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ENVIRONMENTAL PROTECTION

WATER RESOURCE MANAGEMENT

WATER MONITORING AND STANDARDS

Surface Water Quality Standards

Adopted Amendments: N.J.A.C. 7:9B-1.4 and 1.15

Proposed: March 4, 2019, at 51 N.J.R. 308(a) (see also 51 N.J.R. 531(a)).

Adopted: March 4, 2020, by Catherine R. McCabe, Commissioner, Department of Environmental Protection.

Filed: March 4, 2020, as R.2020 d.039, **with non-substantial changes** not requiring additional public notice and comment (see N.J.A.C. 1:30-6.3).

Authority: N.J.S.A. 13:1D-1 et seq., 58:10A-1 et seq., and 58:11A-1 et seq.

DEP Docket Number: 01-19-01.

Effective Date: April 6, 2020.

Expiration Date: October 17, 2023.

This rule adoption may be viewed or downloaded from the Department's website at https://www.nj.gov/dep/rules/adoptions.html.

The Department of Environmental Protection (Department) is adopting amendments to the Surface Water Quality Standards (SWQS), N.J.A.C. 7:9B, that upgrade the antidegradation designation of

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approximately 600 river miles to Category One (C1). The Department is also updating stream reclassifications based on trout sampling data. Adopted amendments additionally modify the definition of "exceptional ecological significance."

As indicated in the notice of proposal, the Department designates waterbodies listed in the tables at N.J.A.C. 7:9B-1.15(c) through (i) for purposes of implementing the antidegradation policies set forth at N.J.A.C. 7:9B-1.5(d). As specified in the definition of "Category One waters" at N.J.A.C. 7:9B-1.4, Category One waters are those designated for protection from measurable changes in water quality based on exceptional ecological significance, exceptional recreational significance, exceptional water supply significance or exceptional fisheries resource(s) to protect their aesthetic value (color, clarity, scenic setting) and ecological integrity (habitat, water quality, and biological functions). For this rulemaking, the Department evaluated data collected on all Category Two (C2) waters in the State and focused on upgrading waterbodies to C1 designation when waterbodies met the criteria for exceptional ecological significance and/or exceptional fisheries resources.

For a waterbody to be designated as C1 based on exceptional ecological significance, the waterbody must either support an endangered or threatened species or it must be found to support an exceptional aquatic community.

Waterbodies that qualify for exceptional ecological significance based on endangered or threatened species must meet the following criteria: (1) suitable habitat to support Bog Turtle, Brook Floater, Dwarf Wedgemussel, Eastern Pondmussel, Eastern Lampmussel, Green Floater, and/or Triangle Floater; and (2) documented occurrence(s) of at least one of these species verified by the Department for inclusion in the Natural Heritage Program.

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Waterbodies that qualify for exceptional ecological significance based on an exceptional aquatic community must be determined to possess both an unimpaired macroinvertebrate community, and at least two of four specified supporting factors. In order to be found to support an unimpaired macroinvertebrate community, the waterbody must achieve an unimpaired benthic macroinvertebrate index score (excellent or good), as measured by an organization with an approved Quality Assurance Project Plan, such as the Department's ambient macroinvertebrate network (AMNET) or the Raritan Headwaters Association (RHA). Once an unimpaired macroinvertebrate community has been found to exist, any two of the following supporting factors must be met to demonstrate an exceptional aquatic community: (1) optimal habitat as measured by the Department's Stream Habitat Assessment; (2) an excellent fish community as measured by the Department's Fish Index of Biotic Integrity (FIBI); (3) water quality data that demonstrates compliance with aquatic life criteria pursuant to N.J.A.C. 7:9B-1.14(d) for dissolved oxygen (DO), temperature, total phosphorus (TP), and total suspended solids (TSS); or (4) impervious surface percentages calculated by the Department's Bureau of GIS to be:

a. less than two percent impervious surface in a Hydrologic Unit Code (HUC 14) of less than five square miles; or

b. less than or equal to 10 percent impervious surface in a HUC 14 of greater than or equal to five square miles.

For further information on the analysis utilized to determine whether a waterbody qualifies for C1 antidegradation designation under the SWQS, see the notice of proposal Summary beginning at 51 N.J.R. 309.

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When proposing C1 designations based on exceptional ecological significance, the Department relied on the assessment results from the 2014 final and verified Integrated Water Quality Assessment Report (Integrated Report) and draft preliminary assessment results from the 2016 Integrated Report, as well as the Department's 2012 Land Use/Land Cover GIS layer. However, after the comment period, and in consideration of comments raised during that period, the Department reevaluated the proposed C1 upgrades using the most recent publicly available data, some of which were more recent than data used in the 2014 Integrated Report and the 2016 Integrated Report draft preliminary assessment results. Additionally, the Department reevaluated the proposed C1 upgrades using the 2015 Land Use/Land Cover GIS layer, which had not been publicly available at the time C1 evaluations were considered for this rulemaking.

All data used in the Department's evaluation were collected in accordance with a Quality Assurance Project Plan approved by the Department, the United States Environmental Protection Agency (USEPA), or the United States Geological Survey (USGS) (https://www.nj.gov/dep/wms/bears/cwm_qapps.htm). The data used for the evaluation are also publicly available to ensure transparency and replicability. This evaluation showed that approximately 150 river miles initially proposed for C1 designation no longer meet the definition of "exceptional ecological significance." The data used to make this determination included the following:

(1) AMNET, RHA, and FIBI data from 2017-2018, publicly available on the water quality portal (portal) at https://www.waterqualitydata.us/, which was developed in partnership with the USEPA, the USGS, and the United States Department of Agriculture (USDA);

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(2) water quality data for DO, TP, TSS, and temperature from 2009-2019, publicly available through the portal at https://www.waterqualitydata.us/; and

(3) the new impervious surface percentage data in the 2015 Land Use/Land Cover GIS layers, publicly available at https://gisdata-njdep.opendata.arcgis.com/;

Below is an indication of the approximate river miles that no longer meet the criteria necessary for C1 designation:

- Approximately 59 river miles no longer possess a nonimpaired benthic macroinvertebrate community.
- Approximately 39 river miles no longer possess an optimal habitat as measured by the Department's Stream Habitat Assessment.
- Approximately 34 river miles no longer possess water quality demonstrating compliance with the aquatic life criteria for DO, TP, TSS, and temperature.
- Approximately 19 additional river miles no longer satisfy the criteria for low impervious surface relative to the size of the waterbody's Hydrologic Unit Code (HUC) 14 subwatershed based on the 2015 Land Use/Land Cover GIS layers.

With regard to the impervious surface calculations, the changes are due in large part to the Department's impervious surface identification methodology, which was implemented during the development of the Department's 2015 Land Use/Land Cover GIS layers. The Department's 2012 Land Use/Land Cover GIS layer identified impervious surfaces based on visual assessments of aerial imagery. The 2015 impervious surface methodology used both imagery and Light Detection and Ranging (LIDAR)

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point clouds to identify impervious surface through a semi-automated process. The change in the methodologies resulted in different, but more accurate, impervious surface percentages, which resulted in approximately 19 river miles no longer meeting the supporting factor of low impervious surface relative to the size of the waterbody's HUC 14.

Waterbodies that are considered for C1 designation based on exceptional fisheries resources include waterbodies confirmed by the Department as supporting trout production or waterbodies approved by the Department for unrestricted shellfish harvest pursuant to the Shellfish Growing Water Classification rules at N.J.A.C. 7:12. When proposing C1 designation upgrades based on exceptional fisheries resources, the Department relied on trout sampling data provided by the Department's Bureau of Freshwater Fisheries. All waterbodies proposed for C1 designation on the basis of an exceptional fisheries resource are adopted as proposed.

The regulatory descriptions of all the stream boundaries and designations can be found at N.J.A.C. 7:9B-1.15 and in this rule adoption. The river mileage numbers listed in this document are estimates provided for general information only. The waterbodies for which the proposed antidegradation upgrades are no longer being adopted are listed in Table 3 under the Summary of Agency-Initiated Changes below.

Summary of Hearing Officer's Recommendation and Agency's Response:

The Department held a public hearing on the notice of proposal on Monday, April 8, 2019, at 1:00 P.M., at the New Jersey Forensic Science Technology Center Auditorium, 1200 Negron Drive, Hamilton,

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New Jersey. Kimberly Cenno, Chief of the Bureau of Environmental Analysis, Restoration and Standards, was the hearing officer. Approximately 50 people attended the hearing and 24 people commented at the public hearing. After considering the testimony at the public hearing and the written comments received, the hearing officer recommended that the Department adopt the amendments with the non-substantial changes described below in the Summary of Public Comments and Agency Responses and in the Summary of Agency-Initiated Changes. The Department accepts the recommendation.

A record of the public hearing is available for inspection in accordance with applicable law by contacting:

Department of Environmental Protection

Office of Legal Affairs

ATTN: DEP Docket No. 01-19-01

401 East State Street, 7th Floor

Mail Code 401-04L

PO Box 402

Trenton, NJ 08625-0402

Summary of Public Comments and Agency Responses:

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The Department accepted comments on the notice of proposal through June 3, 2019. In total, the Department received 1,753 comments. These comments included the following group submissions: 64 commenters who filed template emails from Trout Unlimited, 160 commenters who filed template emails from the Musconetcong Watershed Association, commenters who filed 100 postcards from the Delaware Riverkeeper Network, and 1,100 signatures on comments from the New Jersey League of Conservation Voters. In addition to these submissions, the Department received submissions from 329 other commenters.

The following individuals provided timely written and/or oral comments:

1. John Anderson, Rancocas Pathways
2. Maria Andrews, West Amwell Township
3. Barbara Andrews
4. Jill Arbuckle
5. Cole Baldino
6. Paula Baldwin
7. Eric Baratta
8. Regina Barna
9. Katherine Bartholome
10. Louise Bartholomew
11. Don Baugh, Upstream Alliance
12. Anthony Bavaro

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13. Bonnie Bayardi
14. Diane Beatty
15. Corinne Bell
16. Elizabeth Benjamin
17. Ellen Benoit
18. Eric Benson, Clean Water Action
19. Patrick Bergamo
20. Kate Berlin
21. Andre Bernard
22. Susan Bernardo, Musconetcong Watershed Association (representing 160 constituents)
23. Richard Bizub, Highlands Preservation Alliance
24. Richard Bizub, Pinelands Preservation Alliance
25. Marcia Blackwell
26. Marjorie Blanchard
27. Mary Anne Borge
28. Susan Brennan
29. Dave Briede
30. Maryann Briede
31. Janice Buchalski
32. Brian Budney

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33. Jesse Buerk

34. Jane Bullis, Merrill Creek Owners Group

35. Catherine C.

36. Geoff Caldwell

37. Rebecca Canright

38. John Cantilli

39. John Cantilli, Template email in support of Jacobs Creek and Rock Brook

40. Raymond Cantor, New Jersey Business and Industry Association

41. Paul Carluccio

42. Nancy Carringer

43. George Cassa, Shannon's Fly and Tackle Shop

44. Arlene Ceterski

45. Theresa Chapman

46. Jenny Chase

47. Alvin Chin

48. Susan Clark

49. Barbara Cochrane

50. Jennifer Coffey, Association of New Jersey Environmental Commissions (ANJEC)

51. Marsha Cohen

52. Elizabeth Colacino

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53. Ellen Collins

54. Dennis Concannon

55. James Cosgrove, Kleinfelder representing the Raritan Township Municipal Utilities Authority

56. James Cosgrove, Kleinfelder representing Montgomery Township

57. Joel Coyne

58. Regina Criscione

59. Kenneth Crowell

60. Susan Data-Samtak

61. Kent Davis

62. Russell Day

63. Katherine De Luca

64. Jason De Luca

65. David Dech, Warren County Planning Board

66. Ana Del Caupo

67. Delaware Riverkeeper Network (100 signed postcards)

68. Sophronia Demby

69. Jim Destephano

70. Jonas Devita

71. N. Diamond

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72. Justin DiBonaventura

73. David Dickman

74. Greg Dowling

75. Susan Driscoll

76. Betsy Driver, Representing the Common Council of the Borough of Flemington

77. Christine Dunbar

78. Brian Duvall, Center for Aquatic Sciences

79. Cheryl Dzubak

80. Teresa Ecker

81. Stephanie Eckert

82. Michael Egenton, New Jersey State Chamber of Commerce

83. Janet Eisenhauer

84. Styra Eisinger

85. Kyle England, New Jersey Concrete and Aggregate Association

86. Jamie Evanini

87. Diana Evans

88. Lisa Fania, On behalf of Jeff Kuhl, Raritan Township Mayor

89. Heather Fenyk

90. Andrea Fereshteh

91. Councilwoman Natalie Ferry

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92. Charles Fineran, Musconetcong River Management Council

93. Jason Fiske

94. George Fluck

95. Leona Fluck

96. Valerie Fox

97. Eugene Francis

98. Jane Frantz

99. Christopher Freeman

100. Jeffrey Freeman, Friends of Rahway River Parkway

101. Peter Fritz, Delanco Historic Preservation Advisory Board

102. Jack Gajda

103. Deogracia Galarza

104. Jane Morton Galetto, Citizens United to Protect the Maurice River, Inc.

105. Peggy Gallos, Association of Environmental Authorities

106. Catherine Galvin

107. Bill Gattler

108. William M. Gibby

109. Daniela Gioseffi

110. Zanya Gissler

111. David Glass, U.S. Home Corporation dba Lennar

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112. Alan Godber, Lawrence Brook Watershed

113. Chuck Graver

114. Jean Gray

115. Harriet Grose

116. Agust Gudmundsson, New Jersey State Council of Trout Unlimited

117. Kara Haas

118. Sarah Hare

119. Tom Harris, Volunteer National Parks, NY/NJ Trail Conference

120. Dennis Hart, Chemistry Council of New Jersey

121. Douglas Hartman, First Energy Corp.

122. Caitlin Haughey

123. Neil Hendrickson, Readington Township Environmental Commission

124. Janet Hermann-Dougherty

125. Alex Hernandez

126. Michael Herzog

127. Kathleen Hicks, City of Vineland

128. John Higgens, Clinton Township

129. Ramona Hillier-O'Hara

130. Kyle Hochenberger

131. Robert Hochenberger

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132. Wanda Hofbauer

133. Toni and James Hollywood

134. Jan Holmstrup, Habitat for Humanity

135. Nicholas Homyak

136. William Honachefsky

137. Phyliss Howe

138. Juergen Huelsebusch, Readington Township (Hunterdon County) Open Space Advisory Board

139. Susan Hullin

140. Alan Hunt, Musconetcong Watershed Association

141. Kathleen Hurley

142. Patricia Hurley

143. Fairfax Hutter

144. Richard Isaac

145. Michelle Jacob

146. Michael Jenkins, Kleinfelder

147. Winifred Johanson

148. Samantha Jones, Chemistry Council of New Jersey

149. Joan Kager

150. John Kashner

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151. John Kashwick

152. Robert Kass

153. Robert Kecskes, Freelance Water Resource Consultant

154. Jodi Keegan

155. Robert Keller

156. Carol Kelly

157. Dan Kennedy, Utility and Transportation Contractors Association of NJ

158. Paul Kenney, Musconetcong Wild & Scenic River

159. Pamela Kerr

160. Ashley Kerr, NJ Farm Bureau

161. William Kibler, Raritan Headwaters

162. Karen M Kilpatrick

163. David Kinney, Trout Unlimited

164. Kathleen Knight

165. Heidi Kolman

166. Alan Koop

167. Janice Kovach, Town of Clinton

168. Marc Kube

169. Jeffrey Kuhl, Raritan Township

170. Judith Kulp

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171. Karl and Susan Lackemacher

172. Suzanne Lagay, Hunterdon County Board of Chosen Freeholders

173. Linda Lang

174. Kristin Lauersen

175. Mary Lauko

176. Doreen Laury

177. April Lawicki

178. Luke Ledrappier

179. Michele Lee, Borough of High Bridge

180. Sharon Lee

181. Harold Leibovitz

182. Marie Leithauser

183. Katherine Little, Borough of Sussex

184. Andrea Loftin

185. Britt Long

186. Grant Lucking, New Jersey Builders Association

187. Yasaira Lugo

188. Denise Lytle

189. Joan Maccari

190. C. Sharyn Magee, Washington Crossing Audubon Society

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191. Jerry Manchec

192. Donald Mangus

193. Frank Marshall, New Jersey State League of Municipalities

194. Rich Martin

195. Teresa H. Martin

196. Celeste Martin

197. Robert Martucci, Town of Clinton Sewer

198. Nancy Mason

199. Harry Mazujian

200. Becky Mazzei

201. George Mcbride

202. E. Mcc.

203. Scott McCarthy, Sierra Club

204. Gayle McCarthy

205. Peter McCarthy

206. Bonnie McCay

207. Diane McGeehan

208. Michael G. McGuinness, NAIOP

209. Matthew McInerney, New Jersey Conversation Foundation

210. Melissa McKillip

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211. Harry Mcnally

212. Vita Mekovetz, Readington Township

213. David Mikkelsen

214. Sue Ellen Mikowski

215. David S. Miller

216. Marilyn Miller

217. Alina Moldoveanu

218. John Montefusco, New Jersey Trout Unlimited State Council

219. Brian Morgan

220. Marsha Morris

221. Patricia Moxley

222. Matthew Mulhall, M2 Associates

223. Susan Mullins

224. Peter S. Mulshine

225. Christopher Myers

226. Ken Nelson, Sussex Borough Planning Board

227. Gloria Nelson

228. Greg Odriscoll

229. David Ogens

230. Marielle Olentine

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231. Doug O'Malley, Environment New Jersey (representing 19 organizations)

232. Linda Oniki

233. Steven Oroho, New Jersey Legislature

234. John Ottinger

235. Mary Paist-Goldman, Rippled Waters Engineering

236. Dennis Palmer, Landis Sewerage Authority

237. Joanne Pannone

238. Kathleen Parisi

239. Eileen Parks, Borough of Flemington Planning Board

240. Frank A. Parrillo Jr.

241. Robert Paski

242. Pete Peterson

243. Christopher Phelan, Hunterdon County Chamber of Commerce

244. Charles Phillips

245. Kirk Pierson

246. Michael Pisauro, The Watershed Institute

247. Lisa Plevin, New Jersey Highlands Council

248. Ed Potosnak, New Jersey League of Conservation Voters (submission of 1,100 signatures)

249. Dan Preston

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250. Jean Publiee

251. Richard Puglisi

252. Frank L Puzzo

253. Beverly Railsback

254. Joann Ramos

255. Grace Ramus

256. Missy Rebovich, New Jersey Future

257. Elaine Reichart

258. Bettie J. Reina

259. Brian S. Reynolds

260. Ben Rich

261. Anthony Rizzello

262. Marshall Robert, Rowbear Consulting, PC

263. Kim Robinson

264. John Rosenblatt

265. James Rosenthal

266. Peter Rozano

267. Elliott Ruga, New Jersey Highlands Coalition

268. Evan Rupff

269. Barbara Sachau

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270. George Sarle

271. Mick Scheibbe

272. Ruth Schmid

273. Douglas Schneller

274. James Schupsky

275. Sandi Scott

276. Andrea Seabridge

277. Kim Sellon

278. Aleksander Shagalov

279. Robert Shane

280. Peter Shebey

281. Ron Sheetz

282. Leslie A. Smalley

283. Joseph Smith

284. Sue Smith

285. Monica Sobon, Hope Township Environmental Commission

286. Regina Spence

287. Marie St. John

288. Monica Stamm

289. Ivan Stevens

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290. Teresa Stimpfel

291. Fred Stine, Delaware Riverkeeper Network

292. Anna Stout

293. Mike Sullivan

294. Lakshmi Suresh

295. Eric Sween

296. Charles Switzler

297. Robert Tallon, Craft's Creek Watershed Association

298. Chris Teasdale, Tewksbury Township Environmental Commission

299. Samuel Hamilton Thompson

300. Kathi Thonet

301. Jeff Tittel, New Jersey Sierra Club

302. Trout Unlimited (template comments submitted by 64 constituents)

303. Steve Troyanovich

304. George Tyler, Tyler & Carmeli, P.C., representing Raritan Township Municipal Utilities Authority

305. L. Ulrich

306. Cathy Urbanski, West Amwell Township Environmental Commission

307. Andrea Van Benschoten

308. Heidi van Evera

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309. Margret van Vuuren

310. Lee Varian

311. Thomas Varro, Sussex County Municipal Utilities Authority

312. Linda Verrastro

313. Nomi Waksberg

314. Donald Walker

315. Jonathan Wall

316. Joan Warner

317. Elizabeth Watson

318. Thomas Wells, The Nature Conservancy

319. Claire Whitcomb, Madison Environmental Commission

320. Suzanne Wilder

321. Jody Williams

322. Kurt Williams

323. Catherine Williams

324. Nancy Wilson

325. Martin Wissig

326. Richard Wolfe, East Amwell Township

327. D. J. Wright

328. Donna Yavorsky

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329. Debra Young

330. Linda Zarnett

331. Sarah Zollner

332. Ruth Zowader

333. John Zullo

The comments received and the Department's responses are summarized below. The number(s) in parentheses after each comment identify the respective commenter(s) listed above.

