland that is being evaluated must have been directly converted from a pre-existing water of the state, and does not include a situation where the water of the state was completely eliminated.

³ The State Water Resources Control Board determined that all waters of the U.S. are also waters of the state by regulation, prior to any regulatory or judicial limitations on the federal definition of waters of the U.S. This regulation has remained in effect despite subsequent changes to the federal definition. Therefore, waters of the state includes features that have been determined by the U.S. Environmental Protection Agency (U.S. EPA) or the U.S. Army Corps of Engineers (Corps) to be “waters of the U.S.” in an approved jurisdictional determination; “waters of the U.S.” identified in an aquatic resource report verified by the Corps 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.” under the federal Clean Water Act.

⁴ Artificial wetlands are wetlands that result from human activity.

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67 All artificial wetlands that are less than an acre in size and do not satisfy the criteria set forth in 2, 3,
68 4.a, 4.b, or 4.c are not waters of the state. If an aquatic feature meets the wetland definition, the
69 burden is on the applicant to demonstrate that the wetland is not a water of the state.

70 **III. Wetland Delineation**

71 The permitting authority shall rely on any wetland area delineation from a final aquatic resource report
72 verified by the U.S. Army Corps of Engineers (Corps) for the purposes of determining the extent of
73 wetland waters of the U.S. A delineation of any wetland areas potentially impacted by the project that
74 are not delineated in a final aquatic resource report verified by the Corps shall be performed using the
75 methods described in the three federal documents listed below (collectively referred to as “1987 Manual
76 and Supplements”) to determine whether the area meets the state definition of a wetland as defined
77 above. As described in the 1987 Manual and Supplements, an area “lacks vegetation” if it has less
78 than 5 percent areal coverage of plants at the peak of the growing season. The methods shall be
79 modified only to allow for the fact that the lack of vegetation does not preclude the determination of
80 such an area that meets the definition of wetland. Terms as defined in these Procedures shall be used
81 if there is conflict with terms in the 1987 Manual and Supplements.

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

93 **IV. Procedures for Regulation of Discharges of Dredged or Fill Material to** 94 **Waters of the State**

95 The purpose of this section is to establish application procedures for discharges of dredged or fill
96 material to waters of the state, which includes both waters of the U.S. and non-federal waters of the
97 state. This section supplements existing state requirements for discharges of dredged or fill material to
98 waters of the U.S.⁵ These Procedures include Appendix A, which contains relevant portions of the
99 U.S. EPA's Section 404(b)(1) “Guidelines for Specification of Disposal Sites for Dredge or Fill
100 Material”⁶ (Guidelines), 1980, with minor modifications to make them applicable to the state dredged or
101 fill program (hereafter State Supplemental Dredge or Fill Guidelines).⁷ This section applies to all

⁵ California Code of Regulations, title 23, sections 3830-3869 (state's Clean Water Act (CWA) section 401 (33 USC § 1341) water quality certification program)

⁶ 40 C.F.R. § 230.

⁷ The State Supplemental Dredge or Fill Guidelines are included as Appendix A. Because the State Supplemental Dredge or Fill Guidelines are derived directly from the U.S. EPA's 404(b)(1) Guidelines, it uses slightly different terms than terms used in sections I through V of these

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102 applications for discharges of dredged or fill material to waters of the state submitted after [insert date
103 that is six months after approval by the Office of Administrative Law].⁸

104 Unless excluded by section IV.D, applicants must file an application with the Water Boards for any
105 activity that could result in the discharge of dredged or fill material to waters of the state in accordance
106 with California Code of Regulations, title 23, section 3855.⁹ The applicant may consult with the Water
107 Boards to determine whether a project could result in impacts to waters of the state and/or discuss
108 submittals that would meet the application requirements listed below. Discharges of dredged or fill
109 material or other waste material to areas that are not waters of the state, but that could affect the quality
110 of waters of the state, may be addressed under other Water Board regulatory programs.

111 **A. Project Application Submittal for Individual Orders**

112 The requirements set forth in sections IV.A and IV.B apply only to individual orders. Applicants must
113 submit the items listed in subsection 1 to the permitting authority. In addition, applicants shall consult
114 with the permitting authority about the items listed in subsection 2. Within 30 days of receiving the
115 items listed in subsection 1, the permitting authority may require the applicant to submit one or more of
116 the items in subsection 2 for a complete application. Applicants are encouraged to consult with the
117 permitting authority to determine the appropriate level of detail for the items in subsections 1 (and 2, if
118 applicable). Within 30 days of receiving all of the required items, the permitting authority shall determine
119 whether the application is complete and notify the applicant accordingly. If the applicant's federal
120 license or permit application includes any of the information required in subsections 1 or 2 below, the
121 applicant may submit the federal application materials to satisfy the corresponding state application
122 information. If federal application materials are submitted as part of the state application, the applicant
123 shall indicate where the corresponding state application information can be found in the federal
124 application materials.

125 1. Items Required for a Complete Application

- 126 a. All items listed in California Code of Regulations, title 23, section 3856 "Contents of a Complete
127 Application."¹⁰
- 128 b. If the Corps requires an aquatic resource delineation report, a copy of the report verified by the

Procedures. The State Supplemental Dredge or Fill Guidelines will be applied in a manner consistent with sections I through V of these Procedures.

⁸ In cases where the applicant is a state agency and is acting as the CEQA lead agency for one or more projects otherwise subject to this section, and that state agency is a party to an existing written agreement (e.g., memorandum of understanding) with the State Water Board that sets out alternative procedures and requirements regarding the submission, review, or approval of project applications, the permitting authority shall apply the terms and conditions of the agreement in lieu of the terms and conditions of this section. The State Water Board may also enter into such written agreements after the adoption of these Procedures; such an agreement may include, for example, early consultation regarding potential project applications, early identification and analysis of project alternatives and mitigation measures, and dispute resolution. Any written agreements, whether existing or entered into after the adoption of these Procedures, may be amended in writing at any time by joint agreement of the parties, and such amended agreements shall govern in lieu of the terms and conditions of this section. All other applicable laws, including requirements for public notice and comment, apply to the permitting authorities' approval of projects under such an agreement.

⁹ 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 and waivers thereof.

¹⁰ 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 and waivers thereof.

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- 129 Corps.
- 130 c. A delineation of any waters that are not delineated in an aquatic resource delineation report
131 verified by the Corps. If such waters include wetlands, the wetlands must be delineated as
132 described in section III.
- 133 d. The dates upon which the overall project activity will begin and end, and, if known, the date(s)
134 upon which the discharge(s) will take place.
- 135 e. Map(s) with a scale of at least 1:24000 (1" = 2000') and of sufficient detail to accurately show
136 (1) the boundaries of the lands owned or to be utilized by the applicant in carrying out the
137 proposed activity, including the grading limits, proposed land uses, and the location, dimensions
138 and type of any structures erected (if known) or to be erected and (2) all aquatic resources that
139 may qualify as waters of the state, within the boundaries of the project, and all aquatic
140 resources that may qualify as waters of the state outside of the boundary of the project that
141 could be impacted by the project. A map verified by the Corps may satisfy this requirement if it
142 includes all potential waters of the state. The permitting authority may require that the map(s)
143 be submitted in electronic format (e.g., GIS shapefiles).
- 144 f. A description of the waters proposed to be impacted by the dredge or fill activity. The
145 description should include the beneficial uses as listed in the applicable water quality control
146 plan; a description of the activity at each individual discharge or dredge location; quantity of
147 impacts to waters proposed to receive a discharge of dredged or fill material at each location
148 rounded to at least the nearest one-hundredth (0.01) of an acre, nearest linear foot, and quantity
149 of impacts to waters proposed to be dredged at each dredging location to the nearest cubic yard
150 (as applicable); assessment of potential direct and indirect impacts resulting from the discharge
151 or dredging activity and potential mitigation measures for those potential impacts, identification
152 of existing water quality impairment(s); the source of water quality impairment(s), if known; and
153 the presence of rare, threatened or endangered species¹¹ habitat.
- 154 g. An alternatives analysis,¹² unless any of the following exemptions apply.
- 155 i. The project includes discharges to waters of the state outside of federal jurisdiction, but the
156 entire project would meet the terms and conditions of one or more Water Board certified
157 Corps' General Permits, if all discharges were to waters of the U.S. The permitting
158 authority will verify that the entire project would meet the terms and conditions of the
159 Corps' General Permit(s) if all discharges, including discharges to waters of the state
160 outside of federal jurisdiction, were to waters of the U.S. based on information supplied by
161 the applicant.

¹¹ "Rare, threatened, or endangered species" as used in the Procedures refers to plant and animal species listed as rare, threatened, or endangered pursuant to the California Endangered Species Act of 1984 (Fish & Game Code, § 2050 et seq.), the Native Plant Protection Act of 1977 (Fish & Game Code, § 1900 et seq.), or the Federal Endangered Species Act of 1973 (16 U.S.C. § 1531 et seq.).

¹² "Alternatives analysis" as used in these Procedures refer to the analysis required by section IV.A.h and the State Supplemental Dredge 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.

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- 162 ii. The project meets the terms and conditions for coverage under an uncertified Corps'
163 General Permit. This exemption does not apply if the discharge of dredged or fill material
164 will directly impact:
- 165 a) more than two-tenths (0.2) of an acre or 300 linear feet of waters of the state;
 - 166 b) habitat for rare, threatened, or endangered species;
 - 167 c) wetlands or eel grass beds; or
 - 168 d) Outstanding National Resource Waters or Areas of Special Biological
169 Significance.
- 170 iii. The project would be conducted in accordance with a watershed plan that has been
171 approved by the permitting authority and analyzed in an environmental document that
172 includes a sufficient alternatives analysis, monitoring provisions, and guidance on
173 compensatory mitigation opportunities.
- 174 iv. The project is an Ecological Restoration and Enhancement Project.
- 175 v. The project has no permanent impacts to aquatic resources and no impacts to habitat for
176 rare, threatened or endangered species, wetlands or eel grass beds, Outstanding National
177 Resource Waters or Areas of Special Biological Significance, and all implementation
178 actions in the restoration plan can reasonably be concluded within one year.
- 179 h. If none of the above exemptions apply, the applicant must submit an alternatives analysis
180 consistent with the requirements of section 230.10 of the State Supplemental Dredge or Fill
181 Guidelines that allows the permitting authority to determine whether the proposed project is the
182 Least Environmentally Damaging Practicable Alternative (LEDPA). If the applicant submitted
183 information to the Corps to support an alternatives analysis, the applicant shall provide that
184 information to the permitting authority. Such information may satisfy some or all of the following
185 requirements in accordance with section IV.B.3. Alternatives analyses shall be completed in
186 accordance with the following tiers. The level of effort required for an alternatives analysis
187 within each of the three tiers shall be commensurate with the significance of the impacts
188 resulting from the discharge.¹³
- 189 i. Tier 3 projects include any discharge of dredged or fill material that directly impacts more
190 than two-tenths (0.2) of an acre or 300 linear feet of waters of the state, habitat for rare,
191 threatened or endangered species, wetlands or eel grass beds, or Outstanding National
192 Resource Waters or Areas of Special Biological Significance, and is not a project that
193 inherently cannot be located at an alternate location. Tier 3 projects shall provide an
194 analysis of off-site and on-site alternatives.
 - 195 ii. Tier 2 projects include any discharge of dredged or fill material that directly impacts more
196 than one tenth (0.1) and less than or equal to two tenths (0.2) of an acre or more than 100
197 and less than or equal to 300 linear feet of waters of the state unless it meets the criteria
198 for a Tier 3 project, or any project that inherently cannot be located at an alternate location

¹³ As used below, "impacts" include both permanent and temporary impacts.