Comments in Support of the Amendments

1. COMMENT: The proposed C1 upgrades are supported. (1, 3, 4, 5, 7, 8, 10, 11, 12, 15 - 23, 25, 26, 28, 31, 39, 40, 41, 42, 43, 45, 46, 48, 50, 51, 52, 56, 59-64, 66-70, 72, 73, 75, 77-81, 83, 86, 87, 89, 90, 92, 94, 96-100, 102, 104, 105, 106, 108, 109, 110, 112, 114-119, 121, 122, 123, 125, 126, 129-133, 135-151, 153, 154, 155, 156, 158, 159, 161-166, 170, 173, 174, 175, 177, 178, 180, 181, 182, 184, 185, 187-192, 194, 195, 196, 198, 199, 200, 202-207, 209-213, 218, 219, 220, 221, 223, 224, 225, 227, 228, 229, 231, 234, 235, 237, 238, 240, 241, 242, 244-250, 253-260, 263, 264, 267-274, 276, 278-286, 288, 290, 291, 292, 294-298, 301, 302, 303, 305-310, 313-323, 325, and 327-333)

2. COMMENT: The proposed C1 upgrades are supported as they help achieve the end goal of all waters of the State being swimmable and fishable. (14, 42, 71, 113, 124, 168, 230, 251, 252, 260, 261, 277, and 300)

3. COMMENT: The Department should continue identifying other streams and rivers deserving of protection and upgrade and adopt additional upgrades in the coming years. (92, 166, 256, 302, and 333)

4. COMMENT: The C1 upgrades and the resulting 300-foot riparian zone development restrictions are supported. The 300-foot riparian zone development restrictions will drive new development to vacant or available properties in town centers, especially in the Flemington/Raritan area. (61)

5. COMMENT: The commenters own property along a proposed stream segment and support the amended rules. (63, 151, and 315)

6. COMMENT: The designation of Beaver Brook as C1 is supported. (163, 172, 268, and 285)

7. COMMENT: The designation of Crystal Creek as C1 is supported. (297)

8. COMMENT: The designation of the Cooper River as C1 is supported. (11, 23, 78, 187, 265, and 289)

9. COMMENT: The proposed C1 upgrades of Tuckerton Creek, Westecunk Creek, and their tributaries is supported. (19, 23, and 284)

10. COMMENT: The proposed C1 upgrade of Old Robins Branch is supported. (23)

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11. COMMENT: The proposed C1 upgrade of the Paulins Kill, Pequest, and South Branch Raritan River segments is supported. (199)

12. COMMENT: The proposed C1 designations along the Musconetcong River are supported. (240)

13. COMMENT: The proposed C1 designation of Jacobs Creek is supported. (3, 10, 29, 31, 39, 46, 83, 89, 90, 96, 102, 106, 114, 139, 143, 145, 175, 184, 190, 205, 209, 210, 213, 227, 234, 246, 273, 292, 294, 299, 308, 309, 309, and 323)

14. COMMENT: The proposed C1 designation of the Maurice River and the Lamington River segments is supported. (206)

15. COMMENT: The proposed C1 designation of Pleasant Run, Prescott Brook, and South Branch Raritan River is supported. (212)

16. COMMENT: The proposed C1 designation of Rock Brook is supported. (2, 3, 10, 31, 39, 46, 83, 89, 90, 96, 102, 106, 114, 139, 143, 145, 175, 184, 205, 210, 213, 227, 234, 246, 273, 292, 294, 308, 309, 309, 323, and 326)

17. COMMENT: The proposed C1 designation of the South Branch Raritan River is supported. (324)

18. COMMENT: The proposed reclassifications of trout waters are supported. (42, 92, 140, 158, 163, 241, 307, and 320)

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19. COMMENT: The 300-foot riparian zone protections that result from the new C1 designations are supported. (13, 14, 34, 44, 49, 54, 63, 84, 123, 166, 170, 232, 241, 247, 297, 307, 312, and 326)

20. COMMENT: The expansion of the number of C1 designated streams in New Jersey, particularly in State Development and Redevelopment Plan (SDRP) Planning Areas 4 and 5, is a positive change as these areas are intended for preservation and contain some of the State's most important natural resources. (256)

RESPONSE TO COMMENTS 1 THROUGH 20: The Department acknowledges these comments in support of the amended rules. As indicated in the introduction to this adoption above, the extent of some waterbodies proposed for upgrade is being changed upon adoption to reflect the Department's evaluation of the most recent publicly available data and reevaluation of data used in the initial notice of proposal, with portions of some waterbodies proposed for upgrade no longer qualifying for upgrade based upon this updated information. For information regarding changes upon adoption to Westecunk Creek, Paulins Kill River, Pleasant Run, Maurice River, and South Branch Raritan River, see Table 3 under the Summary of Agency-Initiated Changes. Regarding changes upon adoption to the proposed C1 upgrade for Westecunk Creek, see the Response to Comment 94; regarding changes upon adoption to the proposed C1 upgrade for Pleasant Run, see the Response to Comment 114; regarding changes upon adoption to the C1 upgrade for South Branch Raritan River, see the Response to Comments 49 through 53.

For information on protections to trout waters and 300-foot riparian zones, see the Response to Comments 128 through 134. For more information regarding the State Development and Redevelopment Plan, see the Response to Comments 208 through 212.

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The Stakeholder Process

Executive Order No. 63 (EO63) and Administrative Procedure Act (APA)

21. COMMENT: The notice of proposal should be withdrawn and reproposed in full compliance with the statutory, regulatory, and legal requirements imposed on the Department by New Jersey law. The current notice of proposal fails to meet those standards. The Department did not provide a concise and clear explanation of the rulemaking, which, as published, was missing key supporting data and other information and was internally contradictory and confusing.

Additionally, the rulemaking does not follow the directives and mandates established by Governor Murphy. On April 2, 2019, Governor Murphy signed Executive Order No. (EO) 63, which states: "Governmental decisions should be based on the best available data, including scientific data if applicable. Where scientific evidence is an important element in developing or evaluating a rule, State entities should seek out and make productive use of scientific expertise available to them."

EO 63 also calls for a robust stakeholder process. During previous review of stream classifications several years ago, the stakeholder process was robust and, in fact, resulted in many changes after the initial designations. However, the current rulemaking was drafted and published without any "meaningful" stakeholder process. (82)

22. COMMENT: There are many individuals and organizations in New Jersey with knowledge and expertise in water quality, existing conditions, and land use. The

involvement of these individuals in a meaningful stakeholder process would have resolved many of the questions and concerns raised today and provided for a more complete, accurate, transparent, and meaningful record. (82, 193, and 304)

23. COMMENT: The stakeholder process for this rulemaking conflicts with Governor Murphy's recently signed EO 63. A legitimate stakeholders' process is justified and would significantly improve this rulemaking. The Department should invite all impacted municipalities, local sewer authorities, and regional authorities, at a minimum, to the stakeholders' session. This rulemaking should be withdrawn and a new, more thorough stakeholders' process should be initiated before reproposing the rulemaking. (40, 186, 193, and 304)

24. COMMENT: The rule proposal is opposed in its entirety, with the process followed in this rulemaking being inconsistent with the Administrative Procedure Act (APA). (262)

25. COMMENT: The Department has not provided the information requested to date, which seems in direct conflict with Governor Murphy's EO 63, which directed State agencies to better engage with and gather information from the regulated communities before formulating a proposed rulemaking. (2)

26. COMMENT: The Department did not provide an opportunity for meaningful public participation and the process followed did not align with Governor Murphy's EO 63. Even absent the Executive Order, the Department should engage with affected communities, provide opportunities to work in partnership with affected communities, gather information through community meetings, and publish a pre-proposal, among other

requirements of a transparent and robust stakeholder process. Rather than engage in a continued stakeholder process discussion, the Department proceeded to rule publication. The Department did not properly provide public notice of the C1 proposal and has not met the minimum requirements for impact statements in this notice of proposal. (55, 56, 105, and 157)

27. COMMENT: The Department should consider EO 63 and organize an additional stakeholder meeting to allow for direct interaction with the affected parties. (128)

28. COMMENT: The C1 proposal failed to appropriately provide notice to landowners, municipalities, businesses, and the general public regarding the location, extent, and nature of the impacted streams and their tributaries, as well as the affected sewage treatment plants, and riparian zones, amongst other concerns. (172)

29. COMMENT: The Department should increase the transparency and predictability of the rulemaking process. (172, 193, 239, and 304)

30. COMMENT: EO 63 calls for a robust stakeholder process. The rule was drafted and published without any meaningful stakeholder process, rendering the opportunity to comment unreasonable and, thus, the rulemaking violates the APA. Issues including impacts to sewer service areas, facilities discharging into, or upstream from, newly designated C1 areas, housing, land development, and property taxes should have been raised and addressed in the stakeholder process, so the various public policy values could have been evaluated, balanced, and perhaps, in certain cases, resolved.

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The Department provided inadequate time for public comment and there was an absence of meaningful impact assessment in several important areas, which results in an incomplete administrative record. The Department did not provide a concise and clear explanation of the notice of proposal, as required by the APA, and as published, the rulemaking was missing key supporting data and other information was internally contradictory and was confusing. The inconsistency in the notice of proposal renders the public notice ineffective. If regulations are adopted without the underlying facts, the net effect is as though the rules were adopted without any basis and/or any public notice, thus rendering them completely arbitrary, capricious, and unreasonable, and ignoring the APA requirements.

In addition, certain data the Department used to make its decisions on upgrading certain stream segments remains inaccessible. The rulemaking should be withdrawn and reproposed after proper notice with proper supporting documentation is provided. Although the comment period was extended, the extension was insufficient, and the rulemaking record continues to be incomplete and not transparent. (193 and 304)

31. COMMENT: As currently proposed, this rulemaking does not meet the constitutional standards of substantive or procedural due process nor the requirements of the APA. The rulemaking is also inconsistent with legislative intent as expressed in the Water Pollution Control Act and APA. (40)

32. COMMENT: The Department allowed only two weeks between the stakeholder meeting and submission of a completed rule proposal for publication. Clearly there was no

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opportunity for any member of the public and/or regulated community to have meaningful input through the stakeholder meeting process or to understand the effects of this rulemaking. This failure to engage in meaningful public dialogue in advance of such far-reaching rulemaking violated Governor Murphy's EO 63. (311)

RESPONSE TO COMMENTS 21 THROUGH 32: In EO 63 (2019), effective June 1, 2019, Governor Murphy reiterated the importance of focused regulation that considers impacts and directed that State entities strive to pursue the creation of a regulatory environment designed to support innovation, remove bottlenecks, and streamline interaction with the government, while supporting strong environmental, health, safety, and labor standards, by focusing on enumerated common sense goals. Among the specifically enumerated goals was that governmental decisions should be based on the best available data, including scientific data. EO 63 additionally reinforces that due consideration be given to Environmental Justice, with State agencies to identify and address, as appropriate and practicable, disproportionately high and adverse human health or environmental effects of the program, policy, or activity on minority and low-income populations. EO 63 specifically addresses the need for developing State-level regulatory frameworks to protect New Jersey's environment, as well as providing opportunities for groups and stakeholders to engage with the State in crafting those regulatory solutions, where practicable. EO 63 additionally stresses the importance of the rulemaking process being user-friendly, directing that rule proposal summaries give a straight-forward explanation of what the State entity intends to do or is doing before the technical description of the regulatory changes. While EO 63 was signed and became effective subsequent to the Department's publication of the notice of proposal of the amendments adopted at this time, the process followed by the Department is consistent both with EO 63 and the similar intent of the APA.

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After an overview of the regulatory provisions applicable to the designation of waterbodies for purposes of applying the antidegradation policies of the SWQS (particularly the bases by which waters could qualify for C1 designation as waters of exceptional ecological significance or as exceptional fisheries resources) and an explanation of the importance of such a designation in protecting the unique aspects present in a waterbody qualifying for C1 status, the notice of proposal included a description of the waterbody segments proposed for upgrade, including identification of the upstream and downstream boundaries of the segment proposed for upgrade as well as an explanation for each segment proposed for upgrade as to the basis upon which it qualified for upgrade under the existing provisions of the SWQS. The notice of proposal additionally included a summary of the environmental, public health, and public safety benefits provided by the proposed C1 upgrades, as well as an analysis of the impacts associated with an upgrade to C1 status, including impacts under the Flood Hazard Area Control Act (FHACA) Rules, N.J.A.C. 7:13, the New Jersey Pollutant Elimination System (NJPDES) Rules, N.J.A.C. 7:14A, and the Water Quality Management Planning (WQMP) Rules, N.J.A.C. 7:15. The requirements applicable to C1 waters under these rules were not amended by this rulemaking; they are existing requirements and restrictions applicable to all C1 waters in the State. Additionally, the Department included in the notice of proposal all impact statements required by the APA.

With reference to opportunities provided for public comment subsequent to publication of the proposal, where the enabling legislation for the rules proposed for amendment do not require a public hearing on proposed rulemaking, the APA only requires that a public hearing be held for rulemakings at the request of a committee of the Legislature, or a governmental agency or subdivision, or if, subsequent to publication, sufficient public interest is shown. The enabling statutes for the SWQS do not require a public hearing. However, a public hearing on the notice of proposal was held on April 8, 2019, and the

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Department accepted oral testimony at that time. In addition to oral testimony presented at the public hearing, the Department also accepted written comments at that time. Under the APA, when a rulemaking calendar is not provided, a 60-day comment period is required. For this rulemaking, a 60-day public comment period was originally established from March 4, 2019 to May 3, 2019. However, based on the comments received, the Department extended the time period for comments by an additional 30 days, or until June 3, 2019, to ensure there was adequate time for stakeholders and other interested parties to submit their comments.

Additionally, to supplement the pdf maps of the waters proposed for upgrade made available prior to publication of the notice of proposal, during the public comment period, the Department provided GIS layers for the proposed C1 waterbodies and pdf maps of affected upstream tributaries. It should be noted, as indicated on the Department's website at https://www.nj.gov/dep/wms/bears/swqs-tools.htm, when interpreting stream classifications and antidegradation designations, the narrative descriptions specified at N.J.A.C. 7:9B-1.15 take precedence. Maps and GIS information are helpful tools to identify a waterbody, but are not necessary to locate the waterbodies affected by the proposed amendments. The rule text included in the notice of proposal of these amendments to the SWQS provided narrative descriptions of each stream segment proposed for C1 upgrade. In addition, as discussed above, in consideration of the comments received, the Department made both the GIS layers for the proposed C1 waterbodies and pdf maps of the upstream segments impacted by the C1 upgrades available for the public to review. These GIS layers and pdf maps were provided to help the public more easily review and comment on the proposed upgrades, in addition to an extension of the comment period.

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The public comment process provided the public with ample opportunity and information to present concerns orally at the public hearing and/or in writing over a 90-day period. Through the stakeholder process provided, the opportunity to provide comment both in written form and at a public hearing, the extended public comment period provided on the notice of proposal, and the supplemental mapping materials provided to the public for review, the process provided during this rulemaking was consistent with, and exceeded, both the APA and the principles articulated in Executive Order 63 (2019).

Comments Recommending Additional Waterbodies

General

33. COMMENT: The Department should continue to review other streams and rivers deserving of upgrade to C1 antidegradation designation based on the two-tiered method of identifying eligible streams for aquatic community and the method for the presence of an endangered or threatened species. (43, 116, 192, 235, 267, 302, 301, and 307)

RESPONSE: See the introduction to this document for how the Department determines eligibility for C1 designation.

Overall, the Department has upgraded approximately 2,000 river miles and 10,000 acres of reservoirs to C1 designation since 2003. The Department continually evaluates new data as it becomes available to identify waters for future C1 designation. Additionally, the Department is reevaluating the criteria used to qualify and select waterbodies for C1 antidegradation upgrades as a result of stakeholder input and comments. Any changes to the existing criteria determined to be appropriate would be the subject of a future stakeholder process and rulemaking.

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34. COMMENT: The Department should upgrade Scout Run, a tributary of the Musconetcong River at the Musconetcong Gorge Preserve, for C1 designation. (143)

RESPONSE: Pursuant to the SWQS at N.J.A.C. 7:9B-1.15(d), prior to the effective date of this notice of adoption, Scout Run was designated as C1 and classified as trout maintenance (FW2-TM(C1)). In this rulemaking, the Department is reclassifying Scout Run from trout maintenance to trout production (FW2-TP(C1)) based on the trout sampling data.

35. COMMENT: The Department should reconsider the antidegradation designation applicable to the Millstone River and some tributaries of Toms River, which were initially proposed in 2007 for C1 designation but not adopted. (301)

RESPONSE: The Department did not propose the Millstone River for upgrade to C1 antidegradation designation as part of the 2007 rule proposal, which was published at 39 N.J.R. 1845(a). In formulating the notice of proposal adopted at this time, the Department considered all C2 surface waters for C1 designation based upon whether the waterbody met the criteria for exceptional ecological significance and/or an exceptional fisheries resource. Available sampling for the Millstone River indicated an impaired benthic macroinvertebrate community, making it ineligible at this time for C1 designation under the definition of “exceptional ecological significance,” supporting an exceptional aquatic community.

The Department adopted all C1 designations that were proposed for the Toms River on June 16, 2008 (see 40 N.J.R. 3630(b)) as part of that rulemaking. The commenter did not specify which tributaries of the Toms River that are currently designated as C2 and believes that it should receive further consideration. However, the evaluation of the appropriate antidegradation protection applicable to the State's waters, including the potential upgrade of waters to C1 designation, is a continual process performed by the Department. Accordingly, any remaining tributaries of the Toms River that are currently designated as C2 will be considered for C1 upgrade if, and when, data demonstrating the tributary's exceptional significance becomes available. See the introduction to this adoption above for more information regarding the standard that must be met for a water to qualify as possessing exceptional ecological significance under the SWQS.

36. COMMENT: The Department should consider for C1 antidegradation designation, the 149 miles of the Wallkill River that were initially proposed for C1 upgrade in 2007, but not adopted. In particular, the section of the Wallkill River that runs through the Wallkill Refuge should be analyzed. (231 and 301)

RESPONSE: Portions of the Wallkill River that were initially proposed for C1 upgrade in 2007 were not adopted on June 16, 2008, as part of that rulemaking due to the Department's reevaluation of the strategy in designating suitable habitat for the bog turtle, an endangered species (see 40

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N.J.R. 3630(b)). The Department determined that only waterbodies that intersected with suitable habitat for the bog turtle qualified for C1 upgrade based on exceptional ecological significance.

Portions of the Wallkill River that were not adopted on July 16, 2008, such as Clove Brook and West Branch Papakating Creek, were proposed for upgrade on March 4, 2019, and are included in this rulemaking.

Considering eligible C2 waters to upgrade to the C1 antidegradation designation is a continual process performed by the Department. Any remaining tributaries of the Wallkill River that are currently designated as C2 will be considered for C1 upgrade if, and when, data demonstrating the tributary's exceptional significance becomes available. See the introduction to this adoption above and the proposal summary for more information regarding the standard that must be met for a water to qualify as possessing exceptional ecological significance under the SWQS.

Additionally, see the Response to Comment 37 with reference to the portions of the Wallkill River in the rule proposal that are being adopted at this time.

37. COMMENT: The Whippany River and tributaries of Wallkill River should be considered for C1 designation. (307)

RESPONSE: With reference to the Wallkill River, the Department proposed in this rulemaking to upgrade to C1 antidegradation designation portions of the Wallkill River, including all unnamed tributaries to some of those portions, and an additional separately listed tributary.

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This adoption upgrades the Sussex County segment of the Wallkill River between Glenwood Road and the confluence with Wantage Brook, including all unnamed tributaries, based on the confirmed presence of Eastern Lampmussel and Triangle Floater within this segment, as well as exceptional ecological significance due to the presence of an exceptional aquatic community. This notice of adoption also upgrades other segments on the basis of exceptional ecological significance based solely upon the presence of an exceptional aquatic community.

The separately listed tributary will be redesignated as FW2-NT(C1) and is located south of Pimple Hills in Sussex County, with the upgraded antidegradation designation based upon the confirmed presence of Bog Turtle and its habitat within this tributary. The Department has determined that certain C2 segments of the Wallkill, including those not proposed for upgrade in this rulemaking, are ineligible for C1 designation at this time.

Particularly, the Department determined that the portion of the Wallkill River between Beaver Run and Glen Wood Road proposed for the C1 designation no longer meets the supporting factor of impervious surface thresholds required for C1 designation based upon the presence of an exceptional aquatic community. See the introduction above and Table 3 under the Summary of Agency-Initiated Changes for more information.

With reference to the Whippany River, the Department determined that it does not qualify for C1 designation as a water of exceptional ecological significance based upon it supporting an exceptional aquatic community, as the AMNET data indicated an impaired benthic macroinvertebrate community. Additionally, there was no evidence of the presence of any of the endangered or threatened species that may result in a waterbody being considered of exceptional ecological significance. Therefore, the

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Whippany River did not qualify for upgrade based upon exceptional ecological significance, supporting an exceptional aquatic community or threatened or endangered species.

38. COMMENT: The Department should extend the proposed designation of Beaver Brook to the entire stretch of the Brook in Warren County. (51 and 285)

RESPONSE: The Department is adopting the upgrade to C1 designation of the Beaver Brook from Honey Run to Pequest River as proposed, based on exceptional ecological significance, supporting an exceptional aquatic community.

As indicated above, in this rulemaking the Department analyzed existing waters designated as C2 to determine which waterbodies would qualify for upgrade to C1 designation based upon either exceptional ecological significance or exceptional fisheries resource. The segment of Beaver Brook upstream of Honey Run in Warren County, which is the only segment in Warren County not designated as C1 after the effective date of this adoption, is not currently eligible for C1 designation based on exceptional ecological significance or exceptional fisheries resource.

Available data did not indicate that this segment supports an exceptional aquatic community under the definition of "exceptional ecological significance." While AMNET station AN0045, located approximately two miles upstream of the proposed section, indicated a non-impaired macroinvertebrate community, which is a required factor to demonstrate an exceptional aquatic community, the stream segment did not have at least two of the four

supporting factors (habitat, FIBI, impervious surface, or water quality) necessary to demonstrate an exceptional aquatic community. Furthermore, AMNET station AN0045A, located less than a mile upstream of the proposed segment, indicated an impaired macroinvertebrate community. Additionally, no available data supported a finding that any of the seven endangered or threatened species identified in the definition of "exceptional ecological significance" are present in the upstream segment.

Finally, no available data indicated that this segment of the Beaver Brook qualified as an exceptional fisheries resource at the time of this rulemaking.

As indicated above, evaluation of the appropriate antidegradation protection applicable to the State's waters is a continuous process. Should any information become available demonstrating that this segment of Beaver Brook or any other water of the State qualifies for upgrade, such an upgrade will be proposed in a future rulemaking.

39. COMMENT: The Department should consider upgrading Spring Hill Brook and Crafts Creek to C1 designation. (297)

RESPONSE: While the SWQS specifically identify and list most of the State's waters at N.J.A.C. 7:9B-1.15, some smaller waterbodies are not specifically listed, but are still subject to classification and antidegradation designation. The waterbody identified as Crafts Creek by the commenter, which the Department assumes is Crafts Creek located in Mansfield, Burlington County, is not currently listed in the SWQS at N.J.A.C. 7:9B-1.15. In accordance with the

classification procedures for unnamed or unlisted waterbodies as set forth in N.J.A.C. 7:9B-1.15(b)5, Crafts Creek is currently classified as FW2-NT(C2). AMNET stations AN0135 and AN0136 within the subwatershed containing the headwater of Crafts Creek indicate that the benthic macroinvertebrate community is impaired. Accordingly, Crafts Creek does not qualify as a water of exceptional ecological significance. Further, no available data indicates that Crafts Creek qualifies as an exceptional fisheries resource.

40. COMMENT: The Department should consider the lower Raritan region, including tributaries of Lawrence Brook, for C1 designation based on protecting habitat for endangered or threatened species. The commenter states that the watershed is home to exceptional flora and fauna, such as Swamp Pink (*Hellonias bullata*) and the Wood Turtle (*Clemmys insculpta*). (112)

RESPONSE: As stated in the introduction of this adoption, the Department utilizes the presence of seven endangered or threatened species and their habitat in designating waterbodies for C1 upgrade under the definition of "exceptional ecological significance." Degradation of water quality and in-stream habitat may adversely affect the growth, reproduction, and feeding of these species and could lead to the extirpation (elimination of the local population of the endangered or threatened species) of these endangered or threatened species.

Swamp Pink and Wood Turtle are not among the seven endangered or threatened species whose presence supports a C1 designation under the definition of "exceptional ecological significance." The Department has not identified any information confirming the presence of any

of the seven endangered or threatened species identified in the definition of exceptional ecological significance or suitable habitat to support these species within the recommended waterbodies of the Lower Raritan Region, including tributaries of Lawrence Brook.

The Department is currently reviewing the list of endangered and threatened species that can serve as the basis for a C1 designation. Should there be a determination that consideration should be given to amending the list, the Department will initiate a stakeholder process with any potential change to be subject to a future rulemaking.