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- 199 (unless it meets the size requirements set forth in Tier 1). Tier 2 projects shall provide an
200 analysis of only on-site alternatives.
- 201 iii. Tier 1 projects include any discharge of dredged or fill material that directly impacts less
202 than or equal to one tenth (0.1) of an acre or less than or equal to 100 linear feet of waters
203 of the state, unless it meets the criteria for a Tier 3 project. Tier 1 projects shall provide a
204 description of any steps that have been or will be taken to avoid and minimize loss of, or
205 significant adverse impacts to, beneficial uses of waters of the state.
- 206 2. Additional Information Required for a Complete Application
- 207 a. If required by the permitting authority on a case-by-case basis, supplemental field data from the
208 wet season to substantiate dry season delineations, as is consistent with the 1987 Manual and
209 Supplements.
- 210 b. If compensatory mitigation is required by the permitting authority, on a case-by-case basis, a
211 draft compensatory mitigation plan developed using a watershed approach containing the items
212 listed below. Compensatory mitigation plans are not required for Ecological Restoration and
213 Enhancement Projects. For permittees who intend to fulfill their compensatory mitigation
214 obligations by securing credits from approved mitigation banks or in-lieu fee programs, their
215 mitigation plans need include only items i, ii, and iii, as described below, as well as information
216 required in the State Supplemental Dredge or Fill Guidelines, section 230.94 (c)(5) and (c)(6),
217 and the name of the specific mitigation bank or in-lieu fee program proposed to be used.
- 218 Draft compensatory mitigation plans shall comport with the State Supplemental Dredge or Fill
219 Guidelines, Subpart J, and include the items listed below.
- 220 i. A watershed profile for the project evaluation area for both the proposed dredged or fill
221 project and the proposed compensatory mitigation project.
- 222 ii. An assessment of the overall condition of aquatic resources proposed to be impacted by
223 the project and their likely stressors, using an assessment method approved by the
224 permitting authority.
- 225 iii. A description of how the project impacts and compensatory mitigation would not cause a
226 net loss of the overall abundance, diversity, and condition of aquatic resources, based on
227 the watershed profile. If the compensatory mitigation is located in the same watershed as
228 the project, no net loss will be determined on a watershed basis. If the compensatory
229 mitigation and project impacts are located in multiple watersheds, no net loss will be
230 determined considering all affected watersheds collectively. The level of detail in the plan
231 shall be sufficient to accurately evaluate whether compensatory mitigation offsets the
232 adverse impacts attributed to a project.
- 233 iv. Preliminary information about ecological performance standards, monitoring, and long-term
234 protection and management, as described in the State Supplemental Dredge or Fill
235 Guidelines.
- 236 v. A timetable for implementing the compensatory mitigation plan.
- 237 vi. If the compensatory mitigation plan includes buffers, design criteria and monitoring
238 requirements for those buffers.

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- 239 vii. If the compensatory mitigation involves restoration or establishment as the form of
240 mitigation, applicants shall notify, as applicable, state and federal land management
241 agencies, airport land use commission, fire control districts, flood control districts, local
242 mosquito-vector control district(s), and any other interested local entities prior to initial site
243 selection. These entities should be notified as early as possible during the initial
244 compensatory mitigation project design stage.
- 245 viii. If required by the permitting authority, an assessment of reasonably foreseeable impacts to
246 the compensatory mitigation associated with climate change, and any measures to avoid
247 or minimize those potential impacts.
- 248 c. If required by the permitting authority on a case-by-case basis, if project activities include in-
249 water work or water diversions, a proposed water quality monitoring plan to monitor compliance
250 with water quality objectives of the applicable water quality control plan. At a minimum, the plan
251 should include type and frequency of sampling for each applicable parameter.
- 252 d. In all cases where temporary impacts are proposed, a draft restoration plan that outlines design,
253 implementation, assessment, and maintenance for restoring areas of temporary impact to pre-
254 project conditions. The design components shall include the objectives of the restoration plan;
255 grading plan of disturbed areas to pre-project contours; a planting palette with plant species
256 native to the area; seed collection locations; and an invasive species management plan. The
257 implementation component shall include all proposed actions to implement the plan (e.g., re-
258 contouring, initial planting, site stabilization, removal of temporary structures) and a schedule for
259 completing those actions. The maintenance and assessment components shall include a
260 description of performance standards used to evaluate attainment of objectives; the timeframe
261 for determining attainment of performance standards; and maintenance requirements (e.g.,
262 watering, weeding, replanting and invasive species control). The level of detail in the restoration
263 plan shall be sufficient to accurately evaluate whether the restoration addresses the adverse
264 temporary impacts attributed to a project.
- 265 Prior to issuance of the Order, the applicant shall submit a final restoration plan that describes
266 the restoration of all temporarily disturbed areas to pre-project conditions.
- 267 e. For all Ecological Restoration and Enhancement Projects, a draft assessment plan including the
268 following: project objectives; description of performance standards used to evaluate attainment
269 of objectives; protocols for condition assessment; the timeframe and responsible party for
270 performing condition assessment; and assessment schedule. A draft assessment plan shall
271 provide for at least one assessment of the overall condition of aquatic resources and their likely
272 stressors, using an appropriate assessment method approved by the permitting authority, prior
273 to restoration and/or enhancement and two years following restoration and/or enhancement to
274 determine success of the restoration and/or enhancement.

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

- 276 1. The permitting authority will evaluate the potential impacts on the aquatic environment from the
277 proposed project and determine whether the proposed project complies with these Procedures.
278 The permitting authority has the discretion to approve a project only if the applicant has
279 demonstrated the following:
- 280 a. A sequence of actions has been taken to first avoid, then to minimize, and lastly compensate
281 for adverse impacts to waters of the state;
- 282 b. The potential impacts will not contribute to a net loss of the overall abundance, diversity, and

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- 283 condition of aquatic resources in a watershed (or multiple watersheds when compensatory
284 mitigation is permitted in another watershed as set forth in section IV.B.5(d));
- 285 c. The discharge of dredged or fill material will not violate water quality standards and will be
286 consistent with all applicable water quality control plans and policies for water quality control;
287 and
- 288 d. The discharge of dredged or fill material will not cause or contribute to significant degradation of
289 the waters of the state.
- 290 2. The permitting authority shall rely on any final aquatic resource report verified by the Corps to
291 determine boundaries of waters of the U.S. For all other wetland area delineations, the permitting
292 authority shall review and approve delineations that are performed using the methods described in
293 section III.
- 294 3. Alternatives Analysis Review Requirements:
- 295 a. The purpose of the alternatives analysis is to identify the LEDPA. The permitting authority will
296 be responsible for determining the sufficiency of an alternatives analysis except as described in
297 3(b) below. In all cases, the alternatives analysis must establish that the proposed project
298 alternative is the LEDPA in light of all potential direct, secondary (indirect), and cumulative
299 impacts on the physical, chemical, and biological elements of the aquatic ecosystem.
- 300 b. Discharges to waters of the U.S.
- 301 In reviewing and approving the alternatives analysis for discharges of dredged or fill material
302 that impact waters of the U.S., the permitting authority shall defer to the Corps' determinations
303 on the adequacy of the alternatives analysis, or rely on a draft alternatives analysis if no final
304 determination has been made, unless the Executive Officer or Executive Director determines
305 that (1) the permitting authority was not provided an adequate opportunity to collaborate in the
306 development of the alternatives analysis, (2) the alternatives analysis does not adequately
307 address issues identified in writing by the Executive Officer or Executive Director to the Corps
308 during the development of the alternatives analysis, or (3) the proposed project and all of the
309 identified alternatives would not comply with water quality standards.
- 310 If the project also includes discharges to waters of the state outside of federal jurisdiction, the
311 permitting authority shall require the applicant to supplement the alternatives analysis to include
312 waters of the state outside of federal jurisdiction. If an alternatives analysis is not required by
313 the Corps for discharges of dredged or fill material to waters of the U.S., the permitting authority
314 shall require an alternatives analysis for the entire project in accordance with the State
315 Supplemental Dredge or Fill Guidelines, unless the project is exempt under section IV.A.1(g)
316 above.
- 317 For discharges of dredged or fill material to a water of the U.S. that meets the Water Boards'
318 definition of a wetland (set forth in section II), but that the Corps does not classify as a special
319 aquatic site (as defined in subpart E of U.S. EPA's section 404(b)(1) Guidelines), the permitting
320 authority shall not apply the presumption set forth in the State Supplemental Dredge or Fill
321 Guidelines, section 230.10(a)(3) to those discharges.
- 322 4. Prior to or concurrent with issuance of the Order, the permitting authority will approve the final
323 restoration plan for temporary impacts.
- 324 5. Compensatory Mitigation
- 325 a. Compensatory mitigation, in accordance with the State Supplemental Dredge or Fill Guidelines,

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- 326 Subpart J, may be required to ensure that an activity complies with these Procedures.
- 327 b. Where feasible, the permitting authority will consult and coordinate with any other public
328 agencies that have concurrent mitigation requirements in order to achieve multiple
329 environmental benefits with a single mitigation project, thereby reducing the cost of compliance
330 to the applicant.
- 331 c. Amount: The amount of compensatory mitigation will be determined on a project-by-project
332 basis in accordance with State Supplemental Dredge or Fill Guidelines, section 230.93(f). The
333 permitting authority may take into account recent anthropogenic degradation to the aquatic
334 resource and the potential and existing functions and conditions of the aquatic resource. The
335 permitting authority may reduce the amount of compensatory mitigation if buffer areas adjacent
336 to the compensatory mitigation are also required to be maintained as part of the compensatory
337 mitigation management plan. The amount of compensatory mitigation required by the
338 permitting authority will vary depending on which of the following strategies the applicant uses to
339 locate the mitigation site within a watershed.
- 340 Strategy 1: Applicant locates compensatory mitigation using a watershed approach based on a
341 watershed profile developed from a watershed plan that: (1) has been approved by the
342 permitting authority and analyzed in an environmental document, (2) includes monitoring
343 provisions, and (3) includes guidance on compensatory mitigation opportunities.
- 344 Strategy 2: Applicant locates compensatory mitigation using a watershed approach based on a
345 watershed profile developed for a project evaluation area, and demonstrates that the mitigation
346 project will contribute to the sustainability of watershed functions and the overall health of the
347 watershed area's aquatic resources.
- 348 Generally, the amount of compensatory mitigation required under Strategy 1 will be less than
349 the amount of compensatory mitigation required under Strategy 2 since the level of certainty
350 that a compensatory mitigation project will meet its performance standards increases if the
351 compensatory mitigation project complies with a watershed plan as described above. Certainty
352 increases when there is a corresponding increase in understanding of watershed conditions,
353 which is increased when using a watershed plan as described above to determine
354 compensatory mitigation requirements. A minimum of one-to-one mitigation ratio is required to
355 compensate for wetland or stream losses when compensatory mitigation is required.
- 356 d. Type and Location: The permitting authority will evaluate the applicant's proposed mitigation
357 type and location based on the applicant's use of a watershed approach based on a watershed
358 profile. The permitting authority will determine the appropriate type and location of
359 compensatory mitigation based on watershed conditions, impact size, location and spacing,
360 aquatic resource values, relevant watershed plans, and other considerations.
- 361 In general, the required compensatory mitigation should be located within the same watershed
362 as the impact site, but the permitting authority may approve compensatory mitigation in a
363 different watershed. For example, if a proposed project may affect more than one watershed,
364 then the permitting authority may determine that locating all required project mitigation in one
365 area is ecologically preferable to requiring mitigation within each watershed.
- 366 e. Final Compensatory Mitigation Plan: The permitting authority will review and approve the final
367 compensatory mitigation plan submitted by the applicant to ensure mitigation comports with the
368 State Supplemental Dredge or Fill Guidelines, Water Code requirements, applicable water
369 quality standards, and other appropriate requirements of state law. The level of detail in the
370 final plan shall be sufficient to accurately evaluate whether compensatory mitigation offsets the

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371 adverse impacts attributed to a project considering the overall size and scope of impact. The
372 compensatory mitigation plan shall be sufficient to provide the permitting authority with a
373 reasonable assurance that replacement of the full range of lost aquatic resource(s) and/or
374 functions will be provided in perpetuity.

375 Generally, the permitting authority will approve the final compensatory mitigation plan when it
376 issues the Order. Where compliant with CEQA, the permitting authority may approve the final
377 compensatory mitigation plan after it issues the Order. In such cases the permitting authority
378 shall include as a condition of the Order that the applicant receive approval of the final mitigation
379 plan prior to discharging dredged or fill material to waters of the state and shall specify a
380 process for approving the final mitigation plan.

381 f. Financial Security: Where deemed necessary by the permitting authority, provision of a
382 financial security (e.g., letter of credit or performance bond) shall be a condition of the Order. In
383 this case, the permitting authority will approve the financial security to ensure compliance with
384 compensatory mitigation plan requirements. The financial security shall be in a form consistent
385 with the California Constitution and state law.

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

390 6. The permitting authority shall provide public notice in accordance with Water Code section 13167.5
391 for waste discharge requirements. The permitting authority shall provide public notice of an
392 application for water quality certification in accordance with California Code of Regulations, title 23,
393 section 3858. If the permitting authority receives comments on the application or there is
394 substantial public interest in the project, the permitting authority shall also provide public notice of
395 the draft Order, or draft amendment of the Order, unless circumstances warrant otherwise.

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

399 **C. General Orders**

400 Discharges of dredged or fill material to waters of the state that are regulated under a general order are
401 not subject to the requirements set forth in sections IV.A and IV.B. Applicants applying to enroll under a
402 general order shall follow the instructions specified in the general order for obtaining coverage.

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

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

410 **D. Activities and Areas Excluded from the Application Procedures for Regulation of** 411 **Discharges of Dredged or Fill Material to Waters of the State**

412 The application procedures specified in sections IV.A and IV.B do not apply to proposed discharges of
413 dredged or fill material to waters of the state from the following activities or to the following areas.

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414 These exclusions do not, however, affect the Water Board's authority to issue or waive waste discharge
415 requirements (WDRs) or take other actions for the following activities or areas to the extent authorized
416 by the Water Code.

- 417 1. Activities excluded from application procedures in sections IV.A and IV.B:
- 418 a. Activities that are exempt under CWA section 404(f) (33 USC § 1344(f)). The following federal
419 regulations (Table 1), guidance letters (Table 2), and memoranda (Table 3), that have been
420 adopted pursuant to CWA section 404(f) or that are used to interpret or implement section
421 404(f) shall be used when determining whether certain activities are excluded from these
422 procedures. These documents are hereby incorporated by reference and shall apply to all
423 waters of the state. Consistent with CWA section 404(f)(2) and 40 CFR section 232.3, any
424 discharge of dredged or fill material to a water of the state incidental to any of these activities is
425 not exempt under CWA section 404(f) and shall be subject to the application procedures set
426 forth in sections IV.A and IV.B, if (1) the purpose of the activity is bringing a water of the state
427 into a use to which it was not previously subject, where the flow or circulation of water of the
428 state may be impaired or the reach of such waters be reduced, or (2) the discharge contains
429 any toxic pollutant listed in CWA section 307.

430

431 **Table 1: CFR References¹⁴**

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

432

433 **Table 2: Applicable U.S. Army Corps of Engineers (Corps) Regulatory Guidance Letters**
434 **(RGLs)¹⁵**

RGL	Title
84-01	Regulatory Jurisdiction Over Vegetative Operations
84-05	Fifth Circuit Decision in <i>Avoyelles vs. Marsh</i>
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

¹⁴ 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.>

¹⁵ 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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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

435

436

Table 3: Memoranda¹⁶

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

437

438

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

439

c. Routine operation and maintenance activities that result in discharge of dredged or fill material to artificially-created waters currently used and maintained primarily for one or more of the purposes listed in section II.4.d. This exclusion does not apply to the discharge of dredged or fill material to (a) a water of the U.S., (b) a water specifically identified in a water quality control plan, (c) a water created by modification of a water of the state, or (d) a water approved by an agency as compensatory mitigation.

444

445

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

446

Wetland areas that are currently certified as prior converted cropland (PCC) by the Natural Resources Conservation Service, the Corps, or the U.S. EPA. This exclusion will no longer apply if the wetland area changes to a non-agricultural use.

448

449

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

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V. Definitions

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

456

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458

459

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

460

461

Active Surface Mining means operations that, in accordance with Division 2, Chapter 9 of the Surface Mining and Reclamation Act of 1975, have an approved reclamation plan, and for which reclamation has not been certified as complete by the local lead agency with the concurrence of the Department of Conservation.

462

463

464

¹⁶ 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>

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465 **Alternatives Analysis** is the process of analyzing project alternatives, including the proposed project,
466 to determine the alternative that is the least environmentally damaging practicable alternative (LEDPA).

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

470 [Definition moved to the end.]

471 **Discharge of Dredged or Fill Material** shall have the same meanings as they are used in the federal
472 Clean Water Act and 40 CFR section 232.2, but (1) shall include discharges to waters of the state that
473 are not waters of the U.S. and (2) any demonstrations described in section 232.2(3)(i) shall be made to
474 the permitting authority instead of the Corps or U.S. EPA.

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

477 **Ecological Restoration and Enhancement Project** means the project is voluntarily undertaken for the
478 purpose of assisting or controlling the recovery of an aquatic ecosystem that has been degraded,
479 damaged or destroyed to restore some measure of its natural condition and to enhance the beneficial
480 uses, including potential beneficial uses of water. Such projects are undertaken: 1) in accordance with
481 the terms and conditions of a binding stream or wetland enhancement or restoration agreement, or a
482 wetland establishment agreement, between the landowner and a) a federal or state resource agency,
483 including, but not limited to, the U.S. Fish and Wildlife Service, Natural Resources Conservation
484 Service, Farm Service Agency, National Marine Fisheries Service, National Oceanic and Atmospheric
485 Administration, U.S. Forest Service, U.S. Bureau of Land Management, California Department of Fish
486 and Wildlife, California Wildlife Conservation Board, California Coastal Conservancy or the Delta
487 Conservancy; b) a local agency with the primary function of managing land or water for wetland habitat
488 purposes; or c) a non-governmental conservation organization; or 2) by a state or federal agency that is
489 statutorily tasked with natural resource management. These projects do not include the conversion of a
490 stream or natural wetland to uplands or stream channelization. It is recognized that Ecological
491 Restoration and Enhancement Projects may require filling gullied stream channels and similar
492 rehabilitative activities to re-establish stream and meadow hydrology. Changes in wetland plant
493 communities that occur when wetland hydrology is more fully restored during rehabilitation activities are
494 not considered a conversion to another aquatic habitat type. These projects also do not include actions
495 required under a Water Board Order for mitigation, actions to service required mitigation, or actions
496 undertaken for the primary purpose of land development.

497 **Environmental Document** means a document prepared for compliance with the California
498 Environmental Quality Act (CEQA) or the National Environmental Policy Act (NEPA).

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

501 **LEDPA** means the least environmentally damaging practicable alternative. The determination of
502 practicable alternatives shall be consistent with the State Supplemental Dredge or Fill Guidelines,
503 section 230.10(a).

504 **Normal Circumstances** is the soil and hydrologic conditions that are normally present, without regard
505 to whether the vegetation has been removed. The determination of whether normal circumstances
506 exist in a disturbed area involves an evaluation of the extent and relative permanence of the physical
507 alteration of wetland hydrology and hydrophytic vegetation, and consideration of the purpose and cause
508 of the physical alterations to hydrology and vegetation.

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509 **Order** means waste discharge requirements, waivers of waste discharge requirements, or water quality
510 certification.

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

513 **Project** means the whole of an action that includes a discharge of dredged or fill material to waters of
514 the state.

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

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

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

524 **Watershed Approach** means an analytical process for evaluating the environmental effects of a
525 proposed project and making decisions that support the sustainability or improvement of aquatic
526 resources in a watershed. The watershed approach recognizes that the abundance, diversity, and
527 condition of aquatic resources in a watershed support beneficial uses. Diversity of aquatic resources
528 includes both the types of aquatic resources and the locations of those aquatic resources in a
529 watershed. Consideration is also given to understanding historic and potential aquatic resource
530 conditions, past and projected aquatic resource impacts in the watershed, and terrestrial connections
531 between aquatic resources. The watershed approach can be used to evaluate avoidance and
532 minimization of direct, secondary (indirect), and cumulative project impacts. It also can be used in
533 determining compensatory mitigation requirements.

534 **Watershed Plan** means a document developed in consultation with relevant stakeholders, for the
535 specific goal of aquatic resource restoration, establishment, enhancement, and preservation within a
536 watershed. A watershed plan addresses aquatic resource conditions in the watershed, multiple
537 stakeholder interests, and land uses. Watershed plans should include information about implementing
538 the watershed plan. Watershed plans may also identify priority sites for aquatic resource restoration
539 and protection. Examples of watershed plans include special area management plans, advance
540 identification programs, and wetland management plans. The permitting authority may approve the use
541 of Habitat Conservation Plans (HCPs) and Natural Community Conservation Plans (NCCPs) as
542 watershed plans.

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

548 The watershed profile shall include information sufficient to evaluate direct, secondary (indirect), and
549 cumulative impacts of project and factors that may favor or hinder the success of compensatory
550 mitigation projects and help define watershed goals. It may include such things as current trends in
551 habitat loss or conservation, cumulative impacts of past development activities, current development

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552 trends, the presence and need of sensitive species, and chronic environmental problems or site
553 conditions such as flooding or poor water quality.