41. COMMENT: Tributaries of Flat Brook should be reviewed for C1 designation based on the presence of wild trout populations, which demonstrate an exceptional aquatic community. Fisheries surveys should be conducted in the Flat Brook watershed. (163)

RESPONSE: The entire length of Flat Brook, including its tributaries, is already designated as either Outstanding National Resource Waters (ONRW) or C1 under the SWQS at N.J.A.C. 7:9B-1.15(d). As explained in the notice of proposal Summary, ONRW is the most protective tier and applies to surface waters classified as FW1 waters, also known as non-degradation waters, and to PL waters (as indicated at N.J.A.C. 7:9B-1.4, "PL" is the general surface water classification applied to Pinelands Waters). These waters must be maintained in their natural state. Accordingly, the Flat Brook and its tributaries are already subject to C1 or greater protection as a result of the antidegradation designations applicable to these waters.

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42. COMMENT: The lower portions of North Branch Rockaway Creek in Tewksbury and Readington Township should be designated as C1 based on exceptional ecological significance and exceptional water supply significance. (161 and 231)

RESPONSE: The Department is assuming that the commenters are referring to the portion of North Branch Rockaway Creek that is located between the Route 523 Bridge and the confluence with the South Branch Rockaway Creek, which is currently classified as FW2-TM. The upstream portion of North Branch Rockaway Creek is already afforded C1 designation based on a naturally reproducing trout population as identified by the current FW2-TP classification. There are no AMNET stations in the lower portion of North Branch Rockaway Creek; therefore, there is no AMNET data available to allow the Department to consider designation based on exceptional ecological significance, supporting an exceptional aquatic community. To remedy this, the Department will conduct additional benthic macroinvertebrate monitoring in the lower portion of North Branch Rockaway Creek. The Department will also consider surveying for endangered and threatened species at this location, under appropriate seasonal conditions.

As explained above and in the notice of proposal Summary, waterbodies proposed for upgrade to C1 designation at this time were based upon the Department's analysis of whether the waters satisfied the criteria for upgrade as waters of exceptional ecological significance or exceptional fisheries resources. Any further proposed upgrades based upon exceptional water supply significance would be the subject of a future rulemaking.

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Exceptional Ecological Significance - Endangered or Threatened Species

43. COMMENT: The Rancocas Creek, its north branch tributaries, and Mill Creek should be proposed for C1 designation based upon the presence of bog turtles and endangered plants. (1, 101, and 286)

RESPONSE: Rancocas Creek and its tributaries are largely within the Pinelands Preservation Area and are, therefore, classified as PL waters. In addition, several of its tributaries are also classified as FW1. Both PL and FW1 classifications are included in the definition of "Outstanding National Resource Waters" (ONRW) at N.J.A.C. 7:9B-1.4, which is a higher antidegradation designation than C1.

Mill Creek is a tributary to Rancocas Creek which flows through Willingboro Township in Burlington County. The data on bog turtles in Rancocas Creek and Mill Creek were insufficient in terms of the last observed turtle (which was documented in 1987, available publicly in the Landscape Project GIS shapefile), known population size, or the population's predicted relevancy to the species' recovery to warrant proposal of this water for upgrade on the basis of exceptional ecological significance. For more information, see the U.S. Fish and Wildlife's Bog Turtle Northern Recovery Plan at https://www.fws.gov/northeast/nyfo/es/bogturtle.pdf; additionally, see the Bog Turtle Conservation Plan for the Northern Population at https://www.machac.org/docs/Bog_Turtle_Conservation_Plan_2019.pdf.

Regarding any portions of Rancocas Creek or its tributaries currently designated as C2, the Department continually evaluates new data as it becomes available to identify waters for future C1

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designation. While no data supporting C1 designation of C2 portions of the Rancocas Creek or its tributaries were available at the time of this rulemaking, at such time as data demonstrating an exceptional significance of these waterbodies, including the presence of endangered or threatened species, becomes available, these waterbodies may be upgraded to C1 designation under future rulemaking.

Regarding the commenter's request that the presence of endangered plants be used as the basis for a C1 upgrade, the Department utilizes the presence of seven endangered or threatened species and their habitat in designating waterbodies for C1 upgrade under the definition of "exceptional ecological significance." While no plant species are currently included on this list, the Department is currently reviewing the list of endangered and threatened species that can serve as the basis for a C1 designation. Should there be a determination that consideration should be given to amending the list, the Department will initiate a stakeholder process with any potential change to be subject to a future rulemaking.

44. COMMENT: The 227 miles of waterways that were initially proposed in 2007 to be upgraded to C1 antidegradation designation, but for which the proposed upgrades were not adopted for a variety of reasons, including lack of conclusive data regarding habitat for endangered or threatened species, should be reevaluated. (18, 231, and 301)

RESPONSE: The Department evaluated all C2 waterbodies for C1 designation as part of the current rulemaking, including those proposed for upgrade in 2007, but ultimately not adopted as they were

determined not to continue to meet the criteria for C1 designation at the time of adoption. Some of those waterbodies are upgraded to C1 designation in this rulemaking, but others were not proposed for upgrade because they did not meet the definition of "exceptional ecological significance" or "exceptional fisheries resources" at this time. See the introduction to this adoption above and the notice of proposal Summary for additional information regarding the Department's C1 designation evaluation process.

Exceptional Fisheries Resources

45. COMMENT: The Department should upgrade the only remaining C2 segment of the Lopatcong Creek to a C1 antidegradation designation. An upgrade to this segment of Lopatcong Creek will result in the entire length of the Lopatcong Creek being designated as FW2-TP(C1).

The Lopatcong Creek is designated FW2-TP(C1) for its main stem and all tributaries, except for the final 850 feet (approximately), where it passes the Phillipsburg sewage treatment plant before joining the Upper Delaware River. The stream classification for this segment is FW2-TM(C2). This change in designation was due to discharge from the sewage treatment plant entering the Lopatcong Creek at this location, raising the water temperature and functioning as a barrier to fish entry to the Lopatcong Creek from the Delaware River. In November 2014, the Phillipsburg STP's outfall pipe was moved from Lopatcong Creek to discharge directly to the Delaware River. As a result of this change, the Phillipsburg STP no longer has any influence on water quality in the Lopatcong Creek. No negative consequences to any parties are anticipated as a result of upgrading this segment to FW2-TP(C1). (267)

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RESPONSE: The commenter is recommending two separate actions; a trout reclassification from trout maintenance to trout production, and a change in antidegradation designation from C2 to C1. The Department has not conducted any trout sampling since the relocation of the Phillipsburg STP's outfall pipe. Therefore, insufficient data were available for Lopatcong Creek at the time of the Department's evaluation to consider reclassification from trout maintenance (TM) to trout production (TP) and upgrade to C1 antidegradation designation upon the basis of the creek being an exceptional fisheries resource. In addition, Lopatcong Creek did not qualify for C1 designation under the definition of "exceptional ecological significance" at the time of the Department's evaluation. Accordingly, this segment of Lopatcong does not qualify for C1 designation at this time.

Delaware River

46. COMMENT: The waterbodies draining into Delaware River Basin Commission (DRBC) Special Protection Waters (SPW) should be considered for upgrade to C1 designation. (301)

RESPONSE: As stated in the introduction of this adoption, the Department periodically evaluates all C2 waters, including those draining to SPWs, to identify waters eligible for upgrades to C1 designation. The Department did not have sufficient data supporting the upgrade of these waters at the time it evaluated waters for inclusion in this rulemaking process. Should such information on these waters become available in the future, any waters qualifying for upgrade will be proposed as part of a future rulemaking.

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General Opposition to the Notice of Proposal

47. COMMENT: The proposed amendments are opposed as the notice of proposal lessens restrictions on development near C1 waterbodies. (35)

48. COMMENT: The notice of proposal is not supported. (103)

RESPONSE TO COMMENTS 47 AND 48: The Department acknowledges these comments in opposition of the proposed rules. As explained in the notice of proposal, rather than resulting in reduced requirements on development, a C1 designation results in NJPDES-permitted dischargers being required to demonstrate that no measurable change to water quality will result from new or expanded discharges, and results in a 300-foot riparian zone being applicable to the waterbody and its upstream tributaries within the same HUC 14 subwatershed through the FHACA Rules.

Opposition to Proposed Waterbodies

South Branch Raritan River

49. COMMENT: The proposed designation upgrade of the South Branch Raritan River to C1 is opposed. The Department should review the underlying data supporting the proposal of the downstream segment of the South Branch Raritan River from the bridge on Main Street (County Route 613) bridge to Neshanic River for C1 designation. All six habitat assessments of the segment performed by a third-party found the segment to be of "suboptimal" habitat. Further, underlying data for the South Branch Raritan River designation were not made available to the public. Also, this segment should not be adopted based on the water chemistry data. (55, 56, 76, 88, 167, 169, 172, and 304)

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50. COMMENT: The Department has set forth no factual basis to designate the South Branch Raritan River at Main Street (County Route 613) bridge as C1. The Department provides no citations or underlying data. Consequently, the Department's designation is arbitrary, capricious, and unreasonable. (169)

51. COMMENT: The upstream boundary of the South Branch Raritan River (Three Bridges Section) should be revised from the Main Street bridge to approximately 550 feet downstream of the Main Street (County Route 613) bridge. The South Branch Raritan River's upstream boundary as proposed would impact all upstream tributaries, thereby negatively impacting developed sections of Raritan Township and Flemington Borough, upcoming redevelopment plans, and the wastewater treatment plants of the Raritan Township Municipal Utilities Authority. (32)

52. COMMENT: The proposed C1 designation of a portion of the South Branch Raritan River is arbitrary, capricious, and unreasonable. (88 and 169)

53. COMMENT: The Department should verify the C1 designation proposed for the section of the South Branch Raritan River downstream of the Main Street (County Route 613) bridge. The Department should confirm that it is not imposing C1 antidegradation restrictions for discharges to the South Branch of the Raritan River or any of its tributaries within the HUC 14s 02030105020080 and 02030105020100 (Watershed Name-Raritan River Three Bridges to Spruce Run) or the requirements of 300-foot riparian zones for the same HUC 14s. (222)

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RESPONSE TO COMMENTS 49 THROUGH 53: The Department is adopting C1 upgrades for two segments of the South Branch Raritan River based on exceptional ecological significance, as these segments support an exceptional aquatic community. These segments are:

1) From the County Route 512 bridge to the Spruce Run outlet stream; and

2) From the first westerly tributary below the Main Street (County Route 613) bridge, to the confluence of the Neshanic River, including all tributaries.

The first segment, from the County Route 512 bridge to Spruce Run, is comprised of two portions:

1) From County Route 512 bridge to and including Lake Solitude; and

2) From Lake Solitude to Spruce Run outlet stream, including all tributaries.

Prior to publication of these proposed amendments, both portions were designated as C2, except for the portion flowing through Ken Lockwood Gorge Wildlife Management Area, which was already designated as C1 from a prior rulemaking. The Department proposed C1 designation for both the first and second portions based on a non-impaired macroinvertebrate community, optimal habitat for aquatic life, and a low percentage of impervious surface. The portion from County Route 512 bridge to and including Lake Solitude was also proposed for upgrade to C1 designation based upon it qualifying as an exceptional fisheries resource. Both portions of this first segment are being adopted as proposed.

As originally proposed, the second segment of the South Branch Raritan River C1 upgrade ran from the Main Street (County Route 613) bridge to Neshanic River. However, the Department has revised, on adoption, the upstream boundary of this upgrade from Main Street (County Route 613) bridge to the first westerly tributary below the Main Street (County Route 613) bridge. Upon further review, the

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Department determined that the confluence of the first westerly tributary below the Main Street (County Route 613) bridge is a more appropriate boundary that represents both the healthy benthic macroinvertebrate communities, optimal habitat conditions (observed at the qualifying monitoring stations, SB07 and SB08), and the low percentage impervious surface of the subwatershed of HUC 14 02030105040010, Raritan R SB (Pleasant Run-Three Bridges) as identified in the GIS layer. Therefore, the Department is not adopting approximately 0.1 river miles of the South Branch Raritan River at Three Bridges. See the introduction of this adoption and Table 3 under the Summary of Agency-Initiated Changes for more information regarding waterbodies not being adopted as proposed.

With reference to information submitted by commenters asserted to contradict upgrade of the downstream segment of the South Branch Raritan River (from the first westerly tributary below the Main Street County Route 613 bridge, to the confluence of the Neshanic River, including all tributaries) the notice of proposal at 51 N.J.R. 324 provided a summary in Table E of the applicable data used to designate C1 waters based on their exceptional aquatic community and included website links for the public to obtain the underlying data and reports. See Response to Comments 54 and 55 below, as well as the introduction to this document for more information on the data provided, associated Quality Assurance Project Plans, and website links to data. As indicated in the notice of proposal Summary at 51 N.J.R. 318, the Department considers data generated by other entities, including governmental agencies and outside stakeholders, who have a Quality Assurance Project Plan approved by the Department, USEPA, or USGS. This data must be submitted pursuant to the data solicitation notice for the development of the Integrated Report. The requirement that data considered be prepared by an entity that has a Quality Assurance Project Plan approved by the Department, USEPA, or USGS ensures that all data are generated following accepted collection and analysis procedures. The Department notes that the data provided by the

commenters referenced in Comment 49 was not submitted in accordance with an approved Quality Assurance Project Plan and, therefore, does not qualify for consideration by the Department.

54. COMMENT: It is concerning that the RHA voluntary group data is used as a basis to upgrade waterbodies to C1 designation. While RHA's website does provide a GIS file and interactive website with the locations of these biomonitoring stations that include coordinates, detailed descriptions of monitoring locations and even the locations of proposed C1 upgrades, the commenter was unable to locate any habitat data on the site's GIS file that corresponds to the referenced habitat scores in the notice of proposal. The volunteers utilized could make subjective judgements regarding habitat characteristics. Additionally, how does the Department ensure that volunteers receive the necessary training to perform habitat evaluations and provide accurate data. (186)

55. COMMENT: The use of non-professionals to develop complicated and subjective data and factual findings is unacceptable. Therefore, none of the Raritan River segments proposed for C1 designation should be adopted. (40)

RESPONSE TO COMMENTS 54 AND 55: As the indicated in the notice of proposal at 51 N.J.R. 316, the Department accepts data generated from outside entities provided that the information has been submitted pursuant to the data solicitation notice for the development of the Integrated Water Quality Assessment Report (Integrated Report) and meets the data collection requirements applicable to such submission. The data collected for submission in response to a solicitation for development of the

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Integrated Report must be collected in accordance with a Quality Assurance Project Plan (QAPP), which is approved by the Department, USEPA, or USGS. The RHA has produced and submitted the macroinvertebrate data in accordance with the Department's protocol as described in the notice of proposal for sampling and scoring locations using the High Gradient Macroinvertebrate Index (HGMI). The data provided by RHA was collected in accordance with RHA's approved QAPP. The RHA staff train volunteers annually on macroinvertebrate collection and visual habitat assessment to determine a watershed's health. RHA staff operate under a QAPP approved by the Department's Bureau of Freshwater and Biological Monitoring and USEPA's Citizen Science Coordinator to assure high quality data. Therefore, the Department is confident in using the RHA data to upgrade waterbodies to C1 designation based on the aquatic community data. See the Response to Comments 49 through 53 for more information on the South Branch Raritan River C1 upgrades.

The Department acknowledges that the RHA interactive map does not provide the habitat ratings or scores as part of the attributes associated with the stations. However, this data is available to the public through the portal at https://www.waterqualitydata.us/. The RHA website (https://www.raritanheadwaters.org/maps-data/) also allows the general public to request data from the RHA. Accordingly, the Department maintains that the public had sufficient access during the comment period to the RHA data used in the designation of C1 waterbodies based on exceptional ecological significance.

Blackwater Branch

56. COMMENT: The proposed upgrade to C1 antidegradation designation of Blackwater Branch is questionable, as this waterbody was previously part of a Federal Superfund site that included significant arsenic contamination of groundwater and surface waters. The stream bed is a source of arsenic entering the main stem of the Maurice River and also in Union Lake. The validity of this C1 designation is questionable; while the stream bed was dug up and removed, it may still contain arsenic contamination. (40, 127, and 236)

57. COMMENT: Several New Jersey Pollutant Discharge Elimination System (NJPDES) dischargers would be affected by a C1 upgrade to the Blackwater Branch. The proposed C1 upgrades to the Blackwater Branch are opposed. (40, 105, and 236)

58. COMMENT: There is a lack of recent sampling data available for the rulemaking's referenced AMNET station, AN0739 for Blackwater Branch. The Department's GIS Open Data network displays an impairment rating and habitat rating of "No Sample." The last available data appears to be the Department's Round 3 sampling conducted in 2007. Furthermore, the Department's 2014 New Jersey Integrated Water Quality Assessment Report also shows a result of "Insufficient Data" for the referenced HUC 14 02040206140050. (186)

RESPONSE TO COMMENTS 56 THROUGH 58: Blackwater Branch from its confluence with Pine Branch to the Maurice River was proposed for C1 designation based upon it supporting a non-impaired benthic macroinvertebrate community at AMNET station AN0739, having optimal instream habitat as measured by the Department's Stream Habitat Assessment, and meeting the general water quality parameters supportive of aquatic life throughout the encompassing subwatershed. The Department recognizes that there was previously a Superfund site and arsenic contamination, which resulted in the removal of

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contaminated sediment. However, the parameters assessed to determine if water quality is supportive of aquatic life are DO, TP, TSS, and temperature, which all met the relevant surface water quality criteria in the subwatershed as reflected in the 2014 Integrated Report.

Despite the arsenic contamination and heavily developed subwatershed, the benthic macroinvertebrate score at AMNET station AN0739 did not indicate any impairment of the macroinvertebrate community during the last sampling event. The Department viewed this as sufficient justification to propose the C1 designation for Blackwater Branch as a water of exceptional ecological significance, supporting an exceptional aquatic community.

However, the Department determined upon evaluation of the latest publicly available water quality data for Blackwater Branch that water quality did not support the C1 designation due to insufficient data. Two supporting factors must be met for a waterbody to qualify for exceptional ecological significance, supporting an exceptional aquatic community. As such, Blackwater Branch does not have the required number of supporting factors for the C1 designation under exceptional ecological significance and, therefore, the Department is not adopting Blackwater Branch as proposed. See the introduction of this adoption and Table 3 under the Summary of Agency-Initiated Changes for more information on waterbodies not being adopted as proposed.

Burnt Mill Branch

59. COMMENT: The proposed C1 upgrade of Burnt Mill Branch should not be adopted as there is insufficient water quality data and a “suboptimal” habitat rating. Upgrading the Burnt

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Mill Branch to C1 designation would be detrimental to surrounding industrial areas. Furthermore, there is a Superfund site in close proximity to a tributary of the Burnt Mill Branch. (40, 127, and 236)

60. COMMENT: Four NJPDES dischargers would be affected by a C1 upgrade to the Burnt Mill Branch. In addition, the proposed segment is impacted by the Shield Alloy superfund site at its headquarters. Burnt Mill Branch should, therefore, not be upgraded to C1 status. (40, 105, and 236)

RESPONSE TO COMMENTS 59 AND 60: Burnt Mill Branch from Burnt Mill Pond to Maurice River was proposed for C1 designation based upon this segment supporting a non-impaired benthic macroinvertebrate community at AMNET station AN0735, an excellent fish community as identified from FIBI station NJS11-252 and possessing impervious surface below the 10 percent threshold for a subwatershed greater than five square miles. The Department viewed this as sufficient justification to propose the C1 designation for Burnt Mill Branch based on the water segment qualifying for exceptional ecological significance, supporting an exceptional aquatic community. However, the Department determined upon evaluation of the latest publicly available data that the percentage of impervious surface for the subwatershed encompassing the proposed section of Burnt Mill Branch was no longer below the 10-percent threshold value to support the C1 designation and, therefore, did not satisfy one of the additional exceptional ecological significance factors of low impervious surface. At least two of four supporting factors must be met for a waterbody to qualify for exceptional ecological significance, supporting an exceptional aquatic community. As such, Burnt Mill Branch does not have the required number of supporting factors for the C1 designation under exceptional ecological significance and,

therefore, the Department is not adopting Burnt Mill Branch as proposed. See the introduction of this adoption and Table 3 under the Summary of Agency-Initiated Changes for more information on waterbodies not being adopted as proposed.

Little Robin Branch

61. COMMENT: The proposed upgrade to C1 designation of Little Robin Branch should not be adopted as a major portion of the stream is piped underground and, therefore, does not provide adequate habitat for fish. (40, 105, 127, and 236)

62. COMMENT: The Little Robin Branch is impacted by four NJPDES permits. Further, the bio-monitoring used for the Little Robin Branch is from AMNET station AN0740, which is not located on the Little Robin, but rather upstream approximately one mile on the main stem on the Maurice River from the confluence of the Little Robin and Maurice River. This proposed upgrade should not be adopted. (40 and 236)

RESPONSE TO COMMENTS 61 AND 62: The entire length of Little Robin Branch was proposed for C1 designation based upon it supporting a non-impaired macroinvertebrate community at AMNET station AN0740, having optimal instream habitat as measured by the Department's Stream Habitat Assessment and meeting the general water quality parameters supportive of aquatic life throughout the encompassing subwatershed. The presence of these factors qualified the Little Robin Branch for proposed upgrade to C1 designation based upon it qualifying for exceptional ecological significance, supporting an exceptional aquatic community.

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However, the Department has determined, based upon evaluation of the most recent publicly available data, that the habitat rating for Little Robin Branch has changed from "optimal" to "suboptimal," and, therefore, this waterbody no longer satisfies the supporting factor of optimal habitat as measured by the Department's Stream Habitat Assessment. At least two of four supporting factors must be met for a waterbody to qualify for exceptional ecological significance, supporting an exceptional aquatic community. As such, Little Robin Branch does not have the required number of supporting factors for the C1 designation under exceptional ecological significance and, therefore, the Department is not adopting Little Robin Branch as proposed. See the introduction of this adoption and Table 3 under the Summary of Agency-Initiated Changes for more information on waterbodies not being adopted as proposed.

63. COMMENT: If any portions of the proposed C1 upgrades to the Blackwater Branch and Burnt Mill Branch are adopted, the C1 designation should only be applicable to the segments between the Maurice River and Route 55 to avoid impacts to industrial land uses. (127 and 236)

RESPONSE: As indicated in the Response to Comments 56, 57, and 58; 59 and 60; and 61 and 62, the Department is not adopting the proposed C1 antidegradation designation for segments of Blackwater Branch, Burnt Mill Branch, or Little Robin Branch.

Other Waterbody Recommendations

64. COMMENT: Water quality data and benthic macroinvertebrate data is not sufficient to warrant an upgrade of Rock Brook. Specifically, the necessary water quality and

macroinvertebrate data were either not sampled for, sampled for but not in a manner the regulations require, or not available in a format that could be interpreted. The segment of Rock Brook, from the boundary of Montgomery Township and extending to Camp Meeting Road, should not be upgraded to C1 antidegradation designation.

It is impossible to confirm the existence of a nonimpaired benthic macroinvertebrate community, as the notice of proposal failed to provide adequate basis and background of the stream testing results for Rock Brook. The Department identified a single biomonitoring station AN0399 for Rock Brook. The notice of proposal does not provide evidence of the analysis necessary (the seven-step metric process described in the C1 proposal) to translate these numbers into interpretations of benthic macroinvertebrate community health. The commenters stated they retrieved and analyzed all publicly available data from the USEPA, USGS, and the Department websites for AMNET Station AN0399, but were unable to locate data summary sheets for this location. Absent this information, it is not possible to confirm the accuracy of the rating.