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

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

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

565 It is the intent of the Water Boards to be consistent with the U.S. EPA's 404(b)(1) Guidelines where
566 feasible. Due to jurisdictional and procedural differences, some modifications to the U.S. EPA's
567 404(b)(1) Guidelines were necessary. Generally, these changes or deletions were made to reduce
568 redundancy (especially where sufficiently described elsewhere in these Procedures) and to account for
569 other state requirements. Note that the numbering scheme of the U.S. EPA's 404(b)(1) Guidelines has
570 been retained in these State Supplemental Dredge or Fill Guidelines for the benefit of practitioners who
571 are familiar with the U.S. EPA's 404(b)(1) Guidelines. The State Supplemental Dredge or Fill
572 Guidelines describe how the Water Boards will implement the U.S. EPA's 404(b)(1) Guidelines under
573 these Procedures. The definitions contained herein apply to these Procedures, including the State
574 Supplemental Dredge or Fill Guidelines.

575 **Subpart A – General**

576 § 230.3 Definitions.

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

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

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

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

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

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

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

592 (q1) Special aquatic sites means those sites identified in subpart E. Special aquatic sites are
593 geographic areas, large or small, possessing special ecological characteristics of productivity,
594 habitat, wildlife protection, or other important and easily disrupted ecological values. These areas
595 are generally recognized as significantly influencing or positively contributing to the general overall
596 environmental health or vitality of the entire ecosystem of a region. (See § 230.10 (a)(3))

597 § 230.6 Adaptability

598 (a) The manner in which these Guidelines are used depends on the physical, biological, and
599 chemical nature of the proposed extraction site, the material to be discharged, and the candidate
600 disposal site, including any other important components of the ecosystem being evaluated.
601 Documentation to demonstrate knowledge about the extraction site, materials to be extracted, and
602 the candidate disposal site is an essential component of guideline application. These Guidelines
603 allow evaluation and documentation for a variety of activities, ranging from those with large,
604 complex impacts on the aquatic environment to those for which the impact is likely to be innocuous.

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605 It is unlikely that the Guidelines will apply in their entirety to any one activity, no matter how
606 complex. It is anticipated that substantial numbers of applications will be for minor, routine activities
607 that have little, if any, potential for significant degradation of the aquatic environment. It generally is
608 not intended or expected that extensive testing, evaluation or analysis will be needed to make
609 findings of compliance in such routine cases.

610 (b) The Guidelines user, including the agency or agencies responsible for implementing the
611 Guidelines, must recognize the different levels of effort that should be associated with varying
612 degrees of impact and require or prepare commensurate documentation. The level of
613 documentation should reflect the significance and complexity of the discharge activity.

614 (c) An essential part of the evaluation process involves making determinations as to the relevance
615 of any portion(s) of the Guidelines and conducting further evaluation only as needed. However,
616 where portions of the Guidelines review procedure are “short form” evaluations, there still must be
617 sufficient information (including consideration of both individual and cumulative impacts) to support
618 the decision of whether to specify the site for disposal of dredged or fill material and to support the
619 decision to curtail or abbreviate the evaluation process. The presumption against the discharge in
620 [§ 230.10](#) applies to this decision-making.

621 **Subpart B – Compliance with Guidelines**

622 § 230.10 Restrictions on Discharge

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

669 § 230.40 Sanctuaries and refuges

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

672 § 230.41 Wetlands.

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

674 § 230.42 Mud Flats.

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

681 § 230.43 Vegetated shallows.

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

685 § 230.45 Riffle and Pool Complexes.

686 (a) Steep gradient sections of streams are sometimes characterized by riffle and pool complexes. Such
687 stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over

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688 a coarse substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen
689 levels in the water. Pools are deeper areas associated with riffles. Pools are characterized by a slower
690 stream velocity, a streaming flow, a smooth surface, and a finer substrate. Riffle and pool complexes
691 are particularly valuable habitat for fish and wildlife.

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

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

697 § 230.70 Actions concerning the location of the discharge.

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

- 700 (a) Locating and confining the discharge to minimize smothering of organisms;
- 701 (b) Designing the discharge to avoid a disruption of periodic water inundation patterns;
- 702 (c) Selecting a disposal site that has been used previously for dredged material discharge;
- 703 (d) Selecting a disposal site at which the substrate is composed of material similar to that being
704 discharged, such as discharging sand on sand or mud on mud;
- 705 (e) Selecting a disposal site, the discharge point, and the method of discharge to minimize the
706 extent of any plume;
- 707 (f) Designing the discharge of dredged or fill material to minimize or prevent the creation of standing
708 bodies of water in areas of normally fluctuating water levels, and minimize or prevent the drainage
709 of areas subject to such fluctuations.

710 § 230.71 Actions concerning the material to be discharged

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

- 713 (a) Disposal of dredged material in such a manner that physiochemical conditions are maintained,
714 and the potency and availability of pollutants are reduced.
- 715 (b) Limiting the solid, liquid, and gaseous components of material to be discharged at a particular
716 site;
- 717 (c) Adding treatment substances to the discharge material;
- 718 (d) Utilizing chemical flocculants to enhance the deposition of suspended particulates in diked
719 disposal areas.

720 § 230.72 Actions controlling the material after discharge.

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

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

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

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- 726 (2) Using lined containment areas to reduce leaching where leaching of chemical constituents
727 from the discharged material is expected to be a problem;
- 728 (b) Capping in-place contaminated material with clean material or selectively discharging the most
729 contaminated material first to be capped with the remaining material;
- 730 (c) Maintaining and containing discharged material properly to prevent point and nonpoint sources
731 of pollution;
- 732 (d) Timing the discharge to minimize impact, for instance during periods of unusual high-water
733 flows, wind, wave, and tidal actions.
- 734 § 230.73 Actions affecting the method of dispersion.
- 735 The effects of a discharge can be minimized by the manner in which it is dispersed, such as:
- 736 (a) Where environmentally desirable, distributing the dredged material widely in a thin layer at the
737 disposal site maintain natural substrate contours and elevation;
- 738 (b) Orienting a dredged or fill material mound to minimize undesirable obstruction to the water
739 current or circulation pattern, and utilizing natural bottom contours to minimize the size of the
740 mound;
- 741 (c) Using silt screens or other appropriate methods to confine suspended particulate/turbidity to a
742 small area where settling or removal can occur;
- 743 (d) Making use of currents and circulation patterns to mix, disperse and dilute the discharge;
- 744 (e) Minimizing water column turbidity by using a submerged diffuser system. A similar effect can be
745 accomplished by submerging pipeline discharges or otherwise releasing materials near the bottom;
- 746 (f) Selecting sites or managing discharges to confine and minimize the release of suspended
747 particulates to give decreased turbidity levels and to maintain light penetration for organisms;
- 748 (g) Setting limitations on the amount of material to be discharged per unit of time or volume of
749 receiving water.
- 750 § 230.74 Actions related to technology.
- 751 Discharge technology should be adapted to the needs of each site. In determining whether the
752 discharge operation sufficiently minimizes adverse environmental impacts, the applicant should
753 consider:
- 754 (a) Using appropriate equipment or machinery, including protective devices, and the use of such
755 equipment or machinery in activities related to the discharge of dredged or fill material;
- 756 (b) Employing appropriate maintenance and operation on equipment or machinery, including
757 adequate training, staffing, and working procedures;
- 758 (c) Using machinery and techniques that are especially designed to reduce damage to wetlands.
759 This may include machines equipped with devices that scatter rather than mound excavated
760 materials, machines with specially designed wheels or tracks, and the use of mats under heavy
761 machines to reduce wetland surface compaction and rutting;
- 762 (d) Designing access roads and channels spanning structures using culverts, open channels, and
763 diversions that will pass both low and high-water flows, accommodate fluctuating water levels, and
764 maintain circulation and faunal movement;
- 765 (e) Employing appropriate machinery and methods of transport of the material for discharge.

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766 § 230.75 Actions affecting plant and animal populations.

767 Minimization of adverse effects on populations of plant and animals can be achieved by:

768 (a) Avoiding changes in water current and circulation patterns which would interfere with the
769 movement of animals;

770 (b) Selecting sites or managing discharges to prevent or avoid creating habitat conducive to the
771 development of undesirable predators or species which have a competitive edge ecologically over
772 indigenous plants or animals;

773 (c) Avoiding sites having unique habitat or other value, including habitat of threatened or
774 endangered species;

775 (d) Using planning and construction practices to institute habitat development and restoration to
776 produce a new or modified environmental state of higher ecological value by displacement of some
777 or all of the existing environmental characteristics. Habitat development and restoration techniques
778 can be used to minimize adverse impacts and to compensate for destroyed habitat. Additional
779 criteria for compensation measures are provided in subpart J of this part. Use techniques that have
780 been demonstrated to be effective in circumstances similar to those under consideration wherever
781 possible. Where proposed development and restoration techniques have not yet advanced to the
782 pilot demonstration stage, initiate their use on a small scale to allow corrective action if
783 unanticipated adverse impacts occur;

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

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

787 § 230.76 Actions affecting human use.

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

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

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

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

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

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

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

800 § 230.77 Other actions.

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

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

804 (c) In dredging projects funded by Federal agencies other than the Corps of Engineers, maintain
805 desired water quality of the return discharge through agreement with the Federal funding authority

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806 on scientifically defensible pollutant concentration levels in addition to any applicable water quality
807 standards;

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

811 **Subpart J – Compensatory Mitigation for Losses of Aquatic Resources**

812 § 230.91 Purpose and general considerations.

813 (a) Purpose.

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

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

821 § 230.92 Definitions.

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

823 Adaptive management means the development of a management strategy that anticipates likely
824 challenges associated with compensatory mitigation projects and provides for the implementation of
825 actions to address those challenges, as well as unforeseen changes to those projects. It requires
826 consideration of the risk, uncertainty, and dynamic nature of compensatory mitigation projects and
827 guides modification of those projects to optimize performance. It includes the selection of appropriate
828 measures that will ensure that the aquatic resource functions are provided and involves analysis of
829 monitoring results to identify potential problems of a compensatory mitigation project and the
830 identification and implementation of measures to rectify those problems.