The commenters further assert that they retrieved and analyzed all publicly available data from the USEPA's and the Department's websites for AMNET Station AN0399 for years 2004, 2009, 2012, 2014, and 2017, and concluded that there was no single data point that demonstrated compliance with any of the four parameters; dissolved oxygen, temperature, total phosphorus, and total suspended solids. The ambient data collected by the Department and used in the notice of proposal does not support Rock Brook's designation as a C1 stream. Further, the Department failed to collect any data relative to TSS and TP, and that the data collected for dissolved oxygen and temperature were not measured in a manner that is equivalent with the regulatory requirement in the SWQS.

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While impervious surface is likely to have not changed significantly in the watershed associated with stream segment of Rock Brook proposed for upgrade, the Department should have pro-rated the 2012 coverage analysis to 2019 levels. It is noted that the Department includes the following disclaimer in the metadata record's Use Constraints section: "The Department makes no representations of any kind, including, but not limited to, the warranties of merchantability or fitness for a particular use, nor are any such warranties to be implied with respect to the digital data layers furnished hereunder, and that the Department assumes no responsibility to maintain them in any manner or form." Given the above, the extent to which this GIS coverage layer is suitable for making C1 determinations is questionable. (55 and 56)

RESPONSE: The portion of Rock Brook from source to Camp Meeting Road, including all tributaries, is located in the subwatershed of Rock Brook (above Camp Meeting Ave). This is a headwater watershed with the primary land use being forested. Rock Brook was proposed for C1 designation because it met the primary factor of a nonimpaired macroinvertebrate community, and the two supporting factors of 1) good water quality data (dissolved oxygen, temperature, total phosphorus, and total suspended solids); and 2) low impervious surface percentage. Following its review of the most recently publicly available data, the Department is adopting Rock Brook's C1 upgrade as proposed.

Water quality data has been collected at monitoring station 01401560 and at the co-located station AN0399, Rock Brook at Long Hill Road at Zion. The water quality data were primarily collected between 2000 and 2002 on a quarterly basis with DO, TP, TSS, and temperature data all showing they meet the SWQS and are fully supporting the aquatic life designated use. Limited data (single samples) in 2004, 2009, and 2014 for DO, temperature, and TP (2014 only) are consistent with earlier data, suggesting

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water quality conditions have not significantly changed since 2002. All water quality data can be obtained through the portal at https://www.waterqualitydata.us/.

Biological data at station AN0399 was last sampled in 2014 using the HGMI to determine benthic macroinvertebrate community conditions. The Department's AMNET program collects benthic macroinvertebrate data throughout the State on a five-year rotating cycle, focusing on one of the five water regions each year. At AN0399, the biological data show consistent results with HGMI scores reflecting unimpaired "good" conditions since 2004. The biological data and index ratings can be obtained at the following websites.

- AMNET Reports: https://www.nj.gov/dep/wms/bfbm/publications.html
- AMNET Data Comparison Table (Rounds 2-4): https://www.nj.gov/dep/wms/bfbm/amnetRnd4.html
- Water Quality Data Portal: https://www.waterqualitydata.us/.

In addition to the water quality and biological data showing stable conditions, land use has remained relatively unchanged since 2002 with minimal new development. This was determined by comparing the 2002 Land Use/Land Cover GIS layer to the 2015 Land Use/Land Cover GIS layer in the subwatershed. The minimal land use changes along with the absence of any dischargers in the watershed supports the stable water quality and biological community conditions. Additionally, impervious surface was calculated using the 2015 Land Use/Land Cover GIS layer with the results showing only 3.7 percent of the watershed being impervious, well below the 10 percent threshold. Accordingly, the analysis indicates

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that Rock Brook meets the requirements needed for C1 designation and, therefore, the Department is adopting Rock Brook as proposed.

65. COMMENT: The C1 designation for Prescott Brook appears questionable because the Department's Coldwater Fisheries Management Plan indicates that the C1 designation is only applicable for FW2-TM streams that are upstream of a trout production area. (121)

RESPONSE: The C1 designation for Prescott Brook was based on exceptional ecological significance, supporting an exceptional aquatic community and not based on exceptional fisheries resources. The Department's evaluation of the most recent publicly available data indicated that Prescott Brook continues to meet the primary factor of a nonimpaired macroinvertebrate community and the supporting factors of optimal habitat and low impervious surface relative to the area of its HUC 14 subwatershed. The C1 designation does not change Prescott Brook's stream classification of FW2-TM. As a result of this adoption, Prescott Brook continues to have a stream classification of FW2-TM with an antidegradation designation of C1 (FW2-TM(C1)) as reflected at N.J.A.C. 7:9B-1.15.

Additionally, the guidance in the Coldwater Fisheries Management Plan referenced by the commenter is no longer applicable in designating C1 waters. The Department adopted amendments to the SWQS in 2008 (see 40 N.J.R. 3630(b)) that revised the definition of C1 waters to clarify the purpose and basis for designating a C1 waterbody. These revisions eliminated the example types of waters that the commenter references in the Department's Coldwater Fisheries Management Plan, which was adopted in 2005. Further, the Department amended the SWQS by defining the terms "exceptional ecological significance," "exceptional fisheries resources," and "exceptional water

supply significance" to provide an in-depth and clearer description of the characteristics that could serve as the basis for designating a C1 water. As a result, the applicability of the C1 designation is not limited to FW2-TM and FW2-NT waters that are upstream of an FW2-TP water, as indicated in the Coldwater Fisheries Management Plan. Additionally, the SWQS, not the Department's Coldwater Fisheries Management Plan, establishes the antidegradation policies and the required conditions for upgrading a stream's antidegradation status from a C2 to a C1 designation.

66. COMMENT: The proposed C1 designations to five waterbodies in Hunterdon County—the Third Neshanic River, Prescott Brook, South Branch Raritan River from Lake Solitude to Spruce Run outlet stream, South Branch Raritan River from Main Street (County Route 613) bridge to Neshanic River, and Beaver Brook in Clinton—are opposed because of the impact the upgrades would have on development, current landowners, and waste water treatment plants in Hunterdon County municipalities. It is asserted that the detailed assessment of the data behind these designations was not satisfactory. (172)

RESPONSE: Two segments of the Neshanic River were proposed for upgrade to C1 designation based on the presence of nonimpaired ambient macroinvertebrate communities in each segment and the two supporting factors of an optimal habitat assessment rating and a low percentage of impervious surface in the associated subwatershed. After an evaluation of impervious surface data following the release of the 2015 Land Use/Land Cover GIS layer, both segments were still found to meet the supporting factor of less than 10 percent impervious surface for a HUC 14 subwatershed greater than or equal to five square miles. The Department's evaluation of the most recent publicly available data shows that the two segments of

the Neshanic River continue to meet the primary and supporting factors for C1 designation. Therefore, the Department is adopting the two segments of the Neshanic River as proposed.

Beaver Brook was proposed for upgrade to C1 designation based on the presence of a nonimpaired ambient macroinvertebrate community, as well as the supporting factors of an optimal habitat rating and water quality data that demonstrates compliance with aquatic life criteria for the parameters identified in the definition of "exceptional ecological significance." The Department's evaluation of the latest publicly available data shows that Beaver Brook continues to meet the primary and supporting factors for C1 designation. Therefore, the Department is adopting Beaver Brook as proposed.

See the Response to Comment 65 regarding the C1 designation of Prescott Brook and the Response to Comments 49 through 53 regarding the designation of the South Branch Raritan River. See the Response to Comments 163 through 166, as well as the Response to Comments 128 through 134 regarding wastewater treatment plants and impacts of the 300-foot riparian zone associated with waters designated as C1 on development, respectively.

Qualification for Antidegradation Designations

67. COMMENT: The Department has not explained why it has rejected best available data to declare all waters in the State high quality and has not discussed why it rejected legislative directives and the USEPA guidance by not including Tier 1 waters in the State's surface water quality standards. (262)

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RESPONSE: The minimum level of protection under New Jersey's SWQS is a C2 antidegradation designation. In accordance with the SWQS at N.J.A.C. 7:9B-1.5(d)2iv, for waters that are designated as C2, existing/designated uses are protected, and the water quality is not allowed to degrade below the established water quality criteria specified at N.J.A.C. 7:9B-1.14. These protections are more restrictive than the USEPA's Tier 1 antidegradation designation, which provide the absolute minimum level of protection in all waters of the United States. In New Jersey, all freshwaters have been designated for water supply use. Further, there are several clean water dependent industries, such as shellfish harvesting, recreation, and agriculture, including aquaculture. States may establish even more protective criteria than what is contained in the USEPA guidance, but never less protective. New Jersey has chosen to be more restrictive than Tier 1 antidegradation designation.

68. COMMENT: The requirement that the HUC 14 within which the water is situated contain no more than five percent impervious surface for a waterbody to qualify for a C1 designation should be removed. This requirement restricts the nomination of streams for C1 designation. (18 and 301)

RESPONSE: As indicated in the notice of proposal Summary and in the introduction to this adoption, the Department uses low impervious surface thresholds as a supporting factor in determining whether a water qualifies for C1 designation based upon exceptional ecological significance. Impervious surface was selected by the Department as an indicator of a healthy aquatic community because of the established correlation between watersheds with low percentage of impervious surface and healthy aquatic

ecosystems and unimpaired water quality. When the impervious surface is relatively low, a watershed would most likely still be intact and relatively undisturbed. Accordingly, the percentage of impervious surface is an appropriate indicator of exceptional ecological value.

Exceptional Recreational Significance

69. COMMENT: The Department should amend the SWQS to define exceptional recreational significance and identify specific waters for C1 upgrade on the basis of exceptional recreational significance. (92 and 163)

70. COMMENT: New Jersey has failed to designate waterways as C1 based on recreation and scenic values. (301)

71. COMMENT: The Department should also look at waters along National Recreation Trails or National/State Water Trails as deserving of C1 status under "exceptional recreational significance." (163)

72. COMMENT: Standards for exceptional recreational significance should be adopted, with the standards to include National Wild and Scenic Rivers, National Trails, National Water Trails, and State Water or Blueway Trails, resulting in these waters qualifying for C1 designation due to their exceptional recreational significance. (92 and 318)

RESPONSE TO COMMENTS 69, 70, 71, AND 72: The Department is currently reviewing the criteria that should be used to upgrade waterbodies to C1 on the basis of exceptional recreational

significance. Should there be a determination of suitable criteria for exceptional recreational significance, the Department will initiate a stakeholder process with any potential change to be subject to a future rulemaking.

73. COMMENT: The Department should review Wickecheoke Creek for C1 designation based on exceptional recreational significance. (287)

RESPONSE: The entire length of Wickecheoke Creek is already designated as C1 (see 36 N.J.R. 3565(c)). Wickecheoke Creek was designated as C1 as being of exceptional ecological significance based upon the confirmed presence of endangered or threatened species with supportive riparian habitat.

Exceptional Water Supply Significance

74. COMMENT: The Department should begin a rulemaking process to upgrade additional waters of exceptional water supply significance to C1 status. That rulemaking should include, but not be limited to, reservoirs and their natural tributaries. The commenters request that the Department commit to and publish a timeline for a stakeholder process to upgrade additional waters of exceptional water supply significance and start the rulemaking as soon as possible. (161, 231, 267, and 301)

75. COMMENT: The Department should begin a process to set standards for “exceptional water supply significance” to protect public and private drinking water supplies. (318)

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76. COMMENT: Lawrence Brook should be considered for C1 designation based on exceptional water supply significance. Lawrence Brook is used by Milltown as a drinking water supply from the New Brunswick Water Utility. The commenter also notes that a headwater stream of Lawrence Brook, located in Pigeon Swamp State Park, is also currently designated as a C1 water. (112)

77. COMMENT: Swan Creek should be proposed for C1 designation based on water supply significance for the city of Lambertville. (18, 231, and 301)

RESPONSE TO COMMENTS 74 THROUGH 77: As stated in the Summary of the notice of proposal and in the introduction to this adoption above, the Department focused this rulemaking on waters eligible for C1 designation on the basis of exceptional ecological significance and exceptional fisheries resource.

The Department notes that pursuant to N.J.A.C. 7:9B-1.5(a)3, all freshwaters of the State are protected as potential sources of public water supply and all freshwaters are assessed for this designated use, whether part of an existing water supply system or not. The Department extended additional protections to reservoirs and their tributaries that provide drinking water to more than 100,000 people by designating those waterbodies as C1 based upon exceptional water supply significance in a previous rulemaking. The Department will continue reviewing eligible waterbodies for C1 upgrade on the basis of exceptional water supply significance.

78. COMMENT: Since the State of New Jersey has designated the Highlands Region critical for water supply for six and one-half million people, all streams that are designated Highlands water

should be designated as C1. In general, the Department should protect drinking water resources. (301)

79. COMMENT: The Department should consider the waters of the Highlands region as a critical source of drinking water for 70 percent of New Jersey residents. (267)

RESPONSE TO COMMENTS 78 AND 79: Approximately 58 percent of freshwaters within the Highlands region are already protected with a designation of either FW1 or C1. A water supply system that serves a population greater than 100,000, including any reservoirs and their natural tributaries from source to the reservoir, qualifies for C1 designation based on exceptional water supply significance. The Department periodically evaluates waters to upgrade for C1 designation based on the exceptional water supply significance definition pursuant to N.J.A.C. 7:9B-1.4.

Outstanding National Resource Waters (ONRW)

80. COMMENT: Segments of the Musconetcong River in Stephens and Allamuchy Mountain State Park should be upgraded to Outstanding National Resource Water status based on these sections of the river possessing scenic and recreational significance. (163)

81. COMMENT: The Department should consider Musconetcong River between Stephens State Park and Riverside Park in Byram Township for FW1 status based on its location as excellent habitat for endangered or threatened freshwater mussels. This segment is also entirely located within State parks. (140, 158, 163, and 231)

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82. COMMENT: The Department should consider automatically granting Outstanding National Resource Waters (ONRW) status to waters with National Wild and Scenic Status. (92, 163, and 235)

RESPONSE TO COMMENTS 80, 81, AND 82: ONRW are provided the highest antidegradation protections afforded to surface waters of New Jersey, and are recognized by the Federal regulations at 40 CFR 131.12. In New Jersey, these waters include surface waters classified as Freshwater 1 (FW1) waters and Pinelands (PL) waters.

As specified in the SWQS, at N.J.A.C. 7:9B-1.4, FW1 waters, also known as nondegradation waters, are required to be maintained in their natural state of quality (set aside for posterity) and not subjected to any man-made wastewater discharges or increases in runoff from anthropogenic activities. These waters are set aside for posterity because of their clarity, color, scenic setting, other characteristic of aesthetic value, exceptional ecological significance, exceptional recreational significance, exceptional water supply significance, or exceptional fisheries resources. These waters receive the highest level of protection in accordance with the SWQS antidegradation policy at N.J.A.C. 7:9B-1.5(d)2i, with no activity to be approved that, alone or in combination with any other activities, might cause changes, other than toward natural water quality, in the existing surface water quality characteristics. Activities that might alter existing water quality in FW1 waters are also prohibited.

Regarding the commenters' suggestion that portions of the Musconetcong River be upgraded to ONRW antidegradation designation, it should be noted that the entire length of the

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Musconetcong River below Saxton Lake is already designated as C1 and, therefore, receives the protections applicable to C1 waters.

As explained in the introduction above, this rulemaking focused on designating waterbodies for C1 upgrade on the basis of exceptional ecological significance or exceptional fisheries resources. The Department did not examine waters for potential ONRW upgrade as part of this rulemaking.

National Wild and Scenic Rivers

83. COMMENT: The Department should designate all tributaries of National Wild and Scenic Rivers as C1 waterbodies, as they flow into Federally protected lands, such as Great Swamp National Wildlife Refuge, the Brigantine National Wildlife Refuge, the Supawna Meadows National Wildlife Refuge, and the Wallkill River National Wildlife Refuge. (101, 300)

84. COMMENT: Waterbodies that are Federally designated as a National Wild and Scenic River should be reviewed for C1 designation based on exceptional recreational significance. National Wild and Scenic Rivers in New Jersey include the Maurice River, the Great Egg River, the Mullica River, and the Musconetcong River. (18, 231, 301, and 307)

85. COMMENT: Segments of the Manumuskin River and Menantico Creek outside of the Pinelands Reserve should be reviewed for C1 designation based on being Wild and Scenic Rivers. (104)

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86. COMMENT: Additional portions of the Musconetcong River should be proposed for C1 designation based on exceptional recreational significance based on the river's status as a National Wild and Scenic River. (18, 158, 163, 267, and 301)

RESPONSE TO COMMENTS 83, 84, 85 AND 86: Congress created the National Wild and Scenic Rivers System (Public Law 90-542; 16 U.S.C. §§ 1271 et seq.) in 1968 to preserve certain rivers with outstanding cultural, natural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. Portions of five New Jersey waters have received the "Wild and Scenic" designation: the middle and lower portions of the Delaware River, the Musconetcong River, the Maurice River, and the Great Egg Harbor River.

Under N.J.A.C 7:9B-1.15(a), the mainstem of the Delaware River is under the jurisdiction of the DRBC. Therefore, the DRBC assigns antidegradation designations to those portions of the Delaware River that are designated as "Wild and Scenic." The entire Musconetcong River below Saxton Lake, portions of which are designated under the National Wild and Scenic Rivers System, is already designated as C1. Portions of the Maurice River (and three tributaries) and certain portions of Great Egg Harbor River tributaries are also designated as C1 and several segments are within the Pinelands boundaries and, therefore, are designated as Outstanding National Resource Waters, which is a higher antidegradation designation than C1.

The Department does not currently utilize Federal Wild and Scenic River designation as a basis for upgrading waterbodies to C1 antidegradation designation, but may consider the commenters' suggestion as part of future rulemaking. As stated in the Response to Comments 69, 70, 71, and 72, the Department

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is currently reviewing the criteria that should be used to upgrade waterbodies to C1 on the basis of exceptional recreational significance.

Extension of Comment Period

87. COMMENT: The Department should extend the initial 60-day comment period by 30 days. (157)

88. COMMENT: The Department should extend the initial 60-day comment period by 60 days. (304)

89. COMMENT: The Department should extend the initial 60-day comment period by 90 days. (85, 105, 111, 120, 148, 169, 186, and 208)

90. COMMENT: The Department's extension of the public comment period from 60 days to 90 days is insufficient. The public comment period should be extended by an additional 30 days. (76, 239, and 243)

91. COMMENT: The Department's extension of the public comment period from 60 days to 90 days is insufficient. The public comment period should be extended by an additional 60 days. (128)

92. COMMENT: While the Department extended the public comment period from 60 to 90 days, there was still inadequate time to evaluate the impact of the rulemaking. The extended public comment period was not long enough for impacted parties to access or review necessary information regarding the proposal. (82 and 304)

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93. COMMENT: A second public hearing on this rulemaking is requested. (85, 105, and 304)

RESPONSE TO COMMENTS 87 THROUGH 93: The public comment period on this rulemaking was initially 60 days, beginning on March 4, 2019, and ending on May 3, 2019. However, in light of comments received, the Department extended the public comment period by 30 days. The public comment period was, therefore, a total of 90 days, from March 4, 2019, until June 3, 2019.

The Department believes that the total of 90-day comment period provided was sufficient for the public to review the supporting data used to propose upgrading the 749 river miles to C1 designation. The public comment process provided the public with an opportunity to present concerns orally at a public hearing or through written comment. During the 90-day comment period, the Department received a total of 1,753 comments, with an overwhelming amount of support for the proposed upgrading of these waterbodies to C1 designation. Based in part on the in-depth and thorough nature of the comments received during the public comment period, the Department is making changes on adoption. Moreover, because the Department gives the same weight to oral testimony as it does to written comments, and because the Department uses both oral testimony and written comments in the same manner to inform its rulemaking decisions, the Department believes that the public hearing provided was sufficient.

Therefore, based on the Department's extension of the public comment period to 90 days, and on the volume and quality of comments received from various stakeholders and residents throughout the State during the initial and extended comment periods, the Department believes that neither a further extension of the comment period, nor an additional public hearing, would be likely to result in the Department receiving comments relevant to the

rulemaking that raise issues or provide new information, data, or findings that were not previously raised or provided during the development of the proposed rule or during the initial comment period, the extended comment period, or at the public hearing. See the Response to Comments 21 through 32 for more information regarding the process followed in this rulemaking.

Endangered or Threatened Species

94. COMMENT: The commenter questions the effects of a pipeline project near Westecunk Creek by Dock Road on endangered or threatened species. The commenter is concerned with the threatened species of Diamondback Terrapin, which will be crossing the road to lay its eggs in June and July, with the eggs hatching from August to November. (284)

RESPONSE: As indicated in the introduction to this adoption above and explained more thoroughly in the notice of proposal Summary, waters are designated as C1 based on endangered or threatened species if they contain suitable habitat verified by the Department to support one or more of seven species specifically identified in the SWQS, and there is a documented occurrence(s) of at least one of the seven species verified by the Department. While a portion of Westecunk Creek was proposed to be upgraded to C1 antidegradation designation, the proposed upgrade did not include the area referenced by the commenter and the proposed upgrade was not based upon the presence of Diamondback Terrapins, which is not one of the seven identified species and does not have State endangered, threatened, or special concern conservation status. Instead, the proposed upgrade of a portion of Westecunk Creek was

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based upon its exceptional ecological significance as the waterbody supports an exceptional aquatic community.

The Department originally proposed to upgrade Westecunk Creek from the Pineland Area boundary to Uriah Branch to C1 designation. However, the Department is revising the proposed downstream boundary to end at Railroad Avenue, which is upstream of Uriah Branch, upon adoption. The macroinvertebrate and habitat data used from the AMNET station upon which information supporting the upgrade was taken, AN0558, is located at Railroad Avenue. Railroad Avenue is also the approximate location of the head of tide. The AMNET rating represents data regarding freshwater macroinvertebrates and their habitat. This data does not represent the tidal portion of the Westecunk Creek downstream of Railroad Avenue. Therefore, the Department is changing the downstream boundary on adoption to end at Railroad Avenue. As a result, approximately six river miles of the proposed 7.2 river miles of Westecunk Creek are being upgraded through this adoption. Dock Road is located approximately a quarter of a mile downstream of the where the adopted C1 segment begins at Railroad Avenue. Because this location is downstream of the adopted C1 segment, it is not subject to the 300-foot riparian zone protections afforded to C1 waters and their upstream tributaries within the same HUC 14 subwatershed.

The Department acknowledges the commenter's concern for the protection of the Diamondback Terrapin. However, the Diamondback Terrapin is not currently identified as endangered or threatened and is not one of the seven endangered or threatened species identified in the definition of "exceptional ecological significance." Diamondback Terrapins are currently a candidate species for special concern; for more information on the species' candidacy, see the latest Species Status Review of Amphibian and Reptiles at https://www.njfishandwildlife.com/ensp/pdf/herp_status_rprt.pdf. The Department's

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Division of Fish & Wildlife also manages the Connecting Habitat Across New Jersey project focused on improving habitat connectivity for terrestrial wildlife including species like the Diamondback Terrapin, with an emphasis on the topic of road and wildlife interactions. For more information regarding this project, please visit https://www.nj.gov/dep/fgw/ensp/chanj.htm.