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

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

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

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

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

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- 848 Days means calendar days.
- 849 Debit means a unit of measure (e.g., a functional or areal measure or other suitable metric)
850 representing the loss of aquatic functions at an impact or project site. The measure of aquatic
851 functions is based on the resources impacted by the authorized activity.
- 852 Enhancement means the manipulation of the physical, chemical, or biological characteristics of an
853 aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s).
854 Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a
855 decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic
856 resource area.
- 857 Establishment (creation) means the manipulation of the physical, chemical, or biological
858 characteristics present to develop an aquatic resource that did not previously exist at an upland site.
859 Establishment results in a gain in aquatic resource area and functions.
- 860 Functional capacity means the degree to which an area of aquatic resource performs a specific
861 function.
- 862 Functions means the physical, chemical, and biological processes that occur in ecosystems.
- 863 Impact means adverse effect.
- 864 In-kind means a resource of a similar structural and functional type to the impacted resource.
- 865 In-lieu fee program means a program involving the restoration, establishment, enhancement, and/or
866 preservation of aquatic resources through funds paid to a governmental or non-profit natural
867 resources management entity to satisfy compensatory mitigation requirements for Orders. Similar to
868 a mitigation bank, an in-lieu fee program sells compensatory mitigation credits to permittees whose
869 obligation to provide compensatory mitigation is then transferred to the in-lieu program sponsor.
870 However, the rules governing the operation and use of in-lieu fee programs are somewhat different
871 from the rules governing operation and use of mitigation banks. The operation and use of an in-lieu
872 fee program are governed by an in-lieu fee program instrument.
- 873 In-lieu fee program instrument means the legal document for the establishment, operation, and use of
874 an in-lieu fee program.
- 875 Instrument means mitigation banking instrument or in-lieu fee program instrument.
- 876 Mitigation bank means a site, or suite of sites, where resources (e.g., wetlands, streams, riparian
877 areas) are restored, established, enhanced, and/or preserved for the purpose of providing
878 compensatory mitigation for impacts authorized by Orders. In general, a mitigation bank sells
879 compensatory mitigation credits to permittees whose obligation to provide compensatory mitigation is
880 then transferred to the mitigation bank sponsor. The operation and use of a mitigation bank are
881 governed by a mitigation banking instrument.
- 882 Mitigation banking instrument means the legal document for the establishment, operation, and use of
883 an in-lieu fee program.
- 884 Off-site means an area that is neither located on the same parcel of land as the impact site, nor on a
885 parcel of land contiguous to the parcel containing the impact site.
- 886 On-site means an area located on the same parcel of land as the impact site, or on a parcel of land
887 contiguous to the impact site.
- 888 Out-of-kind means a resource of a different structural and functional type from the impacted resource.

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- 889 Performance standards are observable or measurable physical (including hydrological), chemical
890 and/or biological attributes that are used to determine if a compensatory mitigation project meets its
891 objectives.
- 892 Permittee-responsible mitigation means an aquatic resource restoration, establishment,
893 enhancement, and/or preservation activity undertaken by the permittee (or an authorized agent or
894 contractor) to provide compensatory mitigation for which the permittee retains full responsibility.
- 895 Preservation means the removal of a threat to, or preventing the decline of, aquatic resources by an
896 action in or near those aquatic resources. This term includes activities commonly associated with the
897 protection and maintenance of aquatic resources through the implementation of appropriate legal and
898 physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.
- 899 Re-establishment means the manipulation of the physical, chemical, or biological characteristics of a
900 site with the goal of returning natural/historic functions to a former aquatic resource. Re-
901 establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource
902 area and functions.
- 903 Reference aquatic resources are a set of aquatic resources that represent the full range of variability
904 exhibited by a regional class of aquatic resources as a result of natural processes and anthropogenic
905 disturbances.
- 906 Rehabilitation means the manipulation of the physical, chemical, or biological characteristics of a site
907 with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation
908 results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.
- 909 Restoration means the manipulation of the physical, chemical, or biological characteristics of a site
910 with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the
911 purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-
912 establishment and rehabilitation.
- 913 Service area means the geographic area within which impacts can be mitigated at a specific
914 mitigation bank or an in-lieu fee program, as designated in its instrument.
- 915 Services mean the benefits that human populations receive from functions that occur in ecosystems.
- 916 Sponsor means any public or private entity responsible for establishing, and in most circumstances,
917 operating a mitigation bank or in-lieu fee program.
- 918 Temporal loss is the time lag between the loss of aquatic resource functions caused by the permitted
919 impacts and the replacement of aquatic resource functions at the compensatory mitigation site.
920 Higher compensation ratios may be required to compensate for temporal loss. When the
921 compensatory mitigation project is initiated prior to, or concurrent with, the permitted impacts, the
922 permitting authority may determine that compensation for temporal loss is not necessary, unless the
923 resource has a long development time.
- 924 Watershed means a land area that drains to a common waterway, such as a stream, lake, estuary,
925 wetland, or ultimately the ocean.
- 926 Watershed approach is defined above in the main text of these Procedures.
- 927 Watershed plan is defined above in the main text of these Procedures.
- 928 § 230.93 General compensatory mitigation requirements.
- 929 (a) General Considerations.

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930 (1) The fundamental objective of compensatory mitigation is to offset environmental losses
931 resulting from unavoidable impacts to waters of the state authorized by Orders. The permitting
932 authority must determine the compensatory mitigation to be required in an Order, based on
933 what would be environmentally preferable. In making this determination, the permitting authority
934 must assess the likelihood for ecological success and sustainability, and the location of the
935 compensation site relative to the impact site and their significance within the watershed, and the
936 costs of the compensatory mitigation project. In many cases, the environmentally preferable
937 compensatory mitigation may be provided through mitigation banks or in-lieu fee programs
938 because they usually involve consolidating compensatory mitigation projects where ecologically
939 appropriate, consolidating resources, providing financial planning and scientific expertise (which
940 often is not practical for permittee-responsible compensatory mitigation projects), reducing
941 temporal losses of functions, and reducing uncertainty over project success. Compensatory
942 mitigation requirements must be commensurate with the amount and type of impact that is
943 associated with a particular Order. Applicants are responsible for proposing an appropriate
944 compensatory mitigation option to offset unavoidable impacts.

945 (2) Compensatory mitigation may be performed using methods of restoration, enhancement,
946 establishment, and in certain circumstances preservation. Restoration should generally be the
947 first option considered because the likelihood of success is greater and the impacts to
948 potentially ecologically important uplands are reduced compared to establishment, and the
949 potential gains in terms of aquatic resource functions are greater, compared to enhancement
950 and preservation.

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

958 (b) Type and location of compensatory mitigation.

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

971 (2) Mitigation bank credits. When permitted impacts are located within the service area of an
972 approved mitigation bank, and the bank has the appropriate number and resource type of

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973 credits available, the permittee's compensatory mitigation requirements may be met by securing
974 those credits from the sponsor. Since an approved instrument (including an approved mitigation
975 plan and appropriate real estate and financial assurances) for a mitigation bank is required to be
976 in place before its credits can begin to be used to compensate for authorized impacts, use of a
977 mitigation bank can help reduce risk and uncertainty, as well as temporal loss of resource
978 functions and services. Mitigation bank credits are not released for debiting until specific
979 milestones associated with the mitigation bank site's protection and development are achieved,
980 thus use of mitigation bank credits can also help reduce risk that mitigation will not be fully
981 successful. Mitigation banks typically involve larger, more ecologically valuable parcels, and
982 more rigorous scientific and technical analysis, planning and implementation than permittee-
983 responsible mitigation. Also, development of a mitigation bank requires site identification in
984 advance, project-specific planning, and significant investment of financial resources that is often
985 not practicable for many in-lieu fee programs. For these reasons, the permitting authority
986 should give preference to the use of mitigation bank credits when these considerations are
987 applicable. However, these same considerations may also be used to override this preference,
988 where appropriate, as, for example, where an in-lieu fee program has released credits available
989 from a specific approved in-lieu fee project, or a permittee-responsible project will restore an
990 outstanding resource based on rigorous scientific and technical analysis.

991 (3) In-lieu fee program credits. Where permitted impacts are located within the service area of
992 an approved in-lieu fee program, and the sponsor has the appropriate number and resource
993 type of credits available, the permittee's compensatory mitigation requirements may be met by
994 securing those credits from the sponsor. Where permitted impacts are not located in the service
995 area of an approved mitigation bank, or the approved mitigation bank does not have the
996 appropriate number and resource type of credits available to offset those impacts, in-lieu fee
997 mitigation, if available, is generally preferable to permittee-responsible mitigation. In-lieu fee
998 projects typically involve larger, more ecologically valuable parcels, and more rigorous scientific
999 and technical analysis, planning and implementation than permittee-responsible mitigation.
1000 They also devote significant resources to identifying and addressing high-priority resource
1001 needs on a watershed scale, as reflected in their compensation planning framework. For these
1002 reasons, the permitting authority should give preference to in-lieu fee program credits over
1003 permittee-responsible mitigation, where these considerations are applicable. However, as with
1004 the preference for mitigation bank credits, these same considerations may be used to override
1005 this preference where appropriate. Additionally, in cases where permittee-responsible
1006 mitigation is likely to successfully meet performance standards before advance credits secured
1007 from an in-lieu fee program are fulfilled, the permitting authority should also give consideration
1008 to this factor in deciding between in-lieu fee mitigation and permittee-responsible mitigation.

1009 (4) Permittee-responsible mitigation under a watershed approach. Where permitted impacts
1010 are not in the service area of an approved mitigation bank or in-lieu fee program that has the
1011 appropriate number and resource type of credits available, permittee-responsible mitigation is
1012 the only option. Where practicable and likely to be successful and sustainable, the resource
1013 type and location for the required permittee-responsible compensatory mitigation should be
1014 determined using the principles of a watershed approach as outlined in paragraph (c) of this
1015 section.

1016 (5) Permittee-responsible mitigation through on-site and in-kind mitigation. In cases where a
1017 watershed approach is not practicable, the permitting authority should consider opportunities to

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1018 offset anticipated aquatic resource impacts by requiring on-site and in-kind compensatory
1019 mitigation. The permitting authority must also consider the practicability of on-site
1020 compensatory mitigation and its compatibility with the proposed project.

1021 (6) Permittee-responsible mitigation through off-site and/or out-of-kind mitigation. If, after
1022 considering opportunities for on-site, in-kind compensatory mitigation as provided in paragraph
1023 (b)(5) of this section, the permitting authority determines that these compensatory mitigation
1024 opportunities are not practicable, are unlikely to compensate for the permitted impacts, or will be
1025 incompatible with the proposed project, and an alternative, practicable off-site and/or out-of-kind
1026 mitigation opportunity is identified that has a greater likelihood of offsetting the permitted
1027 impacts or is environmentally preferable to on-site or in-kind mitigation, the permitting authority
1028 should require that this alternative compensatory mitigation be provided.

1029 (c) Watershed approach to compensatory mitigation.

1030 (1) The permitting authority must use a watershed approach to establish compensatory
1031 mitigation requirements in Orders as described in the main text of the Procedures. Where a
1032 watershed plan is available, the permitting authority will determine whether the plan meets the
1033 definition of watershed plan in the Procedures and therefore is appropriate for use in the
1034 watershed approach for compensatory mitigation. In cases where the permitting authority
1035 determines that an appropriate watershed plan is available, the watershed approach should be
1036 based on that plan. Where no such plan is available, the watershed approach should be based
1037 on information provided by the project sponsor or available from other sources. The ultimate
1038 goal of a watershed approach is to maintain and improve the abundance, diversity, and
1039 condition of aquatic resources within watersheds through strategic selection of compensatory
1040 mitigation sites.

1041 (2) Considerations.

1042 (i) A watershed approach to compensatory mitigation considers the importance of condition,
1043 landscape position and resource type of compensatory mitigation projects for the
1044 sustainability of aquatic resource functions within the watershed. Such an approach
1045 considers how the condition, types, and locations of compensatory mitigation projects will
1046 provide the desired aquatic resource functions, and will continue to function over time in a
1047 changing landscape. It also considers the habitat requirements of important species, habitat
1048 loss or conversion trends, sources of watershed impairment, and current development
1049 trends, as well as the requirements of other regulatory and non-regulatory programs that
1050 affect the watershed, such as storm water management or habitat conservation programs. It
1051 includes the protection and maintenance of terrestrial resources, such as non-wetland
1052 riparian areas and uplands, when those resources contribute to or improve the overall
1053 ecological functioning of aquatic resources in the watershed. Compensatory mitigation
1054 requirements determined through the watershed approach should not focus exclusively on
1055 specific functions (e.g., water quality or habitat for certain species), but should provide, where
1056 practicable, the suite of functions typically provided by the affected aquatic resource.

1057 (ii) Locational factors (e.g., hydrology, surrounding land use) are important to the success of
1058 compensatory mitigation for impacted habitat functions and may lead to siting of such
1059 mitigation away from the project area. However, consideration should also be given to

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1060 functions and services (e.g., water quality, flood control, shoreline protection) that will likely
1061 need to be addressed at or near the areas impacted by the permitted impacts.

1062 (iii) A watershed approach may include on-site compensatory mitigation, off-site
1063 compensatory mitigation (including mitigation banks or in-lieu fee programs), or a
1064 combination of on-site and off-site compensatory mitigation.

1065 (iv) A watershed approach to compensatory mitigation should include, to the extent
1066 practicable, inventories of historic and existing aquatic resources, including identification of
1067 degraded aquatic resources, and identification of immediate and long-term aquatic resource
1068 needs within watersheds that can be met through permittee-responsible mitigation projects,
1069 mitigation banks, or in-lieu fee programs. Planning efforts should identify and prioritize
1070 aquatic resource restoration, establishment, and enhancement activities, and preservation of
1071 existing aquatic resources that are important for maintaining or improving ecological functions
1072 of the watershed. The identification and prioritization of resource needs should be as specific
1073 as possible, to enhance the usefulness of the approach in determining compensatory
1074 mitigation requirements.

1075 (v) A watershed approach is not appropriate in areas where watershed boundaries do not
1076 exist, such as marine areas. In such cases, an appropriate spatial scale should be used to
1077 replace lost functions and services within the same ecological system (e.g., reef complex,
1078 littoral drift cell).

1079 (3) Information Needs.

1080 (i) In the absence of a watershed plan determined by the permitting authority under
1081 paragraph (c)(1) of this section to be appropriate for use in the watershed approach, the
1082 permitting authority will use a watershed approach based on analysis of information
1083 regarding watershed conditions (as identified in the watershed profile) and needs, including
1084 potential sites for aquatic resource restoration activities and priorities for aquatic resource
1085 restoration and preservation. Such information includes: Current trends in habitat loss or
1086 conversion; cumulative impacts of past development activities, current development trends,
1087 the presence and needs of sensitive species; site conditions that favor or hinder the success
1088 of compensatory mitigation projects; and chronic environmental problems such as flooding or
1089 poor water quality.

1090 (ii) This information may be available from sources such as wetland maps; soil surveys; U.S.
1091 Geological Survey topographic and hydrologic maps; aerial photographs; information on rare,
1092 endangered and threatened species and critical habitat; local ecological reports or studies;
1093 and other information sources that could be used to identify locations for suitable
1094 compensatory mitigation projects in the watershed.

1095 (iii) The level of information and analysis needed to support a watershed approach must be
1096 commensurate with the scope and scale of the proposed impacts requiring an Order, as well
1097 as the functions lost as a result of those impacts.

1098 (4) Watershed Scale. The size of watershed addressed using a watershed approach should not
1099 be larger than is appropriate to ensure that the aquatic resources provided through

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1100 compensation activities will effectively compensate for adverse environmental impacts resulting
1101 from activities authorized by Orders. The permitting authority should consider relevant
1102 environmental factors and appropriate locally-developed standards and criteria when
1103 determining the appropriate watershed scale in guiding compensation activities.

1104 (d) Site selection.

1105 (1) The compensatory mitigation project site must be ecologically suitable for providing the
1106 desired aquatic resource functions. In determining the ecological suitability of the compensatory
1107 mitigation project site, the permitting authority must consider, to the extent practicable, the
1108 following factors:

1109 (i) Hydrological conditions, soil characteristics, and other physical and chemical
1110 characteristics;

1111 (ii) Watershed-scale features, such as aquatic habitat diversity, habitat connectivity, and
1112 other landscape scale functions;

1113 (iii) The size and location of the compensatory mitigation site relative to hydrologic sources
1114 (including the availability of water rights) and other ecological features;

1115 (iv) Compatibility with adjacent land uses and watershed management plans;

1116 (v) Reasonably foreseeable effects the compensatory mitigation project will have on
1117 ecologically important aquatic or terrestrial resources (e.g., shallow sub-tidal habitat, mature
1118 forests), cultural sites, or habitat for federally- or state-listed threatened and endangered
1119 species; and

1120 (vi) Other relevant factors including, but not limited to, development trends, anticipated land
1121 use changes, habitat status and trends, the relative locations of the impact and mitigation
1122 sites in the stream network, local or regional goals for the restoration or protection of
1123 particular habitat types or functions (e.g., re-establishment of habitat corridors or habitat for
1124 species of concern), water quality goals, floodplain management goals, and the relative
1125 potential for chemical contamination of the aquatic resources.

1126 (2) Permitting authorities may require on-site, off-site, or a combination of on-site and off-site
1127 compensatory mitigation to replace permitted losses of aquatic resource functions and services.

1128 (3) Applicants should propose compensation sites adjacent to existing aquatic resources or
1129 where aquatic resources previously existed.

1130 (e) Mitigation type.

1131 (1) In general, in-kind mitigation is preferable to out-of-kind mitigation because it is most likely to
1132 compensate for the functions and services lost at the impact site. For example, tidal wetland
1133 compensatory mitigation projects are most likely to compensate for unavoidable impacts to tidal
1134 wetlands, while perennial stream compensatory mitigation projects are most likely to

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1135 compensate for unavoidable impacts to perennial streams. Thus, except as provided in
1136 paragraph (e)(2) of this section, the required compensatory mitigation shall be of a similar type
1137 to the affected aquatic resource.

1138 (2) If the permitting authority determines, using the watershed approach in accordance with
1139 paragraph (c) of this section that out-of-kind compensatory mitigation will serve the aquatic
1140 resource needs of the watershed, the permitting authority may authorize the use of such out-of-
1141 kind compensatory mitigation. The basis for authorization of out-of-kind compensatory
1142 mitigation must be documented in the administrative record for the Order action.

1143 (3) For difficult-to-replace resources (e.g., bogs, fens, springs, streams, vegetated seasonal
1144 wetlands, slope and seep wetlands, vernal pools, and wet meadows) if further avoidance and
1145 minimization is not practicable, the required compensation should be provided, if practicable,
1146 through in-kind rehabilitation, enhancement, or preservation since there is greater certainty that
1147 these methods of compensation will successfully offset permitted impacts.

1148 (f) Amount of compensatory mitigation.

1149 (1) If the permitting authority determines that compensatory mitigation is necessary to offset
1150 unavoidable impacts to aquatic resources, the amount of required compensatory mitigation
1151 must be, to the extent practicable, sufficient to replace lost aquatic resource functions. In cases
1152 where appropriate functional or condition assessment methods or other suitable metrics are
1153 available, these methods should be used where practicable to determine how much
1154 compensatory mitigation is required.

1155 (2) The permitting authority must require a mitigation ratio greater than one-to-one where
1156 necessary to account for the method of compensatory mitigation (e.g., preservation), the
1157 likelihood of success, differences between the functions lost at the impact site and the functions
1158 expected to be produced by the compensatory mitigation project, temporal losses of aquatic
1159 resource functions, the difficulty of restoring or establishing the desired aquatic resource type
1160 and functions, and/or the distance between the affected aquatic resource and the compensation
1161 site. The rationale for the required replacement ratio must be documented in the administrative
1162 record for the Order action.

1163 (3) If an in-lieu fee program will be used to provide the required compensatory mitigation, and
1164 the appropriate number and resource type of released credits are not available, the permitting
1165 authority must require sufficient compensation to account for the risk and uncertainty associated
1166 with in-lieu fee projects that have not been implemented before the permitted impacts have
1167 occurred.

1168 (g) Use of mitigation banks and in-lieu fee programs. Mitigation banks and in-lieu fee programs
1169 may be used to compensate for impacts to aquatic resources authorized by general Orders and
1170 individual Orders in accordance with the preference hierarchy in paragraph (b) of this section.
1171 Mitigation banks and in-lieu fee programs may also be used to satisfy requirements arising out of an
1172 enforcement action, such as supplemental environmental projects.

1173 (h) Preservation.

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1174 (1) Preservation may be used to provide compensatory mitigation for activities authorized by
1175 Orders when all the following criteria are met:

1176 (i) The resources to be preserved provide important physical, chemical, or biological
1177 functions for the watershed;

1178 (ii) The resources to be preserved contribute significantly to the ecological sustainability of
1179 the watershed. In determining the contribution of those resources to the ecological
1180 sustainability of the watershed, the permitting authority must use appropriate quantitative
1181 assessment tools where available;

1182 (iii) Preservation is determined by the permitting authority to be appropriate and practicable;

1183 (iv) The resources are under threat of destruction or adverse modifications; and

1184 (v) The preserved site will be permanently protected through an appropriate real estate or
1185 other legal instrument (e.g., easement, title transfer to state resource agency or land trust).

1186 (2) Where preservation is used to provide compensatory mitigation, to the extent appropriate
1187 and practicable the preservation shall be done in conjunction with aquatic resource restoration,
1188 establishment, and/or enhancement activities. This requirement may be waived by the
1189 permitting authority where preservation has been identified as a high priority using a watershed
1190 approach described in paragraph (c) of this section, but compensation ratios shall be higher.

1191 (i) Buffers. The permitting authority may require the restoration, establishment,
1192 enhancement, and preservation, as well as the maintenance, of riparian areas and/or buffers
1193 around aquatic resources where necessary to ensure the long-term viability of those
1194 resources. Buffers may also provide habitat or corridors necessary for the ecological
1195 functioning of aquatic resources. If buffers are required by the permitting authority as part of
1196 the compensatory mitigation project, compensatory mitigation credit will be provided for those
1197 buffers, as provided in section IV B.5 (c).

1198 (j) Relationship to other federal, tribal, state, and local programs.

1199 (1) Compensatory mitigation projects for Orders may also be used to satisfy the environmental
1200 requirements of other programs, such as tribal, state, or local wetlands regulatory programs,
1201 other federal programs such as the Surface Mining Control and Reclamation Act, Corps civil
1202 works projects, and Department of Defense military construction projects, consistent with the
1203 terms and requirements of these programs and subject to the following considerations:

1204 (i) The compensatory mitigation project must include appropriate compensation required by
1205 the Order for unavoidable impacts to aquatic resources authorized by that Order.

1206 (ii) Under no circumstances may the same credits be used to provide mitigation for more than
1207 one permitted activity. However, where appropriate, compensatory mitigation projects,
1208 including mitigation banks and in-lieu fee projects, may be designed to holistically address
1209 requirements under multiple programs and authorities for the same activity.

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1210 (2) Except for projects undertaken by federal agencies, or where federal funding is specifically
1211 authorized to provide compensatory mitigation, federally-funded aquatic resource restoration or
1212 conservation projects undertaken for purposes other than compensatory mitigation, such as the
1213 Wetlands Reserve Program, Conservation Reserve Program, and Partners for Wildlife Program
1214 activities, cannot be used for the purpose of generating compensatory mitigation credits for
1215 activities authorized by Orders. However, compensatory mitigation credits may be generated by
1216 activities undertaken in conjunction with, but supplemental to, such programs in order to
1217 maximize the overall ecological benefits of the restoration or conservation project.