95. COMMENT: The public does not have access to the underlying data used to justify these upgrades. The data presented in the notice of proposal appears to be outdated or undated and certain reports are unavailable. For example, Landscape Version 3.3 states that the last observation year for Triangle Floater on the Paulins Kill River was 2007. The commenters question if the species is still present, and in which portion of the waterbody. The Woodbury Creek is not mapped for Eastern Pondmussel, but the upgrade is based on this species. Further, the species identified as the basis for C1 upgrades are already listed as species that are "Critically Dependent on the Water" under the FHACA Rules. These waters receive a 150-foot riparian zone within the habitat and within one mile upstream.

Based on Department guidance, mussels need to be protected for 0.75 km upstream and downstream of their location. Taking this into consideration, what is the scientific basis for requiring a 300-foot riparian zone for additional upstream miles if the habitat is not present there, and for protecting all tributaries beyond 0.75 km for endangered or threatened mussels?

The Sussex County Municipal Utilities Authority (SCMUA) Hampton Commons wastewater treatment plant (NJ0050580.001A), is located on a Paulins Kill tributary that is not

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critical or suitable habitat for the Triangle Floater, since it is intermittent and the host fish necessary for the reproduction of the floater would be unlikely to live in an intermittent stream. Because these tributaries are unlikely to support the Triangle Floater, they should not receive 300-foot riparian zone buffers under the FHACA rules. (186 and 311)

RESPONSE: Triangle floater occurrences are documented within the proposed segments of the Paulins Kill and are part of a larger population that was confirmed in 2016. Suitable habitat for endangered and threatened species is mapped via the "New Jersey Landscape Project" mapping, a methodology that has been affirmed by the courts as an appropriate means by which to document the extent of critical habitats for rare species when making regulatory decisions. As indicated in the notice of proposal at 51 N.J.R. 310, additional location information was derived from individual species observation records that have been recently submitted to, and fully verified and accepted by, the Department, but which have not yet been incorporated into a newer version of the Landscape Project mapping. The Department's Endangered and Nongame Species Program (ENSP) utilizes the Biotics database to document the occurrence(s) of all endangered and threatened species that have been observed by or reported to the Department and that have met rigorous quality assurance or quality control criteria. These records are then used by the Department to develop the publicly available Landscape Project maps. The underlying Biotics data contains sensitive location information regarding imperiled species; therefore, the information is considered a "non-public record" pursuant to the Open Public Records Act (N.J.S.A. 47:1A-1 et seq).

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The designation of waterbodies that support these species and their habitat as C1 will help maintain the existing water quality and habitat, and, therefore, support the continued viability of these species. Sub-optimal water quality and in-stream habitat may adversely affect the growth, reproduction, and feeding of these species, which could lead to the extirpation (elimination of the local population) of these endangered or threatened species. The use of a waterbody by endangered or threatened species is an existing use that must be protected as mandated by the Federal Water Quality Standards regulations at 40 CFR 131.12(a)1.

As indicated in the notice of proposal at 51 N.J.R. 310, the Department proposed to extend the C1 antidegradation designation to all tributaries within the same HUC 14 flowing into the proposed stream segment because C1 designation provides additional protection needed to maintain the continued existence of the species and its habitat in the proposed stream segment. Mussels are capable of colonizing a new territory when they are carried on their host-fish in the larval stage. The host-fish are moving up and down the tributaries and, therefore, by designating the stream segment and its tributaries to C1 designation, the Department is protecting the critical habitat and water quality. Further, preserving vegetation within the 300-foot riparian zone along C1 waters and upstream tributaries, as set forth under the FHACA Rules, will enhance water quality along the C1 water itself. While intermittent streams may not be suitable habitat for the Triangle Floater, they contribute to downstream water quality of the C1 segments and, therefore, must be protected from the impacts of riparian development.

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96. COMMENT: Why is a C1 designation needed to protect the Eastern Pondmussel in Cooper River? The Department unreasonably relies on the presence or absence of certain endangered or threatened freshwater mussels as an indicator of exceptional ecological significance value; there is no reliable scientific data that directly correlates the presence or absence of mussel species to exceptional water quality (USEPA, Office of Water; Biological Assessments and Criteria: Crucial Components of Water Quality Programs, EPA 822- F-02-006, 2002). The USEPA notes that scientists want to believe that mussel species are good indicators of water quality, but there is no data supporting this assertion. Mussels can exist in both high quality and degraded waters; the Department confirmed this when it located mussels in the Cooper River, some of the most polluted water in the State. (40 and 262)

RESPONSE: As discussed in the notice of proposal and as defined at N.J.A.C. 7:9B-1.4, for a waterbody to be designated as a C1 waterbody based on exceptional ecological significance, a waterbody must either support an enumerated endangered or threatened species, or it must be found to support an exceptional aquatic community. The Department is upgrading Cooper River based on the confirmed presence of a threatened species, the Eastern Pondmussel. The current water quality conditions allow this species to survive and reproduce in this river segment; water quality must, therefore, be protected from any further degradation. The maintenance, migration, and propagation of threatened and endangered species is an existing use that must be maintained and protected pursuant to N.J.A.C. 7:9B-1.5(d)1i.

The Department upgrades waterbodies to C1 based upon the verified presence of habitat and a verified sighting of specifically enumerated endangered or threatened species that are critically water-dependent, extremely rare in New Jersey, and incapable of relocating. The Department determined that

the additional protection of C1 designation, which requires maintenance of existing water quality, will improve these species' ability to survive. The upgraded C1 designation complements the species and habitat protections provided through the land use regulatory programs by ensuring that water quality will not be degraded.

The Department confirmed the presence of Eastern Pondmussel within the proposed segment of the Cooper River and identified suitable habitat to support this State threatened species. The latest occurrence of Eastern Pondmussels was documented within the area in 2018, and approved for entry into the Biotics database. Numerous records for the species in the lower section of the river substantiate the presence of suitable habitat. For more information, see the Response to Comments 180, 181, and 182.

Regarding the 2002 USEPA factsheet that the commenter cites above, the factsheet does not support the commenters' assertion that no data exist that support the use of mussels as indicators of water quality. (USEPA, Office of Water; Biological Assessments and Criteria: Crucial Components of Water Quality Programs, EPA 822- F-02-006, 2002). In fact, this document supports the efficacy of biological monitoring, including for mussels, as a means of assessing the health of a waterbody, stating "The identification of water quality degradation requires appropriate monitoring tools. Such tools help us detect and characterize the cause and source of chemical, physical and biological impairment. Bioassessments are the primary tool to evaluate the biological condition of a waterbody. Bioassessments consist of surveys and other direct measurements of aquatic life— aquatic vegetation and algae, fish, insects, crayfish, salamanders, frogs, worms, snails, mussels, etc.—in the waterbody. Bioassessments, along with other physical and chemical assessments, are crucial for evaluating the health of a waterbody." This stance has been reiterated in subsequent USEPA publications, such as the 2008 document "An

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Introduction to Freshwater Mussels as Biological Indicators" (USEPA, Office of Water; An Introduction to Freshwater Mussels as Biological Indicators, EPA-260-R-08-015, 2008).

Clarifications on Exceptional Aquatic Community Designations

97. COMMENT: It is vital for the Department to provide the specific sampling data and reports used in the notice of proposal due to the apparent discrepancies between the available data and the embedded website links within the notice of proposal. While the commenter acknowledges that samples were taken at different times and, thus, resulted in different scores, it is unclear which samples the Department used to upgrade the C1 designation in the notice of proposal and if they were from more recent sampling events or from older sampling events. The commenter indicates that this has hindered both their ability and the public's ability to review and authenticate the data used as the basis for this C1 rulemaking. Additionally, the Department should not use data from the draft 2016 Integrated Report, which has not been finalized or made available. (186)

RESPONSE: To provide an accurate representation of the current conditions in each waterbody in the State, the Department used the most up-to-date publicly available data for the AMNET, FIBI, habitat, water quality, and percent impervious surface as the basis of its evaluation of potential C1 waterbodies. While the Department acknowledges the commenter's opposition to use of the draft 2016 Integrated Report, it should be noted that all data used in the draft 2016 Integrated Report was publicly available at the time of publication of the notice of proposal, as noted in the introduction of this adoption.

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Additionally, the water quality data used as one of the four supporting factors in determining waters qualifying for C1 designation in the proposal was collected in accordance with an approved Quality Assurance Project Plan. As indicated in the introduction to this adoption above, in response to comments received, the Department reviewed the most recent publicly available data after the Department performed its initial evaluation reflected in the notice of proposal. Consistent with its intent to base upgrades on the most recent publicly available data, the Department reviewed these data and determined that changes on adoption were needed to some of the proposed upgrades, with some waters no longer qualifying for upgrade or needing boundaries revised based upon this new data. These additional data were used to reevaluate and verify the supporting factors of the C1 designations based upon exceptional ecological significance, supporting an exceptional aquatic community. See Table 3 under the Summary of Agency-Initiated Changes for a list of waterbodies not being adopted as proposed.

Regarding the sources of information relied upon in identifying waters that should be proposed for upgrade to C1 antidegradation designation, the Department included in the notice of proposal at 51 N.J.R. 326, Table E, which provided a summary of the applicable data utilized for the designation of C1 waterbodies under the definition of exceptional ecological significance, supporting an exceptional aquatic community. The Department additionally provided internet website links to data and reports utilized in reaching the determination that the proposed waterbodies qualified for upgrade within each corresponding section of the notice of proposal.

In response to requests for additional time to review information made available, the Department extended the comment period by 30 days to allow a total of 90 days for the public to evaluate, and comment on, the underlying data used to upgrade the C1 designations in the notice of proposal. The

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Department believes that it has relied upon the best available information both in making its determination as to which waters should be proposed for upgrade and in making adjustments based upon additional information subsequent to the notice of proposal. The Department has provided information necessary for the public to sufficiently review all data utilized in the justification of the waters designated as C1.

98. COMMENT: The term "biomonitoring rating" used in describing Table E should be clarified. Ratings are given as "excellent" and "good" for biomonitoring rating in Table E and it is assumed that the biomonitoring rating is meant to correspond to a HGMI, CPMI, or PMI score for macroinvertebrate communities. Data in Table E is the descriptive regulatory threshold category, not the actual sampling data and, therefore, it is unclear which sampling data were used to generate each specific category ranking. (186)

RESPONSE: The term "biomonitoring" refers to the biological data that was collected to determine the health of benthic macroinvertebrate communities at the Department's AMNET stations and at the RHA stations. The commenter is correct that biomonitoring ratings correspond to an HGMI, CPMI, or PMI score for macroinvertebrate communities; the ranges of raw HGMI and CPMI index scores that correspond to assessment categories such as "Excellent" or "Good" were provided in the notice of proposal at 51 N.J.R. 315.

Table E in the notice of proposal at 51 N.J.R. 327 also provides an overview of the waterbodies proposed to be upgraded on the basis of exceptional ecological significance. The table identifies each

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stream segment proposed for upgrade, its current stream classification, the approximate number of river miles proposed for Category One upgrade, AMNET Stations providing information on the waterbody's water quality, and the rating applicable to the waterbody, habitat ratings, FIBI ratings, water chemistry data, the percentage of impervious surface present in the HUC 14, and the HUC 14 subwatersheds and municipalities that the stream flows through.

As explained in the notice of proposal at 51 N.J.R. 318, a waterbody is considered eligible for the C1 designation based on exceptional ecological significance when it can be demonstrated that the waterbody supports an exceptional aquatic community through a nonimpaired benthic macroinvertebrate community. A non-impaired macroinvertebrate community is indicative of ecological health in the aquatic ecosystem. A non-impaired benthic macroinvertebrate community is a mandatory factor to demonstrate a waterbody qualifies for C1 designation based on an exceptional aquatic community and is determined by an AMNET assessment rating of either “excellent” or “good” at the AMNET station in a waterbody. AMNET assessment ratings of “fair” and “poor” would not meet the C1 requirement of a non-impaired macroinvertebrate community. This AMNET rating correlates with the attainment of designated uses, as specified at N.J.A.C. 7:9B-1.12, for that waterbody.

The Department used the most up-to-date sampling data for each AMNET station that was available at the time of the initial evaluation in early 2018, which primarily consisted of samples collected during the Round 4 (R4) AMNET sampling event. These data were made available to the public through the Department’s Bureau of Freshwater and Biological monitoring webpage, https://www.nj.gov/dep/wms/bfbm/amnet.html, as well as through the Department’s Bureau of Geographic Information Systems website as a downloadable geographic information system data layer.

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However, as explained in the introduction of this adoption, additional AMNET data became available after the Department's initial evaluation for potential C1 waters was completed. The Department has used this more recent AMNET data to reevaluate and verify the non-impaired benthic macroinvertebrate justifications used in this rulemaking. This data is publicly available through the portal at https://www.waterqualitydata.us/. Additionally, the RHA provided the Department with benthic macroinvertebrate data for stations within the Raritan Watershed that were collected between 2012 to 2017, in accordance with an approved Quality Assurance Project Plan. While many of the stations have multiple years of sampling results, only the most recent sampling event and results were considered when proposing the waterbodies for C1 designation, as these recent results represent the current instream conditions. This also ensured that the Department was consistent during its evaluation when considering the most recent benthic macroinvertebrate data provided from AMNET stations, which are sampled once every five years on a rotating water region schedule, and the RHA stations, which are sampled annually.

99. COMMENT: FIBI data is not available for all waterways, including some proposed for upgrade based on trout production/maintenance. Additionally, the habitat scores and water quality attainment information are provided in separate reports, making it unclear as to which sampling or underlying reports were utilized to justify specific C1 upgrades. (186)

RESPONSE: As indicated in the notice of proposal at 51 N.J.R. 316, there are currently 300 monitoring stations within the FIBI network. The data collected from these stations is used as a supporting factor in the designation of C1 waterbodies in accordance with the definition of "exceptional ecological significance" at N.J.A.C. 7:9B-1.4. The overall FIBI rating is determined from a statistical evaluation of fish

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species observed within a waterbody, which indicates the overall health of the waterbody based upon multiple attributes associated with the resident fish assemblage. Trout assemblage within the waterway is only one metric used in the FIBI analysis. However, not every waterway in New Jersey has a fish monitoring station located on it to determine the FIBI. If there was no FIBI data available for a waterway, then at least two of the remaining three supporting factors (habitat, water quality, or percent impervious surface) are required to support the C1 designation based on exceptional ecological significance, consistent with the definition of that term at N.J.A.C. 7:9B-1.4.

As explained in the notice of proposal at 51 N.J.R. 332, the designation of a C1 waterbody based on an exceptional fisheries resource is determined by trout sampling data collected by the Department's Bureau of Freshwater Fisheries, which indicates the presence of young-of-the-year (YOY) trout. When waterbodies are surveyed and found to have naturally reproduced trout in their first year of life (young-of-the-year), those waterbodies are classified as trout production waters. When a waterbody supports adult trout and YOY trout are absent, the classification of the stream as trout maintenance or nontrout depends upon the stream's total fish population, including trout-associated species. As such, the trout sampling data collected and used in designating exceptional fisheries resource waters is fundamentally different from the stream sampling data that is used to determine the FIBI of a waterbody and subsequent support of a determination that the water qualifies for C1 designation based upon exceptional ecological significance. For more information regarding the factors used in the designation of waters based upon exceptional ecological significance, see the notice of proposal summary at 51 N.J.R. 318 and the definition of "exceptional ecological significance" at N.J.A.C. 7:9B-1.4.

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The Department acknowledges that the habitat data and the water quality data are from two different reports, which are publicly available through the Department's websites and the data is available on the portal at https://www.waterqualitydata.us/. Both can be used as supporting factors in C1 designation based on exceptional ecological significance as explained in the introduction to this adoption and in more detail in the notice of proposal summary. The notice of proposal specified the basis for each of the waterbodies proposed for C1 designation in the description of each individual waterbody and in summary form in Table E.

100. COMMENT: It is concerning that certain biomonitoring stations listed in Table E of the notice of proposal are not located on the stream segments being included as a C1 water, but rather on main stems in other locations. (105)

101. COMMENT: For waters proposed for upgrade based upon an exceptional aquatic community, the upgrades appear to be based on sampling performed at one location, without upstream or downstream sampling that supports an exceptional aquatic community. It is unclear how the boundaries of C1 segments are determined. The commenter questions the hydrological and biological basis for deciding the exact point at which the stream classification changes. (186)

RESPONSE TO COMMENTS 100 AND 101: As described in the notice of proposal Summary at 51 N.J.R. 318, the factors for determining if a water qualifies for C1 designation as a water of exceptional ecological significance, supporting an exceptional aquatic community, include macroinvertebrate communities, habitat, fish communities, chemical water quality, and

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impervious surface percentage. These factors provide a measure of ecological health of a waterbody at a HUC 14 subwatershed scale.

The general delineation for the upstream boundary of a C1 waterbody based on a non-impaired macroinvertebrate sampling site was set at the point upstream where there was either the confluence with a tributary or a road crossing. For the downstream boundary, the general delineation of C1 waterbodies based on a non-impaired macroinvertebrate sampling site was similarly set at the confluence with a tributary or a physical landmark such as a road crossing or bridge, where it could be reasonably assumed that water quality might be impacted by the confluence with the tributary.

102. COMMENT: The Department should remove any streams from the C1 designation where the biomonitoring rating, habitat rating, and water quality data does not support a C1 designation until the appropriate information is obtained to support re-designation. (121)

RESPONSE: Once upgraded, the Department does not downgrade waterbodies from C1 status. The purpose of the Department's antidegradation policies is to protect high quality waters where existing water quality is better than what is necessary to protect the designated uses. C1 antidegradation designations achieve this policy by requiring no measurable change in water quality.

103. COMMENT: The Department has not explained why it has failed to consider the natural and man-made influences on water quality, such as population concentration, industrial and

commercial development, agricultural uses, and transportation, on a water-by-water basis before listing water for C1 designation. (262)

RESPONSE: As described in the notice of proposal Summary at 51 N.J.R. 318, the factors for determining if a waterbody qualifies for C1 designation on the basis of exceptional ecological significance, supporting an exceptional aquatic community, are an unimpaired macroinvertebrate community, habitat, fish communities, chemical water quality (TSS, DO, TP, and temperature) and impervious surface percentage. These factors provide a measure of the ecological health of a waterbody and implicitly consider the natural conditions, such as habitat and water quality, and man-made conditions, such as impervious surface percentage, that influence water quality. See the introduction of this adoption for a more detailed description of the C1 designation process.

104. COMMENT: The Department is basing this rulemaking on Round 4 Ambient Macroinvertebrate Network (AMNET) data sampling that was conducted between 2007 and 2011. These data may not represent present site-specific conditions. (186)

RESPONSE: The Department used the most up-to-date macroinvertebrate data that was available for each station in its evaluation of potential C1 designation based on exceptional ecological significance, supporting an exceptional aquatic community. Most of the macroinvertebrate data that was available for the initial evaluation came from the Department's Round 4 (R4) AMNET sampling event. After the initial evaluation of the proposed waterbodies was carried out at the beginning of 2018, additional macroinvertebrate data became available. This includes macroinvertebrate data collected through 2018, from the Department's Round 5 (R5) AMNET macroinvertebrate sampling event. The Department used

this macroinvertebrate data to reevaluate and verify the non-impaired benthic macroinvertebrate justifications used in the rulemaking. Upon reevaluating the AMNET data, the Department determined that the proposed segments of Muddy Run, Indian Run, Oldmans Creek, Furnace Brook, and Still Run no longer support the primary factor of a non-impaired benthic macroinvertebrate community required for C1 designation pursuant to N.J.A.C. 7:9B-1.4. Accordingly, the Department is not adopting these proposed waterbodies for C1 designation. See the introduction of this adoption and Table 3 under the Summary of Agency-Initiated Changes for more information on waterbodies not being adopted as proposed.

105. COMMENT: The Department did not utilize the Pinelands Macroinvertebrate Index (PMI) for Atlantic Coast Region waterways. This rulemaking describes both the HGMI and the Coastal Plain Macroinvertebrate Index (CPMI) and the corresponding scores for full attainment but does not provide any detail regarding the corresponding score requirement for full attainment using the PMI. (186)

RESPONSE: The Department provided a website link in the notice of proposal at 51 N.J.R. 316 for assessment framework reports that outline the development of the HGMI, CPMI, and the PMI. To encompass all streams that shared the unique chemical, physical, and biological properties characteristic of waters contained within the Pinelands area under the same multi-metric index scoring approach, as shown in Table 1 below, the PMI was made applicable to AMNET stations within a five-kilometer radius of the Pinelands Area boundary. Similar to the HGMI and CPMI, the PMI was developed at the genus level with seven metrices used in the calculation and scoring of the index, including:

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- Number of Insect genera
- Number of Non-insect genera
- Percent Plecoptera (P) and Trichoptera (T)
- Percent Diptera genera excluding Tanytarsini
- Percent Mollusca and Amphipoda
- Beck's Biotic Index
- Percent Filterers

Table 1. Pinelands Macroinvertebrate Index (PMI)

PMI Assessment category	Index Score	Regulatory Threshold
Excellent	63 - 100	Full Attainment
Good	<63-56	Full Attainment
Fair	<56-34	Non-Attainment (PL) Full Attainment (FW2)
Poor	< 34	Non-Attainment

The Department evaluated the benthic macroinvertebrate data from all AMNET stations that are on or near C2 waterbodies, including those surrounding the Pinelands Area boundary that are based on the PMI rather than the CPMI. In doing so, the Department proposed the C1 designation to Tuckerton Creek and Westecunk Creek based on an exceptional ecological significance, utilizing the PMI to demonstrate a non-impaired benthic macroinvertebrate community. Accordingly, the Department's evaluation of potential C1 waterbodies did not omit the macroinvertebrate data collected at AMNET sites

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that utilize the PMI. See the Response to Comment 94 regarding changes to the lower boundary of Westecunk Creek upon adoption.

106. COMMENT: The Department's use of impervious surface area calculations from 2012 Landscape mapping is questionable. It is likely that impervious surface has greatly increased between 2012 and present day given prior calculations. Therefore, the impervious surface calculations referenced in the notice of proposal may not be valid. The definition of "exceptional ecological significance" at N.J.A.C. 7:9B-1.4 lists specific impervious surface requirements and does not appear to allow for historical impervious surface measurements to be utilized to make these determinations. (186)

107. COMMENT: The accuracy of the 2012 database and its ability to measure impervious surface to the level of specific acreage within a HUC 14 given the pace at which development occurs in New Jersey is questioned. To what extent has the Department attempted to prorate the 2012 coverage analysis to 2019 levels? Furthermore, the commenters question the use of the 2012 land use database for impervious surface, as it is stated in the layer's metadata record Use Constraints section, that the Department "makes no representations of any kind, including, but not limited to, the warranties of merchantability or fitness for a particular use, nor are any such warranties to be implied with respect to the digital data layers furnished hereunder." It is also stated that the Department assumes no responsibility to maintain them in any manner or form. Since the Department assumes no responsibility for the accuracy of this layer, has not

updated the layer since 2012 (seven years ago), and does not identify to which HUC the percentage of impervious surface relates, it is not appropriate to use impervious surface in such a critical assessment as a C1 determination. These data would not be acceptable from a permit applicant who would be required to obtain and use current data. (55 and 56)

RESPONSE TO COMMENT 106 AND 107: As stated in the introduction of this adoption, the Department initially relied on the 2012 Land Use/Land Cover layer in proposing C1 waterbodies for this rulemaking, as this was the most up-to-date publicly available layer at the time of the notice of proposal. The Department used this publicly available layer in the interest of transparency and replicability.