1218 (3) Compensatory mitigation projects may also be used to provide compensatory mitigation
1219 under the federal and state Endangered Species Act or for Natural Community Conservation
1220 Plans and Habitat Conservation Plans, as long as they comply with the requirements of
1221 paragraph (j)(1) of this section.

1222 (k) Order conditions.

1223 (1) The compensatory mitigation requirements for an Order, including the amount and type of
1224 compensatory mitigation, must be clearly stated in the special conditions of the individual Order
1225 or authorization to use the general Order. The special conditions must be enforceable.

1226 (2) For an Order that requires permittee-responsible mitigation, the special conditions must:

1227 (i) Identify the party responsible for providing the compensatory mitigation;

1228 (ii) Incorporate, by reference, the final or draft mitigation plan approved by the permitting
1229 authority;

1230 (iii) State the objectives, performance standards, and monitoring required for the
1231 compensatory mitigation project, unless they are provided in the approved final mitigation
1232 plan; and

1233 (iv) Describe any required financial assurances or long-term management provisions for the
1234 compensatory mitigation project, unless they are specified in the approved final mitigation
1235 plan.

1236 (4) If a mitigation bank or in-lieu fee program is used to provide the required compensatory
1237 mitigation, the special conditions must indicate whether a mitigation bank or in-lieu fee program
1238 will be used, and specify the number and resource type of credits the permittee is required to
1239 secure. In the case of an individual Order, the special condition must also identify the specific
1240 mitigation bank or in-lieu fee program that will be used. For authorizations to use a general
1241 Order, the special conditions may either identify the specific mitigation bank or in-lieu fee
1242 program, or state that the specific mitigation bank or in-lieu fee program used to provide the
1243 required compensatory mitigation must be approved by the permitting authority before the
1244 credits are secured.

1245 (l) Party responsible for compensatory mitigation.

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1246 (1) For permittee-responsible mitigation, the special conditions of the Order must clearly
1247 indicate the party or parties responsible for the implementation, performance, and long-term
1248 management of the compensatory mitigation project.

1249 (3) If use of a mitigation bank or in-lieu fee program is approved by the permitting authority to
1250 provide part or all of the required compensatory mitigation for an Order, the permittee retains
1251 responsibility for providing the compensatory mitigation until the appropriate number and
1252 resource type of credits have been secured from a sponsor and the permitting authority has
1253 received documentation that confirms that the sponsor has accepted the responsibility for
1254 providing the required compensatory mitigation. This documentation may consist of a letter or
1255 form signed by the sponsor, with the Order number and a statement indicating the number and
1256 resource type of credits that have been secured from the sponsor. Copies of this
1257 documentation will be retained in the administrative records for both the Order and the
1258 instrument. If the sponsor fails to provide the required compensatory mitigation, the permitting
1259 authority may pursue measures against the sponsor to ensure compliance.

1260 (m) Timing. Implementation of the compensatory mitigation project shall be, to the maximum extent
1261 practicable, in advance of or concurrent with the activity causing the authorized impacts. The
1262 permitting authority shall require, to the extent appropriate and practicable, additional compensatory
1263 mitigation to offset temporal losses of aquatic functions that will result from the permitted activity.

1264 (n) Financial assurances.

1265 (1) The permitting authority shall require sufficient financial assurances to ensure a high level of
1266 confidence that the compensatory mitigation project will be successfully completed, in
1267 accordance with applicable performance standards. In cases where an alternate mechanism is
1268 available to ensure a high level of confidence that the compensatory mitigation will be provided
1269 and maintained (e.g., a formal, documented commitment from a government agency or public
1270 authority) the permitting authority may determine that financial assurances are not necessary for
1271 that compensatory mitigation project.

1272 (2) The amount of the required financial assurances must be determined by the permitting
1273 authority, in consultation with the project sponsor, and must be based on the size and
1274 complexity of the compensatory mitigation project, the degree of completion of the project at the
1275 time of project approval, the likelihood of success, the past performance of the project sponsor,
1276 and any other factors the permitting authority deems appropriate. Financial assurances may be
1277 in the form of performance bonds, escrow accounts, casualty insurance, letters of credit,
1278 legislative appropriations for government sponsored projects, or other appropriate instruments,
1279 subject to the approval of the permitting authority. The rationale for determining the amount of
1280 the required financial assurances must be documented in the administrative record for either the
1281 Order or the instrument. In determining the assurance amount, the permitting authority shall
1282 consider the cost of providing replacement mitigation, including costs for land acquisition,
1283 planning and engineering, legal fees, mobilization, construction, and monitoring.

1284 (3) If financial assurances are required, the Order must include a special condition requiring the
1285 financial assurances to be in place prior to commencing the permitted activity.

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1286 (4) Financial assurances shall be phased out once the compensatory mitigation project has
1287 been determined by the permitting authority to be successful in accordance with its performance
1288 standards. The Order or instrument must clearly specify the conditions under which the
1289 financial assurances are to be released to the permittee, sponsor, and/or other financial
1290 assurance provider, including, as appropriate, linkage to achievement of performance
1291 standards, adaptive management, or compliance with special conditions.

1292 (5) A financial assurance must be in a form that ensures that the permitting authority will receive
1293 notification at least 120 days in advance of any termination or revocation. For third-party
1294 assurance providers, this may take the form of a contractual requirement for the assurance
1295 provider to notify the permitting authority at least 120 days before the assurance is revoked or
1296 terminated.

1297 (6) Financial assurances shall be payable at the direction of the permitting authority to his
1298 designee or to a standby trust agreement. When a standby trust is used (e.g., with performance
1299 bonds or letters of credit) all amounts paid by the financial assurance provider shall be
1300 deposited directly into the standby trust fund for distribution by the trustee in accordance with
1301 the permitting authority's instructions.

1302 (o) Compliance with applicable law. The compensatory mitigation project must comply with all
1303 applicable federal, state, and local laws. The Order, mitigation banking instrument, or in-lieu fee
1304 program instrument must not require participation by the permitting authority in project
1305 management, including receipt or management of financial assurances or long-term financing
1306 mechanisms, except as determined by the permitting authority to be consistent with its statutory
1307 authority, mission, and priorities.

1308 § 230.94 Planning and documentation.

1309 (a) Pre-application consultations. Potential applicants for Orders are encouraged to participate in
1310 pre-application meetings with the permitting authority and appropriate agencies to discuss potential
1311 mitigation requirements and information needs.

1312 (c) Mitigation plan.

1313 (1) Preparation and Approval.

1314 (i) For individual Orders, the permittee must prepare a draft mitigation plan and submit it to
1315 the permitting authority for review prior to issuing the Order. After addressing any comments
1316 provided by the permitting authority, the permittee must prepare a final mitigation plan, which
1317 must be approved by the permitting authority prior to commencing work in waters of the state.
1318 The approved final mitigation plan must be incorporated into the individual Order either as an
1319 attachment or by reference. The final mitigation plan must include the items described in
1320 paragraphs (c)(2) through (c)(14) of this section, but the level of detail of the mitigation plan
1321 should be commensurate with the scale and scope of the impacts. As an alternative, the
1322 permitting authority may determine that it would be more appropriate to address any of the
1323 items described in paragraphs (c)(2) through (c)(14) of this section as Order conditions,
1324 instead of components of a compensatory mitigation plan. For permittees who intend to fulfill
1325 their compensatory mitigation obligations by securing credits from approved mitigation banks
1326 or in-lieu fee programs, their mitigation plans need include only the items described in
1327 paragraphs (c)(5) and (c)(6) of this section, and the name of the specific mitigation bank or
1328 in-lieu fee program to be used.

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1329 (2) Objectives. A description of the resource type(s) and amount(s) that will be provided, the
1330 method of compensation (i.e., restoration, establishment, enhancement, and/or preservation),
1331 and the manner in which the resource functions of the compensatory mitigation project will
1332 address the needs of the watershed, ecoregion, physiographic province, or other geographic
1333 area of interest.

1334 (3) Site selection. A description of the factors considered during the site selection process.
1335 This should include consideration of watershed needs, on-site alternatives where applicable,
1336 and the practicability of accomplishing ecologically self-sustaining aquatic resource restoration,
1337 establishment, enhancement, and/or preservation at the compensatory mitigation project site.
1338 (See [§ 230.93\(d\)](#).)

1339 (4) Site protection instrument. A description of the legal arrangements and instrument, including
1340 site ownership, that will be used to ensure the long-term protection of the compensatory
1341 mitigation project site (see [§ 230.97\(a\)](#)).

1342 (5) Baseline information. A description of the ecological characteristics of the proposed
1343 compensatory mitigation project site and, in the case of an application for an Order, the impact
1344 site. This may include descriptions of historic and existing plant communities, historic and
1345 existing hydrology, soil conditions, a map showing the locations of the impact and mitigation
1346 site(s) or the geographic coordinates for those site(s), and other site characteristics appropriate
1347 to the type of resource proposed as compensation. The baseline information should also
1348 include a delineation of waters of the state on the proposed compensatory mitigation project
1349 site. A prospective permittee planning to secure credits from an approved mitigation bank or in-
1350 lieu fee program only needs to provide baseline information about the impact site, not the
1351 mitigation bank or in-lieu fee project site.

1352 (6) Determination of credits. A description of the number of credits to be provided, including a
1353 brief explanation of the rationale for this determination. (See [§ 230.93\(f\)](#).)

1354 (i) For permittee-responsible mitigation, this should include an explanation of how the
1355 compensatory mitigation project will provide the required compensation for unavoidable
1356 impacts to aquatic resources resulting from the permitted activity.

1357 (ii) For permittees intending to secure credits from an approved mitigation bank or in-lieu fee
1358 program, it should include the number and resource type of credits to be secured and how
1359 these were determined.

1360 (7) Mitigation work plan. Detailed written specifications and work descriptions for the
1361 compensatory mitigation project, including, but not limited to, the geographic boundaries of the
1362 project; construction methods, timing, and sequence; source(s) of water, including connections
1363 to existing waters and uplands; methods for establishing the desired plant community; plans to
1364 control invasive plant species; the proposed grading plan, including elevations and slopes of the
1365 substrate; soil management; and erosion control measures. For stream compensatory
1366 mitigation projects, the mitigation work plan may also include other relevant information, such as
1367 planform geometry, channel form (e.g., typical channel cross-sections), watershed size, design
1368 discharge, and riparian area plantings.

1369 (8) Maintenance plan. A description and schedule of maintenance requirements to ensure the
1370 continued viability of the resource once initial construction is completed.

1371 (9) Performance standards. Ecologically-based standards that will be used to determine
1372 whether the compensatory mitigation project is achieving its objectives. (See [§ 230.95](#).)