Following publication of the notice of proposal, the Department's 2015 Land Use/Land Cover layer became publicly available. After the comment period, and in consideration of comments raised during that period, the Department reevaluated the proposed C1 upgrades where impervious surface was used as a supporting factor of exceptional ecological significance using the 2015 Land Use/Land Cover GIS layer. The Department is confident that the 2015 Land Use/Land Cover GIS layer provides the best representation of the current impervious surface percentages.

Approximately 19 river miles no longer qualify for adoption based upon impervious surface. The changes are due in large part to the Department's impervious surface identification methodology, which was implemented during the development of the Department's 2015 Land Use/Land Cover GIS layers. The Department's 2012 Land Use/Land Cover GIS layer identified impervious surfaces based on visual assessments of aerial imagery made by human delineators. The 2015 impervious surface methodology used both imagery and LIDAR point clouds to identify impervious surface through a semi-automated process. The change in the methodologies resulted in different, but more accurate, impervious surface

percentages. See the introduction of this adoption and Table 3 under the Summary of Agency-Initiated Changes for more information on the waterbodies no longer meeting the impervious surface threshold.

108. COMMENT: The percent of impervious surface should have been calculated for each HUC 14 and every municipality with property along all the tributaries. (304)

RESPONSE: This rulemaking upgraded additional waterbodies to a C1 antidegradation designation. As stated at N.J.A.C. 7:9B-1.4, the percentage of a HUC 14 with impervious surface relative to the HUC 14's size was used as one of the four supporting factors that may qualify a waterbody for C1 designation. The percentage of impervious surface within a municipality or property does not affect C1 designation because it would not be representative of the drainage area of a Category One stream segment, and hence would not provide information regarding the potential impacts on the water quality of the water body. Therefore, this method was not considered as part of this rulemaking. The HUC 14 designation is used during the impervious surface percentage assessment because it is hydrologically based, whereas municipality boundaries do not provide an ecologically relevant boundary.

The descriptions of the extent of proposed designation upgrades at the time of publication of the notice of proposal were sufficient for the municipalities and property owners to calculate the percent impervious surface within their boundaries using the Land Use/Land Cover layers publicly available on the Department's website at https://gisdata-njdep.opendata.arcgis.com/.

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109. COMMENT: The commenter requests clarification on whether the Department measures dissolved oxygen as a 24-hour average, and temperature as a rolling seven-day average or as a seven-day maximum, in accordance with the criteria established in the SWQS. (186)

RESPONSE: As described in the notice of proposal at 51 N.J.R. 317, the Department's Division of Water Monitoring and Standards collects water samples at monitoring stations located throughout the State and compares these monitoring results with the adopted water quality criteria as described in the Integrated Water Quality Monitoring and Assessment Methods Document (Methods Document). The Methods Document describes the number of samples, frequency of collection, and the conditions necessary to assess compliance with water quality criteria. If data collected at a specific location includes two or more 24-hour periods in which the average concentration is below the dissolved oxygen's 24-hour average criterion, the stream location is considered to not be meeting the criteria. For temperature, data must be collected at least daily (with hourly data collection preferred), with this data compared to the seven-day rolling average of the daily maximum criteria.

The Department publishes its findings in the Integrated Water Quality Monitoring and Assessment Report every two years. Further information regarding dissolved oxygen and temperature sampling procedures, as well as the other water quality parameters that are assessed based on the water quality criteria set forth in the SWQS at N.J.A.C. 7:9B-1.14, is provided at https://www.nj.gov/dep/wms/bears/docs/2016_final_methods_document.pdf.

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110. COMMENT: There is a lack of FIBI data for all referenced waterbodies proposed for C1 upgrade based on exceptional fisheries resources. Did the Department use older data, and, if it did, what was the cutoff point? (186)

RESPONSE: The FIBI is not a factor utilized in the determination of whether a waterbody qualifies for C1 designation as an exceptional fisheries resource. As stated in the notice of proposal Summary, a finding that a waterbody is an exceptional fisheries resources is based on the determination that the waterway can support a naturally reproducing trout population. Instead, as discussed in the introduction of this adoption, the FIBI data is one of the ecological indicators used by the Department to evaluate whether the waterbody qualified for C1 for designation based on exceptional ecological significance, supporting an exceptional aquatic community.

111. COMMENT: The Department should not stock New Jersey waterbodies with non-native Rainbow and Brown Trout and subsequently use trout and/or FIBI data as a criterion in this C1 proposal for FW2-TM and FW2-TP waterbodies. The standards for classifying TM and TP waters are too lenient. (262)

RESPONSE: As explained in the introduction of this adoption, in determining whether a waterbody qualifies for C1 designation as an exceptional fisheries resource, the waterbody must be classified as a trout-producing water. This trout classification is determined by the presence of young-of-the-year (YOY) trout. YOY trout are not stocked fish. Additionally, waterbodies do not qualify for C1 designation as an exceptional fisheries resource based on only Trout Maintenance (TM) classification.

The Department uses FIBI data as a supporting factor in determining whether a waterbody qualifies for designation as a C1 waterbody based upon exceptional ecological significance, supporting an exceptional aquatic community. The FIBI score and corresponding rating are based upon a statistical evaluation of fish species observed at selected stream stations and measures the health of a stream based on multiple attributes of the resident fish assemblage. While the Department notes the presence of stocked trout found during fish surveys, stocked trout are excluded from FIBI scoring and metrics and, therefore, the presence of stocked trout does not affect FIBI scores or C1 designations made using FIBI data. See the Response to Comment 99 for more information regarding FIBI and classification of trout producing waters.

112. COMMENT: The Department should conduct further assessments of trout presence in Cowboy Creek. (92)

RESPONSE: Stream sampling (fish survey) data is used by the Department to determine a waterbody's classification to protect trout production (TP) or trout maintenance (TM) uses. When waterbodies are surveyed and found to have naturally reproduced trout in their first year of life (young-of-the-year or YOY), they are classified as trout production waters or FW2-TP. When a waterbody supports adult trout and YOY trout are absent, the classification of the stream as trout maintenance (FW2-TM) or nontrout (FW2-NT) depends upon the stream's total fish population, including trout-associated species.

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Prior to this rulemaking, Cowboy Creek qualified for classification as a FW2-TM water in accordance with N.J.A.C. 7:9B-1.15(b)5. Pursuant to N.J.A.C. 7:9B-1.15(b)5, an unnamed or unlisted freshwater stream that flows into a stream classified as FW2-TP, FW2-TM, or FW2-NT takes the classification of the classified stream it enters. Cowboy Creek is a tributary to a segment of Lubbers Run, which is classified as a FW2-TM waterbody. The trout sampling data indicated an incidence of occurrence of trout that is below the 20 percent threshold requirement, which implies that Cowboy Creek does not support trout maintenance. Accordingly, the rulemaking did not continue the TM classification that Cowboy Creek had previously been assigned as an unlisted tributary to the Lubbers Run. However, the Department proposed a C1 designation to Cowboy Creek based on exceptional ecological significance, supporting an exceptional aquatic community. If Cowboy Creek is resampled in the future and stream sampling data indicates that an incidence of occurrence is greater than the 20 percent threshold requirement or the presence of young-of-the-year trout is found within the creek, the Department will propose reclassifying Cowboy Creek to FW2-TM or FW2-TP, respectively, in a future rulemaking.

In addition to Cowboy Creek, the Department also proposed to downgrade the trout status of Spring (Granney) Brook based on the latest trout sampling data. As indicated in the notice of proposal at 51 N.J.R. 335, Spring (Granney) Brook, a tributary to Jackson Brook, received its current FW2-TP classification by default when Jackson Brook was classified as a FW2-TP water. The latest trout sampling data did not identify any YOY trout within this Brook but identified an incidence of occurrence that is above the 20 percent threshold requirement, which indicates trout maintenance status. Therefore, the Department is adopting Spring (Granney) Brook as FW2-TM and maintaining its current Category One status to ensure that the exceptional fisheries resource is protected.

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113. COMMENT: The single macroinvertebrate AMNET station AN0023A should not be used for the proposed upgrade for Swartswood Creek, which encompasses two HUC 14s in an over 15 square mile area and includes all of its tributaries and six lakes. Furthermore, the habitat rating for this waterway was listed as "good" when the Department's GIS file shows a habitat rating of "suboptimal." The Department's Northern Fish IBI Summary also shows a habitat rating of "suboptimal" for Swartswood Creek dated 2017. The rulemaking does not reference monitoring periods for water quality data used in its justification. (186)

RESPONSE: The Department determined from its evaluation of the most up-to-date data available for the benthic macroinvertebrate communities, instream habitat, fish assemblage, water quality, and low impervious surface that Swartswood Creek satisfies the definition of "exceptional ecological significance" at N.J.A.C. 7:9B-1.4 by supporting an exceptional aquatic community. The mandatory factor in determining an exceptional aquatic community is a nonimpaired benthic macroinvertebrate community as determined by the Department's Rapid Bioassessment Protocol (see https://www.nj.gov/dep/wms/bfbm/rbpinfo.html). AMNET station AN0023A is located near the confluence of Swartswood Creek with Swartswood Lake, which is the furthest downstream portion of the proposed segment and was rated "good" based on the HGMI scored of 45.7 in 2012, which subsequently increased to a "good" score of 62.75 when the station was resampled in 2017. This indicated that the flow from the upstream portions of Swartswood Creek and its tributaries continues to not cause any impairments to the benthic macroinvertebrate community at this downstream location. In addition to a nonimpaired benthic macroinvertebrate community, an exceptional aquatic community requires at least two of four supporting factors indicative of a healthy ecosystem before the waterbody can be considered

eligible for C1 designation. The two supporting factors of Swartswood Creek were optimal instream habitat as identified at AMNET station AN0023A and low impervious surface throughout the subwatersheds encompassing this waterbody. FIBI was not used as one of the two supporting factors because the instream habitat sampling provided from the station identified as FIBI-012 indicated "suboptimal" instream habitat. However, the instream habitat sampling at AMNET station AN0023A, which was more recent than the sampling at FIBI-012, indicated optimal habitat. This data is publicly available for download from the portal at https://www.waterqualitydata.us/.

Furthermore, the Department determined that the non-impaired benthic macroinvertebrate community with optimal instream habitat at this downstream section reflects upstream characteristics due to the relatively undisturbed and forested riparian zone throughout these subwatersheds that resulted in a low impervious surface. Therefore, the Department is adopting Swartswood Creek as a C1 waterbody based on "exceptional ecological significance."

114. COMMENT: The applicable data used in the justification for the C1 designation of Pleasant Run is questionable. The AMNET station within the Pleasant Run segment proposed for upgrade is AN0339. The only Department-collected data available is from 2009, which lists an HGMI of 46.49, just above the cut-off between "fair" and "good" of 42. The water quality data for Pleasant Run is also limited, as the more recent data is from volunteer monitoring, which indicates the stream is "healthy" but uses a volunteer index, which does not differentiate between "fair," "good," and "excellent." It is also noted that the 2014 Integrated Report shows station AN0340

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is impaired for aquatic life and no listing is provided for station AN0339. Further, Raritan Headwaters Association maps the specific AMNET stations PR15 and PR16, which are shown as "fair" for HGMI, while the overall watershed is mapped "good" on the combined HGMIs. The Watershed Management plan for Holland Brook and Pleasant Run states, "overall the results of the macroinvertebrate surveys of the streams confirmed that, although both Pleasant Run and Holland Brook support a wide and diverse array of macroinvertebrates, the macroinvertebrate communities show distinct evidence of ecological impairment." It is noted that a watershed management plan is designed to improve water quality of impacted streams. (186)

RESPONSE: All C1 designations proposed by the Department are waterbodies that met the criteria set forth in the definitions of either "exceptional ecological significance" or "exceptional fisheries resources" as set forth at N.J.A.C. 7:9B-1.4. Pleasant Run, from its source to York Town Road, was proposed for C1 designation based upon its exceptional aquatic community, which is one of the criteria used to demonstrate a waterbody's exceptional ecological significance.

The primary determining factor for an exceptional aquatic community is a nonimpaired benthic macroinvertebrate community as determined by the Department's Rapid Bioassessment Protocol (see https://nj.gov/dep/wms/bfbm/rbpinfo.html). In addition to a nonimpaired benthic macroinvertebrate community, an exceptional aquatic community requires at least two supporting factors illustrative of a healthy ecosystem, as specified in the definition of "exceptional ecological significance," before the waterbody can be considered eligible for C1 designation. The Department determined through its initial evaluation that Pleasant Run supported a non-impaired benthic macroinvertebrate community at AMNET stations AN0339 and PR15 and the general water quality parameters supportive of aquatic life were met

throughout the encompassing subwatershed, which additionally had a low impervious surface percentage. The Department recognized that AMNET station AN0340 is in the same HUC 14 as AMNET station AN0339, which indicated an impaired benthic macroinvertebrate community. As such, the Department did not propose C1 designation for the portion of Pleasant Run where it could be reasonably assumed that the sampling data from AMNET station AN0339 reflected the macroinvertebrate community.

However, for the segment of Pleasant Run proposed for C1 upgrade, the Department determined from its subsequent evaluation of the latest publicly available data, explained in the introduction of this adoption, that the water quality parameters supportive of aquatic life were no longer met throughout the encompassing subwatershed. Pleasant Run, therefore, no longer possesses the two supporting factors required to meet the definition of "exceptional ecological significance," supporting an exceptional aquatic community. Accordingly, the Department is not adopting Pleasant Run for C1 designation. See the introduction to this adoption and Table 3 under the Summary of Agency-Initiated Changes for more information on waterbodies not being adopted as proposed.

115. COMMENT: Sampling data from AMNET monitoring station AN0233 on the Whippany River should not be used as the basis for an upgrade as this station is located at the upstream end of the segment of the river proposed for upgrade based on exceptional aquatic community. A monitoring station would typically reflect conditions upstream of the station. While AMNET data from 2013 shows a "good" HGMI, volunteer indices from more recent data are mixed, and the locations are not mapped for all the volunteer stations (WHIP02) in the available GIS data. It

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is noted that the FIBI Rating was "optimal" in 2013 and "good" in 2018. Downstream of the confluence with a tributary, the stream is not proposed for upgrade. It is not clear what recent data were used to expand the C1 designation to this segment of the Whippany River. (186)

RESPONSE: The Department has reevaluated the proposed stream segments based upon additional data, as explained in the introduction of this adoption, to verify the justifications used in the C1 designations. The Department found that AMNET station AN0233 located at Whitehead Road bridge is not representative of the proposed stream segment, as it is upstream of the proposed C1 segment. Recent AMNET sampling data also found a "fair" macroinvertebrate community at AN0233A, therefore, not fulfilling the AMNET requirement of "good" or "excellent" scores in C1 eligible waterbodies. Additionally, an additional factor used to support this segment's proposal for C1 upgrade, water quality, was no longer satisfied following the Department's evaluation of the latest publicly available data. Accordingly, the Department is not adopting Whippany River for the C1 designation based on exceptional ecological significance, supporting an exceptional aquatic community.

116. COMMENT: There is no science behind the C1 designation of Rutgers Creek, and the 300-foot riparian zones associated with it. The stream becomes completely dry two-to-four months each year. (107)

RESPONSE: An exceptional aquatic community is one of the criteria used to demonstrate a waterbody's exceptional ecological significance. The Department determined that Rutgers Creek from its source to the State line supported a non-impaired benthic macroinvertebrate community at AMNET station AN0309B based on the HGMI, optimal instream habitat as measured by the Department's stream habitat

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assessment and a low impervious surface within the HUC 14 that is predominantly forested. Therefore, these data justify the proposed upgrade to C1 designation for Rutgers Creek based on an exceptional ecological significance, supporting an exceptional aquatic community.

As explained in the introduction of this adoption, the Department has subsequently reevaluated the stream segments proposed for upgrade utilizing additional data to verify that the waters proposed for upgrade continue to qualify for the C1 designations. The benthic macroinvertebrate community was still classified as non-impaired after AMNET station AN0309B was resampled in 2018. However, the instream habitat was reassessed as "suboptimal," and as such, was no longer supportive of the C1 designation. Based on the 2015 impervious surface data, the HUC 14 that contains the proposed segment of Rutgers Creek is now above the threshold value for a subwatershed smaller than five square miles of less than two percent impervious surface. Therefore, the Department is not adopting Rutgers Creek as proposed, based on this evaluation of the latest publicly available data that indicated the optimal instream habitat and low impervious surface are no longer supporting factors for C1 designation.

Regarding the commenter's assertion that Rutgers Creek is ineligible for C1 antidegradation designation on the basis of its being dry for several months out of the year, it should be noted that intermittent streams are included under the definition of "waters of the State" in the New Jersey Water Pollution Control Act, N.J.S.A. 58:10A-3, and are, therefore, subject to the antidegradation policies applicable to all surface waters of the State set forth at N.J.A.C. 7:9B-1.5(d). Therefore, should any portions of Rutgers Creek be shown to qualify for C1 designation in the future, those portions will be considered for upgrade at that time.

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117. COMMENT: The proposed C1 designations of Furnace Brook, the Pequest River, and Pond Brook are questioned as only varying, missing, and conflicting data supporting these upgrades has been made accessible to the public via the weblinks referenced in this rulemaking. Furthermore, Furnace Brook only appears to meet the requirement for impervious surface cover and macroinvertebrate community. (186)

RESPONSE: Furnace Brook, Pond Brook, and the Pequest River were all proposed based on these waterbodies being of exceptional ecological significance, supporting an exceptional aquatic community.

Furnace Brook from Railroad Bridge to the Pequest River, including all tributaries, was proposed for the C1 designation as the segment supported a non-impaired benthic macroinvertebrate community observed at AMNET station AN0042, possessed general water quality parameters that are supportive of aquatic life throughout the encompassing subwatershed and had a low percentage of impervious surface within the subwatershed. Accordingly, Furnace Brook met the standards specified in the SWQS for CI antidegradation designation based on an exceptional ecological significance, supporting an exceptional aquatic community. However, the Department determined, upon evaluation of the latest publicly available data, that the proposed portion of Furnace Brook no longer supports a non-impaired benthic macroinvertebrate community as indicated by the recent macroinvertebrate sampling data at AMNET Station AN0042. Accordingly, the Department is not adopting the proposed upgrade of Furnace Brook.

Pond Brook from Swartswood Lake to Paulins Kill was proposed for C1 designation as the waterbody supported a non-impaired benthic macroinvertebrate community at AMNET station AN0032, had an optimal instream habitat as measured by the Department's Stream Habitat Assessment, was meeting the general water quality parameters that are supportive of aquatic life throughout the

encompassing subwatershed, and had a low percentage of impervious surface below the thresholds specified in the rules. Accordingly, this segment of Pond Brook qualified for C1 designation as a waterbody of exceptional ecological significance, supporting an exceptional aquatic community. However, in response to comments received, the Department determined that the AMNET and water quality data used for the proposed section of Pond Brook were more than 10 years old and not sufficient to support the proposed C1 designation. Accordingly, the Department is not adopting Pond Brook as proposed.

The Department's evaluation of the latest publicly available data for the proposed Pequest River segments demonstrated that the factors used to justify the C1 designation based on exceptional ecological significance, supporting an exceptional aquatic community are still being met. Accordingly, the Department is adopting the C1 designation for two segments of Pequest River that were based on an exceptional ecological significance, supporting an exceptional aquatic community, without change.

See the introduction to this adoption and Table 3 under the Summary of Agency-Initiated Changes for more information on waterbodies not being adopted as proposed.

Clarification(s) on the Notice of Proposal

118. COMMENT: The commenter requests confirmation that the only section of the Ramapo River that will be affected by the C1 upgrades is the middle section between Fox Brook and Little Pond Brook, that the upstream section between the State line and Fox Brook will not be impacted, and the 300-foot riparian zone will not be applied to the upstream section. (217)

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RESPONSE: As indicated in the notice of proposal at 51 N.J.R. 312, the Department is upgrading Ramapo River between Patriots Way bridge and Little Pond Brook, including all unnamed tributaries, to C1 designation based on the confirmed presence of Eastern Lampmussel and the identification of a suitable habitat to support this State threatened species. The upstream portion of Ramapo River between Fox Brook and Patriots Way bridge is already designated as a C1 pursuant to N.J.A.C. 7:9B-1.15(f). Accordingly, through this rulemaking, the Department has extended the section of Ramapo River designated as a C1 to run from the confluence with Fox Brook to Little Pond Brook, including all unnamed tributaries.

With respect to the upstream section referenced by the commenter between the State line and Fox Brook, prior to this adoption, the Ramapo River from Bear Swamp Road/Cannonball Road downstream to its confluence with Fox Brook was already subject to a 300-foot riparian zone, as this section is upstream of and within the same HUC 14 subwatershed as the above-referenced previously existing C1 designation from Ramapo River's confluence with Fox Brook to Patriots Way Bridge in Mahwah. The Ramapo River upstream of Bear Swamp Road/Cannonball Road to the State line will not be subject to a 300-foot riparian zone as a result of this rulemaking, as there are no downstream C1 waters within its HUC 14 subwatershed. See the Response to Comments from 128 through 134, as well as the Response to Comment 142, regarding the application of 300-foot riparian zones.

119. COMMENT: The Department should clarify the regulatory implications of the term "protected tributaries" that is used in the "Impacted upstream tributaries to 2019 proposed C1s" maps. Additionally, the Department should confirm whether the classification for the section of the Neshanic River and all its tributaries downstream of the confluence with the Third Neshanic

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River and upstream of the Back Brook confluence will continue to be designated as FW2-NT(C2) and not as a C1 water. The commenter would further like confirmation of 300-foot riparian zones along the Neshanic River and its tributaries downstream of the confluence with the Third Neshanic River and upstream of the Back Brook confluence. (222)

RESPONSE: The term "protected tributaries" refers to the tributaries upstream and within the same HUC 14 subwatershed of the adopted C1 segments. See the Response to Comments 128 through 134 for more information on the FHACA Rules and riparian zones.

These tributaries are afforded 300-foot riparian zones under the FHACA Rules. The Department proposed, and is adopting, a C1 antidegradation designation to be applicable to the segment of the Neshanic River running from Back Brook to South Branch Raritan River, including all tributaries, based upon this segment of the river being of exceptional ecological significance, supporting an exceptional aquatic community. The 300-foot riparian zone is applicable to this entire portion of the Neshanic River within the HUC 14 boundary. The section of the Neshanic River and all its tributaries within HUC 14-02030105030060 downstream of the confluence with the Third Neshanic River and upstream of the confluence of Back Brook was not proposed for C1 and will not be subject to 300-foot riparian zones.

Beaver Brook and South Branch Raritan

120. COMMENT: What data is available to support the C1 designation within the Town of Clinton's limits? (197)

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RESPONSE: Two C1 upgrades fall within the boundaries of the Town of Clinton: Beaver Brook from the lower-most I-78 bridge downstream to the South Branch Raritan River, and the South Branch Raritan River mainstem from Lake Solitude to Spruce Run outlet stream.

Regarding Beaver Brook, the stream classification of the portion flowing through the Town of Clinton is changing from Trout Maintenance to Trout Production and its antidegradation designation upgraded to C1. Based on stream surveys conducted from 2006 through 2017, young-of-the-year Brown Trout were identified within this stream segment, qualifying the segment for reclassification as a trout production water and for C1 designation as an exceptional fisheries resource. As most of the mainstem of Beaver Brook was already designated as a C1 water prior to the proposed amendments being adopted at this time, the Department proposed to extend the C1 designation of the mainstem downstream to the South Branch Raritan River.

Sampling results for the segment of the South Branch Raritan River within the Town of Clinton demonstrated the presence of an unimpaired macroinvertebrate community, a necessity for a waterbody to qualify as a waterbody of exceptional ecological significance. In addition to a healthy macroinvertebrate community, this river segment also qualifies for two of the supporting factors necessary for a waterbody to be determined to support an exceptional aquatic community. First, this segment of the river received an excellent FIBI rating, indicating that it supports an excellent fish community. Second, the habitat assessment within this portion of the river segment received a score of optimal condition. Accordingly, this segment of the South Branch Raritan River fully qualified for upgrade in accordance with the definition of “exceptional ecological significance.”

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Requests for Geographic Information System (GIS) Coverage of Proposed Segments

121. COMMENT: The Department should make available the sampling data, as well as Geographic information System (GIS) maps, to fully reflect the delineation of proposed C1 waterways and the unknown tributaries that may fall under this rulemaking. Providing Portable Document Format (PDF) maps with the proposal is insufficient to accurately analyze the rulemaking. (111)

122. COMMENT: The rulemaking should be withdrawn, the required process implemented, corrected mapping, and all data made available to the public and the rulemaking modified and reproposed, as appropriate. (82)

123. COMMENT: Sufficient mapping of the affected upstream tributaries was not included in the notice of proposal. The Department updated its website with additional maps on May 16, 2019, 10 weeks into the comment period, the maps provided were too late into the 12-week comment period to allow for adequate notice. In addition, the maps conflict with other maps provided by the Department, and still do not include all the affected tributaries. (128, 304, and 311)

124. COMMENT: There are significant discrepancies between the static and interactive maps, as well as the stream descriptions in the notice of proposal. As a result, it is impossible to adequately comment on the notice of proposal or to know who is impacted. Parties potentially affected by the 300-foot riparian zone or effluent limitations are unable to determine if they are impacted by this rulemaking. (40, 55, 56, 105, and 186)

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125. COMMENT: GIS mapping was not available and was not provided by the Department for the upstream tributaries impacted in the notice of proposal published for public notice. The absence of this information calls into question the validity of this rulemaking's impact analysis/statements and undermines the public's ability to evaluate the rule's costs and benefits. Most members of the public do not have the technical capacity to analyze the impacts of this rulemaking on their own. (157 and 186)

126. COMMENT: The geographic coordinates for the proposed C1 waters boundaries, or the names/locations of the impacted waters must be provided to allow commenters to accurately evaluate the impacts of the proposed changes. (208)

127. COMMENT: Maps of upstream tributaries that would be afforded a 300-foot riparian zone because of the proposed upgrades should be provided. (85, 105, and 172)

RESPONSE TO COMMENTS 121 THROUGH 127: The Department posted pdf maps of the potential C1 stream segments to be proposed at https://www.njdepcalendar.com/calendar/events/index.php?com=detail&eID=601 for the public to review before the notice of proposal was published in the New Jersey Register on March 4, 2019 at 51 N.J.R. 308(a). These pdf maps remained available throughout the comment period. In response to requests received by the Department during the comment period to release the GIS shapefile of the proposed stream segments, the Department posted the GIS layer reflecting the segments proposed for upgrade, as well as pdf maps of the upstream tributaries that would be subject to 300-foot riparian zones if the proposed amendments were adopted, at https://www.njdepcalendar.com/calendar/events/index.php?com=detail&eID=601.

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The notice of proposal Summary provided a narrative description of the factors taken into account in classifying and designating waterbodies under the SWQS, a description of both the upstream and downstream boundaries of each segment proposed for C1 upgrade based upon the waterbody qualifying as either a water of exceptional ecological significance, or as an exceptional fisheries resource, as well as a description of the bases under which each waterbody segment qualified for upgrade. The boundaries of the waterbody segments proposed for upgrade were further reflected in the proposed rule text and further information provided in the corresponding tables included in the Summary.

Maps and GIS information are helpful to identify a stream. However, when interpreting the stream classifications and antidegradation designations, the narrative descriptions specified at N.J.A.C. 7:9B-1.15 govern. The adopted upgraded stream segments to the existing Surface Water Quality Standards stream classifications and antidegradation designations layer are available on the Department's GIS digital downloads at https://www.nj.gov/dep/gis/ for easy digital representation of the narrative descriptions specified at N.J.A.C. 7:9B-1.15.

The Department documented and explained this rulemaking's implementation impacts in the notice of proposal, which reviewed potential impacts from implementing rules, such as the NJPDES, WQMP, and FHACA Rules.

Economic Impacts of the Notice of Proposal

General Impact

128. COMMENT: The notice of proposal is both extreme and detrimental to the local economy. Businesses will be unable to expand their properties due to limitations from the 300-foot riparian zones and will be likely to move to more favorable locations outside of New Jersey, taking hundreds of jobs away from New Jersey and severely limiting the creation of new jobs. (54)

129. COMMENT: The proposed change to upgrade 749 river miles to C1 designation has far reaching socioeconomic implications affecting property owners along the identified stream segments and tributaries. It is noted that counties, municipalities, regional treatment authorities, commercial and industrial facilities, and developers will be potentially impacted. (2, 82, 193, 262, and 304)

130. COMMENT: The Department's impact analysis was not thorough enough, and by extension, the Department left out the potential for more public input. (40 and 262)

131. COMMENT: The proposed amendments unreasonably impact economic development while not having a substantial benefit. As a result of previous rulemaking, businesses have fled the area, leaving area residents with less job opportunities. (233)

132. COMMENT: The proposed rulemaking would impose severe economic and financial costs on municipal governments and property taxpayers alike; costs that far outweigh any perceived benefit. The rulemaking does not evaluate how sewer service areas served by facilities that discharge into, or upstream from, a newly designated C1 area will be impacted. No factual assessment of the impact on housing, land development, or property taxes relied upon by local government was conducted, other than the unsupported and inaccurate claims by the

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Department that there would be no impact. This rulemaking will stop redevelopment projects within urban areas that will be subject to 300-foot riparian zones if the proposed amendments are adopted. (193 and 304)

133. COMMENT: The rulemaking's impact analyses failed to identify the municipalities and sewage treatment facilities affected by this rulemaking. The commenter has provided a summary of impacts to five municipalities/towns due to the rulemaking. (172)

134. COMMENT: The impact assessments in the rulemaking are inadequate, as they did not consider upstream impacts and impacted tributaries. The Cooper River C1 designation in Camden City also impacts the 300-foot riparian zones on upstream tributaries in Cherry Hill Township, Collingswood Borough, and Haddonfield Borough. (186)

RESPONSE TO COMMENTS 128 THROUGH 134: The Department does not believe that this rulemaking conflicts with the goal of economic development within the State of New Jersey. Instead, this rulemaking allows appropriate economic growth to occur while ensuring that the equally important natural resources of the State are preserved. The State's natural resources, including water resources, are held in public trust, and their protection is in the best interest of all New Jersey residents, particularly given the cost of restoration, loss of revenue among industries dependent on high water quality, and the widespread costs of flooding resulting from unwise development in flood-prone riparian areas. By minimizing and preventing these problems, the amendments adopted at this time are consistent with sustainable economic growth and ensure that appropriate development can occur without compromising critical environmental resources.

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As discussed in the notice of proposal Economic Impact statement, any impact resulting from the C1 upgrades and the implementation of the 300-foot riparian zones under the FHACA Rules on future development would depend upon numerous site-specific factors. The FHACA Rules regulate development in flood hazard areas and riparian zones adjacent to surface waters throughout the State to mitigate the potential for adverse impacts to water quality, increased flooding, and the environmental and economic damage that can be caused by water quality degradation and flooding. The Department explained in the notice of proposal that the FHACA Rules at N.J.A.C. 7:13-4.1(c)1 establish a 300-foot riparian zone adjacent to any waters designated as C1, as well as upstream tributaries to C1 waters within the same HUC 14 subwatershed. The FHACA Rules also create a 150-foot riparian zone for trout waters and their tributaries that are not designated as C1 waters. (See N.J.A.C. 7:13-4.1(c)2).

Protection of riparian zones also provides an economic benefit by protecting drinking water supplies. Watersheds with a high proportion of intact forests and wetlands are particularly effective at moderating runoff and reducing pollutants in water supplies. As a watershed loses forested land, water treatment costs increase at an accelerated rate. The costs avoided through watershed protection can also be significant. New York City, for example, spent $1.5 billion on watershed protection over 10 years to avoid $6 billion in capital costs and $300 million in annual operating costs (Postel, S.L. and Thompson, B. H. (2005). Watershed Protection: Capturing the benefits of nature's water supply services. *Natural Resources Forum,* 29, 98-108). According to the North Jersey District Water Supply Commission in 2004, if critical lands in the Highlands were not preserved, taxpayers would have to spend $30 billion in water treatment costs between 2004 and 2050, just to treat water from two of the Highlands' major reservoirs (Highlands Task Force Action Plan: Recommendation to Preserve New Jersey's Highlands. Report to Governor James E. McGreevey and the New Jersey Legislature. March 2004.

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https://www.njleg.state.nj.us/OPI/Reports_to_the_Legislature/highlands_task_force_action_plan_2004.pdf).

Any activity within a riparian zone or flood hazard area requires a flood hazard area approval pursuant to the FHACA Rules. If property owners plan projects or regulated activities in areas that possess a 300-foot riparian zone as a result of the new C1 designations, or a 150-foot riparian zone as a result of trout reclassifications, such projects or activities may be affected by this rulemaking and may be subject to additional regulatory requirements under the FHACA Rules.

As explained in the notice of proposal at 51 N.J.R. 339, where an activity is proposed within the inner 150 feet of a 300-foot riparian zone, an applicant must demonstrate that the activity: (1) has no practicable alternative that would result in fewer potential adverse impacts; (2) will result in minimum alteration or impairment of the riparian or aquatic ecosystem; and (3) is in the public interest. Those seeking to conduct activities in the inner half of a 300-foot riparian zone may have to spend additional time and resources preparing an application to satisfy these requirements. If a proposed activity does not meet the requirements, additional costs may be associated with developing alternatives or relocating the activity outside of the inner 150 feet of the 300-foot riparian zone.

The FHACA rules include appropriate provisions to facilitate redevelopment activities, as well as the expansion of existing facilities located within the 300-foot riparian zone, provided impacts to riparian zone vegetation are minimized, the project is demonstrated to be in the public interest, and riparian zone disturbance is suitably mitigated (see N.J.A.C. 7:13-11.2(b), (d), and (e) and 13.4).

Development in a 300-foot riparian zone that is authorized under an individual permit requires riparian zone mitigation in most cases pursuant to N.J.A.C. 7:13-13.4. Additional costs will, therefore, be

incurred by those conducting regulated activities within a 300-foot riparian zone, including the cost of preparing a mitigation plan and executing that plan by onsite or offsite mitigation, or through purchasing credits through a riparian zone mitigation bank. The exact costs will depend upon factors including the area of riparian zone vegetation that is impacted, the ecological losses related to the impact to that specific property that must be compensated for, and the area of the State within which the proposed unavoidable impact is to occur.

As noted previously, the FHACA Rules discourage new development within the 300-foot riparian zone. This is appropriate, as riparian zone vegetation has been shown to provide significant water quality and flood-mitigation benefits, including pollutant uptake, improved oxygenation of surface waters, increased channel stability, and reduced erosion and flooding, thus preempting costly downstream flood damage. Mitigation of flood risk provides present and future benefits for all New Jersey residents, including local and county governments, homeowners, and businesses. In addition, many jobs are negatively affected by degradations to water quality. For example, jobs in agriculture, recreation (such as wildlife watching, boating, and tourism), commercial fishing, and shellfish harvesting rely on good water quality and, thus, are positively impacted by increased protections to exceptional water resources. The FHACA Rules do not prohibit development in the 300-foot riparian zones, but rather limit development in order to be protective of water quality. Some encroachment into the riparian zone is allowed in accordance with those rules and small expansions may not be regulated at all. See the Response to Comments 139 and 140, as well as the Response to Comment 142 for more information on the 300-foot riparian zone requirements.

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With reference to impacts to domestic wastewater treatment facilities, no direct impacts are currently anticipated as a result of this rulemaking, as existing NJPDES permits will only be affected if new or expanded discharges are proposed. As of the time of this rulemaking, the Department is unaware of any NJPDES applications for domestic wastewater treatment permits that discharge to, or upstream of, adopted C1 waterbodies. As discussed in the notice of proposal at 51 N.J.R. 338, should an applicant propose a new or expanded discharge to, or upstream of, a C1 waterbody, the magnitude of impacts will vary depending on a range of site-specific factors unique to individual dischargers, effluent conditions, and the receiving waterbody.

The designation of C1 waterbodies does not necessarily preclude the construction of a new wastewater treatment facility; however, building a new facility discharging to, or upstream of, the C1 waterbody would be likely to increase costs associated with such a facility. Where such costs are prohibitive, additional options, such as discharge to ground water or relocation of the proposed discharge, may avoid the impact on the C1 waterbody. The Department is unable to precisely predict how the proposed upgrades may specifically affect future expansion due to the unique site-specific characteristics of existing or possible future development and discharge needs.

A C1 antidegradation designation establishes a requirement that discharges to, and upstream of, the C1 waterbody have “no measurable change” on water quality in the C1 waterbody. The implementation of the rule’s “no measurable change” requirement for discharges to C1 waters ensures that current water quality is maintained, negating the need for expensive restoration projects in the future. Protecting high quality waters is much more cost-effective than restoring them after they have

been degraded. Where a surface water, or its tributary, is utilized as a source of potable use, the protection of high-quality waters also incurs savings by reducing water treatment costs.

An additional positive effect of the proposed C1 upgrades will be to reduce development intensity in environmentally sensitive areas, thereby helping to maintain and enhance water quality, biodiversity, and flood control. Unchecked development in environmentally sensitive areas results in environmental degradation; the cost of restoration and remediation may be passed on to the public, resulting in an inefficient and costly cycle of degradation and restoration.

While designating a waterbody as C1 may, in some cases, reduce the area available for future new development, the benefits of water quality protection are distributed among all residents of New Jersey. The designation of C1 antidegradation protections will discourage development where it would impair or destroy natural resources and the environmental qualities vital to the health and well-being of the residents of New Jersey. The maintenance of water quality resources is important to all residents, particularly to the many communities that depend upon surface waters for public, industrial, and agricultural water supplies, recreation, tourism, fishing, and shellfish harvesting.

Economic Impacts to Municipalities

135. COMMENT: There should be a case-by-case reevaluation of each of the municipalities in Hunterdon County as to whether the proposed amendments are practicable and if they will interfere with the environmental, statutory, and budgetary obligations of small municipalities. The proposed amendments will stifle small town economies and character. (91)

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RESPONSE: A municipality-by-municipality evaluation of impacts from the upgrades would necessarily involve a property-by-property analysis of areas that may be impacted by the riparian zone requirements of the FHACA Rules and the "no measurable change" standard applicable to discharges to, and upstream of, a C1 designated waterbody. Such a property analysis would necessarily include speculation as to how each property could foreseeably be developed, both without any changes and taking into account the requirements associated with areas adjacent to, and upstream of, C1 waters. Further, as indicated in the Response to Comments 128 through 134, the FHACA Rules do allow some forms of development to occur, with what an individual property owner chooses to do with the property subject to individual determination. As indicated in the notice of proposal, in addition to property owner preferences, the extent of any impacts to individual properties is influenced by numerous site-specific factors, making such a specific analysis not possible. However, it is anticipated that, rather than interfere with environmental actions of municipalities, the adopted amendments will achieve important environmental protections in every municipality that includes within its boundaries one of the waterbodies addressed in this rulemaking.

As indicated in the Economic Impact of the notice of proposal, the impact of the rules on a particular property or area is dependent upon numerous factors. As discussed in the Response to Comment 142, the Department's rules utilizing the SWQS do contain provisions designed to accommodate limited development in appropriate circumstances, including the hardship exception provided in the FHACA Rules at N.J.A.C. 7:13-15.1, thus reducing impacts in appropriate circumstances to both individual property owners and municipalities.

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However, the Department also considered the economic impact to all the State's residents resulting from degraded water quality. These impacts include higher drinking water treatment costs, impacts to agricultural surface water uses, revenue losses in recreational and tourism opportunities, and negative impacts to commercial fishing and shellfish harvesting industries. Additionally, restrictions through the FHACA rules on development within the 300-foot riparian zone of C1 waters protect water quality and reduce the risk and severity of downstream flooding, incurring savings for all downstream municipalities. Such impacts affect all residents of, and many visitors to, the State.

136. COMMENT: Flemington Borough offers one of the few opportunities for development and redevelopment in Hunterdon County that is walkable, offers a variety of housing types and services, and is in a municipality that sees the benefits of such development and redevelopment. The importance of this place and its ability to grow and accommodate development in Hunterdon County and the State is expressed in policies adopted at all levels of government. The proposed amendments detrimentally impact Flemington Borough through limitations on future growth. (76 and 239)

RESPONSE: The upstream boundary of the segment of the South Branch Raritan River upgraded to C1 antidegradation designation that was originally proposed to run from the Main Street (County Route 613) bridge to the Neshanic River, has been modified. As discussed in the Response to Comments 49 through 53, the Department is revising the upstream boundary from the Main Street (County Route 613) bridge to the first westerly tributary below the Main Street

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(County Route 613) bridge. As a result, Flemington Borough will no longer be impacted by the 300-foot riparian zone that is afforded to the tributaries of C1 waters and their upstream tributaries in the same HUC 14 subwatershed.

137. COMMENT: The South Branch Raritan River designation will detrimentally impact fiscal sustainability and development in Clinton Township, the Town of Clinton, the Township of Raritan, Flemington Borough, and the Borough of High Bridge through limitations upon future growth. The commenters, therefore, oppose the designation. (88, 91, 128, 167, 169, 179, 197, 201, 239, 243, and 275)

RESPONSE: The Department proposed C1 designation for two segments of the South Branch Raritan River based on exceptional ecological significance, as both segments support an exceptional aquatic community.

High Bridge Borough contains one C1 upgrade: The South Branch Raritan River from Lake Solitude to Spruce Run outlet stream, including all tributaries.

Raritan Township contains C1 upgrades to the Third Neshanic River and tributaries, and tributaries to the South Branch Raritan River. As stated in the Response to Comments 49 through 53, the adopted C1 upgrade for the mainstem South Branch Raritan River from the first westerly tributary below the Main Street (County Route 613) bridge to Neshanic River differs from that originally proposed. The originally proposed upstream boundary was placed at the Main Street (County Route 613) bridge, triggering FHACA 300-foot riparian zones around upstream tributaries

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within the same HUC 14 subwatershed, many of which were located in Raritan Township. Following revision of this segment's upstream boundary, these upstream tributaries are no longer affected. For this same reason, Flemington Borough will no longer be affected by these C1 upgrades.

Two C1 upgrades fall within the boundaries of the Town of Clinton: Beaver Brook from the lower-most I-78 bridge downstream to the South Branch Raritan River, and the South Branch Raritan River mainstem from Lake Solitude to Spruce Run outlet stream. Clinton Township contains C1 upgrades to the South Branch Raritan River and tributaries, as well as Prescott Brook and tributaries.

The actual impacts on municipalities from the South Branch Raritan River C1 upgrades depend on the site-specific conditions of a development project, and without the detail contained in an application for such a project, the impacts from the adopted upgrades will depend upon a variety of factors discussed in the Economic Impact statement in the notice of proposal.

As discussed in the Response to Comments 128 through 134, the protections provided by the SWQS antidegradation standards and the protections provided to riparian zones under the FHACA Rules, including the 300-foot riparian zones applicable to C1 waters, are important not only in maintaining water quality, but also in safeguarding public health and safety, ensuring the availability of safe potable water supplies at a reasonable cost, and protecting industrial and agricultural water supplies, recreation, tourism, fishing, and shellfish harvesting in the State, as

well as the employment opportunities related to these industries. Accordingly, the waterbodies proposed for C1 designation that continue to meet the criteria specified in the SWQS are being upgraded at this time.

138. COMMENT: This rulemaking will negatively impact economic development in West Amwell Township. (2)

RESPONSE: The Department is not adopting any waterbodies for C1 upgrade within West Amwell Township. Furthermore, West Amwell Township is not in the same HUC 14 subwatershed as any C1 upgrades and, therefore, is not affected by the 300-foot riparian zone afforded to upstream tributaries within the same HUC 14 of a C1 waterbody. The Department, therefore, expects no economic impact to West Amwell Township as a result of this rulemaking.

139. COMMENT: The proposed amendments will inhibit municipalities from undertaking local projects utilizing funding from development and redevelopment projects that would achieve environmental improvements by addressing flooding, infiltration, stormwater management, and inflow. (76, 128, 167, 179, 193, 239, 275, and 304).

140. COMMENT: The Department has claimed that listing waters as C1 does not prevent development that can improve water quality. That is not true. The Department's regulations prohibit development in C1 waters that impacts in-stream and riparian habitats even for projects that improve water quality. Effective restoration of urban development almost always relies

upon reconstructing drainage and sewage infrastructure, as well as significant disturbance of commercial and industrial riparian waterfront areas and dredging sediments. Much of that type of work can be halted because it disturbs the instream and near stream ecosystems. The Department has not effectively responded to how a C1 listing in degraded waters can be restored without adverse effect to instream and near stream environments. (262)

RESPONSE TO COMMENTS 139 AND 140: The C1 antidegradation designations do not prohibit positive water quality improvements. The "no measurable change" requirement applicable to new or expanded NJPDES dischargers requires no measurable negative change to the existing water quality, but does not prohibit improvements to existing water quality. In fact, as discussed in the Response to Comments 128 through 134 and the Response to Comment 173, the proposed amendments do not preclude the construction of a new wastewater treatment facility or new environmental infrastructure projects, which are sometimes sited to address and improve water quality issues stemming from failing septic systems and non-point pollution sources. The proposed amendments also do not prevent wastewater treatment facilities from expanding to increase flow, if the pollutant load remains the same.

In addition, the C1 upgrades do not prohibit development in the 300-foot riparian zone. Some encroachment into the riparian zone is permitted in accordance with the FHACA Rules and small expansions of existing development and other minor activities may not require a permit from the Department. Additionally, the rules have little, if any, impact on redevelopment of existing impervious areas, as the 300-foot riparian zones established are designed mainly to protect existing vegetation; existing impervious surface is typically devoid of vegetation. Further, as stated in the Response to Comments 128 through 134 and the Response to Comments 163 through 166, appropriate provisions are

included in the FHACA rules to facilitate redevelopment activities, as well as the expansion of existing facilities located within the 300-foot riparian zone, provided impacts to riparian zone vegetation are minimized, the project is demonstrated to be in the public interest, and riparian zone disturbance is suitably mitigated.