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1373 (10) Monitoring requirements. A description of parameters to be monitored in order to
1374 determine if the compensatory mitigation project is on track to meet performance standards and
1375 if adaptive management is needed. A schedule for monitoring and reporting on monitoring
1376 results to the permitting authority must be included. (See [§ 230.96.](#))

1377 (11) Long-term management plan. A description of how the compensatory mitigation project will
1378 be managed after performance standards have been achieved to ensure the long-term
1379 sustainability of the resource, including long-term financing mechanisms and the party
1380 responsible for long-term management. (See [§ 230.97\(d\).](#))

1381 (12) Adaptive management plan. A management strategy to address unforeseen changes in
1382 site conditions or other components of the compensatory mitigation project, including the party
1383 or parties responsible for implementing adaptive management measures. The adaptive
1384 management plan will guide decisions for revising compensatory mitigation plans and
1385 implementing measures to address both foreseeable and unforeseen circumstances that
1386 adversely affect compensatory mitigation success. (See [§ 230.97\(c\).](#))

1387 (13) Financial assurances. A description of financial assurances that will be provided and how
1388 they are sufficient to ensure a high level of confidence that the compensatory mitigation project
1389 will be successfully completed, in accordance with its performance standards (see [§ 230.93\(n\).](#))

1390 (14) Other information. The permitting authority may require additional information as
1391 necessary to determine the appropriateness, feasibility, and practicability of the compensatory
1392 mitigation project.

1393 § 230.95 Ecological performance standards.

1394 (a) The approved mitigation plan must contain performance standards that will be used to assess
1395 whether the project is achieving its objectives. Performance standards should relate to the
1396 objectives of the compensatory mitigation project, so that the project can be objectively evaluated to
1397 determine if it is developing into the desired resource type, providing the expected condition or
1398 functions, and attaining any other applicable metrics (e.g., acres).

1399 (b) Performance standards must be based on attributes that are objective and verifiable. Ecological
1400 performance standards must be based on the best available science that can be measured or
1401 assessed in a practicable manner. Performance standards may be based on variables or
1402 measures of functional capacity or condition as described in assessment methodologies,
1403 measurements of hydrology or other aquatic resource characteristics, and/or comparisons to
1404 reference aquatic resources of similar type and landscape position. The use of reference aquatic
1405 resources to establish performance standards will help ensure that those performance standards
1406 are reasonably achievable, by reflecting the range of variability exhibited by the regional class of
1407 aquatic resources as a result of natural processes and anthropogenic disturbances. Performance
1408 standards based on measurements of hydrology should take into consideration the hydrologic
1409 variability exhibited by reference aquatic resources, especially wetlands. Where practicable,
1410 performance standards should take into account the expected stages of the aquatic resource
1411 development process, in order to allow early identification of potential problems and appropriate
1412 adaptive management.

1413 § 230.96 Monitoring.

1414 (a) General.

1415 (1) Monitoring the compensatory mitigation project site is necessary to determine if the project is
1416 meeting its performance standards, and to determine if measures are necessary to ensure that

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1417 the compensatory mitigation project is accomplishing its objectives. The submission of
1418 monitoring reports to assess the development and condition of the compensatory mitigation
1419 project is required, but the content and level of detail for those monitoring reports must be
1420 commensurate with the scale and scope of the compensatory mitigation project, as well as the
1421 compensatory mitigation project type. The mitigation plan must address the monitoring
1422 requirements for the compensatory mitigation project, including the parameters to be monitored,
1423 the length of the monitoring period, the party responsible for conducting the monitoring, the
1424 frequency for submitting monitoring reports to the permitting authority, and the party responsible
1425 for submitting those monitoring reports to the permitting authority.

1426 (2) The permitting authority may conduct site inspections on a regular basis (e.g., annually)
1427 during the monitoring period to evaluate mitigation site performance.

1428 (b) Monitoring period. The mitigation plan must provide for a monitoring period that is sufficient to
1429 demonstrate that the compensatory mitigation project has met performance standards, but not less
1430 than five years. A longer monitoring period must be required for aquatic resources with slow
1431 development rates (e.g., forested wetlands, bogs). Following project implementation, the permitting
1432 authority may reduce or waive the remaining monitoring requirements upon a determination that the
1433 compensatory mitigation project has achieved its performance standards. Conversely the
1434 permitting authority may extend the original monitoring period upon a determination that
1435 performance standards have not been met or the compensatory mitigation project is not on track to
1436 meet them. The permitting authority may also revise monitoring requirements when remediation
1437 and/or adaptive management is required.

1438 (c) Monitoring reports.

1439 (1) The permitting authority must determine the information to be included in monitoring reports.
1440 This information must be sufficient for the permitting authority to determine how the
1441 compensatory mitigation project is progressing towards meeting its performance standards, and
1442 may include plans (such as as-built plans), maps, and photographs to illustrate site conditions.
1443 Monitoring reports may also include the results of functional, condition, or other assessments
1444 used to provide quantitative or qualitative measures of the functions provided by the
1445 compensatory mitigation project site.

1446 (2) The permittee or sponsor is responsible for submitting monitoring reports in accordance with
1447 the special conditions of the Order or the terms of the instrument. Failure to submit monitoring
1448 reports in a timely manner may result in compliance action by the permitting authority.

1449 (3) Monitoring reports must be provided by the permitting authority to interested federal, tribal,
1450 state, and local resource agencies, and the public, upon request.

1451 § 230.97 Management.

1452 (a) Site protection.

1453 (1) The aquatic habitats, riparian areas, buffers, and uplands that comprise the overall
1454 compensatory mitigation project must be provided long-term protection through real estate
1455 instruments or other available mechanisms, as appropriate. Long-term protection may be
1456 provided through real estate instruments such as conservation easements held by entities such
1457 as federal, tribal, state, or local resource agencies, non-profit conservation organizations, or
1458 private land managers; the transfer of title to such entities; or by restrictive covenants. For
1459 government property, long-term protection may be provided through state or federal facility
1460 management plans or integrated natural resources management plans. When approving a
1461 method for long-term protection of non-government property other than transfer of title, the

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1462 permitting authority shall consider relevant legal constraints on the use of conservation
1463 easements and/or restrictive covenants in determining whether such mechanisms provide
1464 sufficient site protection. To provide sufficient site protection, a conservation easement or
1465 restrictive covenant should, where practicable, establish in an appropriate third party (e.g.,
1466 governmental or non-profit resource management agency) the right to enforce site protections
1467 and provide the third party the resources necessary to monitor and enforce these site
1468 protections.

1469 (2) The real estate instrument, management plan, or other mechanism providing long-term
1470 protection of the compensatory mitigation site must, to the extent appropriate and practicable,
1471 prohibit incompatible uses (e.g., clear cutting or mineral extraction) that might otherwise
1472 jeopardize the objectives of the compensatory mitigation project. Where appropriate, multiple
1473 instruments recognizing compatible uses (e.g., fishing or grazing rights) may be used.

1474 (3) The real estate instrument, management plan, or other long-term protection mechanism
1475 must contain a provision requiring 60-day advance notification to the permitting authority before
1476 any action is taken to void or modify the instrument, management plan, or long-term protection
1477 mechanism, including transfer of title to, or establishment of any other legal claims over, the
1478 compensatory mitigation site.

1479 (4) For compensatory mitigation projects on public lands, where state or Federal facility
1480 management plans or integrated natural resources management plans are used to provide long-
1481 term protection, and changes in statute, regulation, or agency needs or mission results in an
1482 incompatible use on public lands originally set aside for compensatory mitigation, the public
1483 agency authorizing the incompatible use is responsible for providing alternative compensatory
1484 mitigation that is acceptable to the permitting authority for any loss in functions resulting from
1485 the incompatible use.

1486 (5) A real estate instrument, management plan, or other long-term protection mechanism used
1487 for site protection of permittee-responsible mitigation must be approved by the permitting
1488 authority in advance of, or concurrent with, the activity causing the authorized impacts.

1489 (b) Sustainability. Compensatory mitigation projects shall be designed, to the maximum extent
1490 practicable, to be self-sustaining once performance standards have been achieved. This includes
1491 minimization of active engineering features (e.g., pumps) and appropriate siting to ensure that
1492 natural hydrology and landscape context will support long-term sustainability. Where active long-
1493 term management and maintenance are necessary to ensure long-term sustainability (e.g.,
1494 prescribed burning, invasive species control, maintenance of water control structures, easement
1495 enforcement), the responsible party must provide for such management and maintenance. This
1496 includes the provision of long-term financing mechanisms where necessary. Where needed, the
1497 acquisition and protection of water rights must be secured and documented in the Order conditions
1498 or instrument.

1499 (c) Adaptive management.

1500 (1) If the compensatory mitigation project cannot be constructed in accordance with the
1501 approved mitigation plans, the permittee or sponsor must notify the permitting authority. A
1502 significant modification of the compensatory mitigation project requires approval from the
1503 permitting authority.

1504 (2) If monitoring or other information indicates that the compensatory mitigation project is not
1505 progressing towards meeting its performance standards as anticipated, the responsible party
1506 must notify the permitting authority as soon as possible. The permitting authority will evaluate

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1507 and pursue measures to address deficiencies in the compensatory mitigation project. The
1508 permitting authority will consider whether the compensatory mitigation project is providing
1509 ecological benefits comparable to the original objectives of the compensatory mitigation project.

1510 (3) The permitting authority, in consultation with the responsible party (and other federal, tribal,
1511 state, and local agencies, as appropriate), will determine the appropriate measures. The
1512 measures may include site modifications, design changes, revisions to maintenance
1513 requirements, and revised monitoring requirements. The measures must be designed to ensure
1514 that the modified compensatory mitigation project provides aquatic resource functions
1515 comparable to those described in the mitigation plan objectives.

1516 (4) Performance standards may be revised in accordance with adaptive management to
1517 account for measures taken to address deficiencies in the compensatory mitigation project.
1518 Performance standards may also be revised to reflect changes in management strategies and
1519 objectives if the new standards provide for ecological benefits that are comparable or superior to
1520 the approved compensatory mitigation project. No other revisions to performance standards will
1521 be allowed except in the case of natural disasters.

1522 (d) Long-term management.

1523 (1) The Order conditions or instrument must identify the party responsible for ownership and all
1524 long-term management of the compensatory mitigation project. The Order conditions or
1525 instrument may contain provisions allowing the permittee or sponsor to transfer the long-term
1526 management responsibilities of the compensatory mitigation project site to a land stewardship
1527 entity, such as a public agency, non-governmental organization, or private land manager, after
1528 review and approval by the permitting authority. The land stewardship entity need not be
1529 identified in the original Order or instrument, as long as the future transfer of long-term
1530 management responsibility is approved by the permitting authority.

1531 (2) A long-term management plan should include a description of long-term management
1532 needs, annual cost estimates for these needs, and identify the funding mechanism that will be
1533 used to meet those needs.

1534 (3) Any provisions necessary for long-term financing must be addressed in the original Order or
1535 instrument. The permitting authority may require provisions to address inflationary adjustments
1536 and other contingencies, as appropriate. Appropriate long-term financing mechanisms include
1537 non-wasting endowments, trusts, contractual arrangements with future responsible parties, and
1538 other appropriate financial instruments. In cases where the long-term management entity is a
1539 public authority or government agency, that entity must provide a plan for the long-term
1540 financing of the site.

1541 (4) For permittee-responsible mitigation, any long-term financing mechanisms must be
1542 approved in advance of the activity causing the authorized impacts.