With regard to dredging in C1 waters, dredging projects are reviewed to ensure that they do not cause an exceedance of applicable surface water quality criteria and for potential impacts on threatened and endangered species. Timing restrictions are often included in dredging permits for protection of threatened and endangered and fisheries resources. These restrictions are independent of the surface water classification.

141. COMMENT: The proposed C1 upgrades to the Blackwater Branch, Burnt Mill Branch, and Little Robin's Branch will impede redevelopment in the City of Vineland's primary commercial corridors. (127)

RESPONSE: As explained in the Response to Comments 56, 57, and 58, the Response to Comments 59 and 60, and the Response to Comments 61 and 62, the Department evaluated the extents of Blackwater Branch, Burnt Mill Branch, and Little Robin Branch proposed for C1 upgrade using the most recent publicly available data, and determined they no longer qualify for C1 upgrade on the basis of exceptional ecological significance. The Department is, therefore, not adopting the C1 designation for these waterbodies.

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Economic Impacts to Brownfields Redevelopment

142. COMMENT: Regarding the Environmental Impact statement in the notice of proposal, there is no mention of brownfields or redevelopment. The addition of C1 buffers and limits on sewage treatment facilities could act as a major disincentive to remediate brownfields located within an affected area. Discouraging redevelopment could ultimately exacerbate negative economic and environmental conditions within Environmental Justice communities as redevelopment projects bring new investment and improved on-site environmental and aesthetic conditions, especially in the case of brownfield redevelopment. (186)

RESPONSE: While C1 designations require protections within the 300-foot riparian zone, they do not prohibit development or redevelopment. Instead, the FHACA Rules set stringent standards for clearing, cutting, and removing riparian zone vegetation. Such restrictions are necessary to preserve the important functions and benefits of riparian zones, which include water quality improvements through pollutant uptake and increases in dissolved oxygen, reduced potential for erosion and nuisance flooding, and wildlife habitat enhancement. Redevelopment activities generally take place in areas that are substantially disturbed and often devoid of vegetation, where riparian zone functionality is significantly impaired or absent. The FHACA rules, therefore, provide incentives to redevelop such areas by encouraging activities that do not result in clearing, cutting, or removing riparian zone vegetation, pursuant to N.J.A.C. 7:13-11.2(f)1, or which take place in actively disturbed areas where no net-loss of vegetation would occur, pursuant to N.J.A.C. 7:13-11.2(f)4. Furthermore, the FHACA rules provide for a number of environmentally

beneficial activities, such as bank stabilization and restoration projects under N.J.A.C. 7:13-11.2(i), site remediation activities under N.J.A.C. 7:13-11.2(r), and solid waste facility closures under N.J.A.C. 7:13-11.2(s), regardless of whether said activities result in clearing, cutting, or removing vegetation. Finally, for other activities that have minimal riparian zone impact and are demonstrated to be in the public interest, prospective applicants can utilize the provisions at N.J.A.C. 7:13-11.2(y) for activities not otherwise provided for in N.J.A.C. 7:13-11.2 and/or the hardship exception provisions at N.J.A.C. 7:13-15.1.

With regard to impact of the 300-foot riparian zone afforded to C1 waters on sewage treatment facilities, see the Response to Comments 163, 164, 165, and 166.

Economic Impacts to Targeted Opportunity Zones

143. COMMENT: The Department should consider whether any proposed C1 upgrades will affect Targeted Opportunity Zones. (40)

144. COMMENT: This rulemaking will negatively impact a development project in Flemington located in a targeted opportunity zone. The proposed C1 upgrades will inhibit the developer's ability to obtain sewer capacity. This will decrease the project's economic viability. (6)

145. COMMENT: Flemington Borough is an Opportunity Zone. These areas are intended for "long-term capital investments in low income rural and urban communities." The Borough cannot fulfill the vision of the program if it cannot accept capital investments due to an inability to process wastewater. (239)

146. COMMENT: The Borough of Flemington has already been designated as an Opportunity Zone by the Federal government. This rulemaking would further contribute to the area's economic distress. (243)

RESPONSE TO COMMENTS 143, 144, 145, AND 146: The New Jersey Department of Community Affairs states the following at https://www.nj.gov/dca/divisions/lps/opp_zones.html:

> "The Opportunity Zones program was enacted as part of the 2017 federal Tax Cuts and Jobs Act and is designed to drive long-term capital investments into low-income rural and urban communities. This federal program provides opportunities for private investors to support investments in distressed communities through participation in Qualified Opportunity Funds."

The investments in qualified opportunity zones receive certain tax benefits. The Department has reviewed the list of New Jersey municipalities with approved Opportunity Zones available at https://nj.gov/governor/njopportunityzones/municipalities/index.shtml. The following municipalities were identified as containing both proposed C1 upgrades and approved Opportunity Zones: Camden, Deptford Township, Glassboro Borough, Sussex Borough, and Millville City. Additionally, Flemington Borough and Vineland City contained waterbodies that were proposed for C1 designation but are not being adopted, as explained in the Response to Comment 137 and the Response to Comment 141.

The Department anticipates the C1 upgrades will have a minimal impact on New Jersey's Opportunity Zones. Opportunity Zones outside of the 300-foot riparian zones established around

C1 waterbodies will be unaffected, and while Opportunity Zone projects located within the 300-foot riparian zone may, depending on the activity proposed, require approvals under the FHACA rules, the rules do not preclude development within the riparian zone. As previously indicated, some encroachment into the riparian zone is allowed in accordance with those rules, and small expansions may not be regulated at all. Furthermore, the rules have little, if any, impact on redevelopment of existing impervious areas as the 300-foot riparian zone established are designed mainly to protect existing vegetation. Impervious surface is typically devoid of vegetation. The adopted C1 upgrades are, therefore, unlikely to impede economic investment in the Opportunity Zones.

The Department believes that the proposed amendments are consistent with sustainable economic growth and will ensure that appropriate development can occur without compromising critical environmental resources. Furthermore, the Department believes that all New Jersey residents, including those residing in distressed communities, have the same right to high quality water. The proposed C1 upgrades in Opportunity Zones will protect water quality in these distressed communities while having minimal impact on their redevelopment potential.

Impacts to Property Taxes

147. COMMENT: The impact of the proposed amendments on property taxes must be addressed in the Economic Impact statement. (128)

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148. COMMENT: There is insufficient economic analysis on property values, development plans, and the likely impact to tax assessments of affected properties. Numerous housing and other projects will be directly affected by upstream buffers. (186)

149. COMMENT: The rulemaking will negatively impact property values in West Amwell Township. (2)

150. COMMENT: The proposed amendments will decrease property values in Raritan Township. (88 and 169)

151. COMMENT: Since the advent of the Highlands Act and the initial designation of C1 status upon State waterways in the area, the northwest corner of New Jersey has suffered from a decrease in available commercial tax ratables required to help offset the ever-increasing property tax burden on the residents in the region. This has resulted in heightened property tax burdens to pay for county, municipal, and school budgets. (233)

152. COMMENT: The 300-foot riparian zone resulting from the C1 designation would encumber existing residential and commercial properties and negatively affect the developability and value of property, which impacts not only the property owners but also municipalities' tax bases. (239)

153. COMMENT: The loss of tax ratables will devastate already struggling municipalities who have already burdened their residents with high taxes. An increase in taxes on drastically diminished property values will also force more residents to leave the area and resettle in more affordable Pennsylvania a short distance away. (54)

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154. COMMENT: The amendments will result in property values plummeting, leaving property owners in deep financial trouble. (93)

155. COMMENT: The proposed rulemaking would have a dramatic effect on municipal budgets, as countless tax appeals would be triggered by the new limitations on development. Owners of property situated near the proposed expanded C1 waterways would appeal their property assessment because of the new development limitations, thus devaluing their property. The proposed rulemaking invites large numbers of tax appeals by residential, commercial, and industrial property owners whose property values may be diminished. The likely success of these tax appeals means two things: first, the municipality would be required to issue refunds along with interest; second, all other property taxpayers would see their taxes increase to account for the decline in other ratables. (193 and 304)

156. COMMENT: The proposed amendments will negatively affect the assessment of properties affected by the C1 upgrade. Commercial, industrial, and residential property owners will appeal their property assessments due to the reduced viability of their property caused by the imposition of the 300-foot riparian zone. This reassessment of properties will cause an undue financial hardship on municipalities by greatly reducing the tax base. (169)

RESPONSE TO COMMENTS 147 THROUGH 156: The Department does not anticipate that the C1 upgrades will significantly impact property values or tax assessments. The vast majority of studies examining the relationship between property values and proximity to greenery, wildlife, outdoor recreation, and other amenities of undeveloped natural lands show that, where any impacts

exist, they tend to be positive (Frisman, P. (2006). Impact of Open Space on Property Values. *OLR Research Report.* https://www.cga.ct.gov/2006/rpt/2006-R-0344.htm). Restrictions on development within the 300-foot riparian zone and 150-foot trout production riparian zone implemented by the FHACA Rules ensure that undeveloped land in the riparian zone will retain its natural aesthetic and recreational value. The maintenance of these protected riparian zones could foreseeably improve the values of nearby properties, thus counteracting negative influences on property value. See the Response to Comments 128 through 134 and the Response to Comment 137 regarding ecological services provided and economic costs saved through improvements to water quality and reduction of flood risk in riparian zones. See the Response to Comments 49 through 53 and the Response to Comment 138 regarding C1 adoptions in Raritan Township and West Amwell Township, respectively. See the Response to Comment 157, 158, 159, and 160 regarding potential impacts to property development.

Impacts to Property Owners

157. COMMENT: What will the proposed C1 upgrades mean to the people who live on the Westecunk Creek? (284)

158. COMMENT: Adoption of the proposed regulations would restrict owners' ability to maintain property. The proposed amendments should not be adopted. The amendments will create problems with property maintenance. (93)

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159. COMMENT: A permit will be needed from the Department before people can make any changes to their property within the 300-foot riparian zone. DEP permits typically take a long time to obtain and are expensive, which will cause economic hardship to property owners. Permits for property owners in the 300-foot riparian zone should be expedited. (171)

160. COMMENT: The Department did not provide adequate information for property owners to assess the impact on the property maintenance and property value if a newly upgraded stream passes through the property. The properties with a C1 stream passing through the property will lose value. The impacts of the new regulations when septic systems fail and when property owners attempt removing bushes or trees within 300 feet of the newly upgraded stream are also of concern. (172)

RESPONSE TO COMMENTS 157, 158, 159, AND 160: The rulemaking provided information that allowed the public to identify the waterbody segments proposed for upgrade (including the beginning and end points of the proposed upgraded segments), described the potential impacts related to the proposed upgrades, including the 300-foot riparian zone that would be applicable to the waters proposed for upgrade and their tributaries within the same HUC 14 in accordance with the FHACA Rules, and described the anticipated impacts of the proposed amendments. The Department supplemented the information provided in the notice of proposal, which itself allowed members of the public to identify whether their property was potentially impacted by one or more of the proposed upgrades, with GIS information. In response to requests, the Department additionally expanded the public comment period from 60 to 90 days. These actions provided sufficient time for the public to review the proposed C1 upgrades, make a determination as to how the proposed upgrades may impact them, and provide input through public

comment. For a description of the Department's actions, both through the stakeholder process prior to publication of the notice of proposal and upon the publication of the notice of proposal of the amendments, to notify the public and receive comment on the proposed rulemaking, see the Response to Comments 21 through 32.

Furthermore, normal property maintenance within the riparian zone, as defined at N.J.A.C. 7:13-7.1(a), is permissible without application to the Department under flood hazard area permit-by-rule 1. Additionally, some encroachment into the riparian zone is allowed in accordance with those rules and small expansions may not be regulated at all. Further, as stated in the Response to Comment 142, various exemptions and hardship permits exist for redevelopment or expansion of existing facilities in the 300-foot riparian zone. See the Response to Comments 128 through 134 and the Response to Comments 139 and 140 for more information on the 300-foot riparian zone requirements. Regarding the adopted segment of Westecunk Creek, see the Response to Comment 94.

Regulatory Taking

161. COMMENT: The commenter indicates that while they have no intention to build a permanent structure within the 300-foot riparian zone, they would like to build a bridge (permanent or otherwise) to reasonably access the other half of their property, which has a C1 stream running through it. The inability to do so would constitute a taking without just compensation. (266)

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162. COMMENT: The Economic Impact in the notice of proposal states that a "positive impact of the proposed upgrades will be to reduce development intensity in environmentally sensitive areas." In some cases, enforcing the 300-foot riparian zones and the "no measurable change" requirements to achieve a "reduction in development intensity" could result in a regulatory taking. The Department should explain how it intends to address this issue. (65)

RESPONSE TO COMMENTS 161 AND 162: Takings analysis focuses on whether a statutory or regulatory scheme substantially advances a legitimate public purpose and whether it excessively interferes with property rights and interests. It has been long held that the health, safety, and general welfare may be promoted by prohibiting or restricting certain uses of land, with the prevention of damage to the environment constituting a particularly strong justification for prohibiting inimical uses. *Gardner v. N.J. Pinelands Comm.*, 125 *N.J.* 193 (1991)

In determining whether a regulatory scheme results in a taking, the mere potential for some impact is not sufficient to constitute a taking. Indeed, the courts have ruled that neither diminution of land value nor impairment of the marketability of land alone effect a taking. Similarly, restrictions on uses do not necessarily result in takings even though they reduce income or profits. Instead, a regulatory scheme will be upheld unless it denies all practical use of property, or substantially destroys the beneficial use of private property, or does not allow an adequate or just and reasonable return on investment. The courts have applied the standard that focuses on the beneficial or economic uses allowed to a property owner in the context of particularized restraints designed to preserve the special status of distinctive property and sensitive environmental regions. *Id*, 125 *N.J*. at 210-211.

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The adoption of rules that require review and approval of an activity before it can legally commence does not constitute a taking of property without just compensation. Many cases have found that a takings claim is premature before the agency finally decides how property can be used, in response to a permit application. (See, for example, *OFP LLC v. State*, 395 *N.J Super.* 571 (App. Div. 2007)).

Further, the regulatory scheme contained within the Flood Hazard Area Control Act rules provides many permits to accommodate appropriate types of development while protecting current and prospective residents from flooding impacts and impacts to water quality.

While the adopted upgrades may result in limitation as to what may be done with lands falling within the applicable riparian zone, with the extent of any such limitation depending upon the existing conditions at the particular site and the owner's intended use of the land, the FHACA Rules do not prohibit new development in the 300-foot riparian zone, but rather limit development in order to be protective of water quality, regulating disturbances within the flood hazard area and the riparian zone. The rules limit the disturbance of the existing vegetated buffer along a stream from regulated activities. Moreover, the FHACA rules contain provisions to allow disturbance within the buffer. For example, N.J.A.C. 7:13-15.1 provides a mechanism for relief in situations where application of the requirements of the rules would result in a hardship, as defined in that section. The hardship exception is intended for circumstances where there is not a feasible and prudent alternative to the project, the cost of complying is unreasonably high in relation to the benefits, or the Department and the applicant have agreed to alternative requirements that the Department determines will provide equal or better protection of the environment and public health, safety, and welfare. Thus, development is not precluded adjacent to C1 waters, nor do the adopted amendments eliminate the opportunity for development.

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New Jersey Pollutant Discharge Elimination System (NJPDES)-Related Impacts

Impacts to Wastewater Treatment Plants

163. COMMENT: The 300-foot riparian zone, along with requirements that existing water quality be maintained (no measurable change) that will result from the proposed amendments severely limit impacted utility authorities' ability to expand operations. Without the ability to expand operations or to increase effluent discharge, sewerage capacity would essentially be capped. (193 and 304)

164. COMMENT: Wastewater facilities discharging into C1 waterbodies will be impacted by the proposed upgrades. It is possible that a wastewater treatment plant in need of expansion to service an increase in projected flows would be unable to expand due to C1 designation. It is noted that under the Department's rules, sewer service areas may have projected flows greater than current plant capacities. In these situations, plans are required to address flows, including plant expansions. (40)

165. COMMENT: The proposed amendments effectively restrict the ability of the Allamuchy Sewage Treatment Plant and Warren County Pequest River Municipal Utilities Authority (PRMUA) Sewage Treatment Plant in Oxford Township to expand if additional capacity is needed to accommodate development in accordance with the State Development and Redevelopment Plan and the Highlands Regional Master Plan. (65)

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166. COMMENT: The Department has failed to identify the Hampton Commons Wastewater Treatment Facility (HCWTF) as an impacted facility that will be impacted by the C1 upgrade. The basis and background of the notice of proposal, as well as all the impact statements, have not accounted for the effects and impacts to the HCWTF.

A majority of the HCWTF and property would be located within the 300-foot riparian zone boundary required for C1 streams. The impacts of the proposed amendments on the ability of SCMUA to expand, modify, or otherwise alter the wastewater treatment plant units, access roadways, and necessary maintenance access is unknown, but should be accounted for. The inability to expand wastewater treatment plants will cap future economic growth, thereby negatively impacting jobs and any possibility of economic expansion in the sewer service area. (311)

RESPONSE TO COMMENTS 163, 164, 165, AND 166: The antidegradation provisions of the SWQS for C1 waters at N.J.A.C. 7:9B-1.5(d)2iii are triggered when an applicant proposes a new or expanded activity that has the potential to lower water quality. Previously approved wastewater discharges authorized through the NJPDES program, as well as existing development, are subject to the general antidegradation policies, but are not subjected to the more stringent criteria at N.J.A.C. 7:9B-1.5(d)2iii unless a new or expanded activity is proposed. Similarly, the routine renewal of an existing NJPDES surface water discharge permit does not require a “no measurable change” analysis, unless additional flow or loading is requested as part of the renewal. As a result, any existing NJPDES dischargers that are not proposing an expansion will not automatically

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be required to upgrade treatment capabilities as a direct result of the adopted C1 designation amendments.

Any proposed increase in flows to any existing municipal Sewage Treatment Plant (STP) discharging to or upstream of a C1 waterbody that results in a request for higher NJPDES permitted flow will require the discharger to request modification of its NJPDES permit pursuant to N.J.A.C. 7:14A-16.4. However, antidegradation provisions can be met by maintaining effluent limitations at the current pollutant loadings by imposing more stringent concentration limitations that consider higher flow volumes. Therefore, the designation of a waterbody as a C1 water does not mean that the facility cannot expand its flows. Any such impacts would have to be evaluated on a site-specific basis.

With regard to the 300-foot riparian zone afforded to C1 waters, an STP's location within the 300-foot riparian zone does not necessarily preclude future expansions. The 300-foot riparian zone for C1 waters is established under the FHACA Rules at N.J.A.C. 7:13-4.1(c)1. The FHACA rules do not prohibit development in the 300-foot riparian zone but rather limit development in order to be protective of water quality. Some encroachments into the riparian zone are permitted in accordance with those rules. For example, the FHACA rules set forth procedures by which new development in the 300-foot riparian zone may be permitted if certain practices are followed and qualifications are met, including, but not limited to, minimization and mitigation of disturbance, the absence of practicable alternatives, and the extent of public and private need for the proposed regulated activity. See the Response to Comments from 128

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through 134, the Response to Comments 139 and 140, and the Response to Comment 142 for more information regarding the 300-foot riparian zone.

The Department is currently unaware of any NJPDES permit applications or proposals by HCWTF, Allamuchy Sewage Treatment Plant, or PRMUA Sewage Treatment Plant to expand their existing wastewater treatment plants and, therefore, does not anticipate any impacts to the facilities' NJPDES permits at this time.

167. COMMENT: If the Town of Clinton is affected by the C1 upgrades, will the Town of Clinton Sewage Treatment Plant be able to expand to accommodate additional flows resulting from affordable housing or any other requirement within the Town's sewer service area. (197)

RESPONSE: Any proposed increase in flow to any existing municipal STP that results in a request for higher NJPDES permitted flow will require the discharger to request modification of its NJPDES permit. However, antidegradation provisions can be met by maintaining the current pollutant loadings by imposing more stringent concentration effluent limitations that consider higher flow volumes. Any such impacts would have to be evaluated on a site-specific basis.

Impacts to Raritan Township Municipal Utilities Authority (RTMUA)

168. COMMENT: The waterways associated with a C1 stream or tributary receiving the 300-foot riparian zone will greatly impact the treatment plant maintained by the RTMUA. The RTMUA main treatment plant discharge is immediately upstream of the County Route 613 bridge. The

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proposed rules will force the treatment plant to maintain current water quality levels at the County Route 613 bridge. The plant is not currently discharging flow at the permitted rate and should the plant increase discharge flow to the permitted level, the existing water quality levels will be exceeded. By imposing the C1 water quality antidegradation requirements, the Department is effectively limiting the ability of the plant to discharge at the rate currently permitted by the Department. The 300-foot riparian zones encompass approximately 30 percent of the existing RTMUA treatment plant, greatly restricting any future expansion of the plant that would be required to comply with the C1 water quality discharge standards. The additional permitted capacity that is currently available will be eliminated due to the proposed 300-foot riparian zone, thus making potential expansion of the plant to process additional flow and meet the proposed C1 discharge standards impossible. Should the treatment plant be capped at the current water quality discharge levels, and, accordingly, the discharge flow, development within Raritan Township will be virtually eliminated due to the limits imposed by the proposed SWQS. (88 and 169)

169. COMMENT: The proposed C1 upgrade of the South Branch Raritan River from County Route 613 bridge to the confluence of the Neshanic River will affect the ability of the RTMUA to increase its capacity due to the cost prohibitive and technologically restrictive nature of discharging into a C1 steam segment. Due to RTMUA's location within the 300-foot riparian zone, a plant expansion would be prohibited due to the increased buffer restriction, thereby inhibiting future development. (76, 88, and 169)

170. COMMENT: The rulemaking does not evaluate how sewer service areas served by facilities that discharge into, or upstream from, a newly designated C1 area will be impacted. The Hunterdon County Water Quality Management Plan has been discussed, developed, and modified in accordance with Department's requirements, and the process has involved dozens of public officials with input from the general public over the past 10 years. The RTMUA is a critical component in this plan. The primary alternative for continued wastewater treatment service to areas designated for sewer service is the RTMUA and many areas of the county. Many property owners and continued water quality improvement are dependent upon the potential for expansion of the RTMUA plant. This C1 rulemaking, in the Department's own words, would likely eliminate or make economically infeasible plant expansion. "... [T]he designation of new C1 waters, and new trout waters will result in additional lands being restricted from development and excluded from sewer service." (304)

171. COMMENT: While the C1 rulemaking clearly discusses that all C1 waterways and their tributaries will be subject to a 300-foot riparian zone in accordance with the FHACA Rules at N.J.A.C. 7:13 and will also be prohibited from sewer service in accordance with the WQMP Rules at N.J.A.C. 7:15, the rulemaking lacks any meaningful discussion of what these impacts truly entail to property owners, businesses, municipalities, and planning agencies. If the stream segment just below the RTMUA treatment facility outfall is upgraded to a C1 designation as proposed, RTMUA will be unable to increase its capacity due to the cost prohibitive and technologically restrictive nature of discharging into a C1 stream segment. As a result, sewer service cannot be

increased or extended to critical needs within the service area including businesses, housing (including court mandated affordable housing), schools, municipal offices, failing septic systems, medical services and hospitals, emergency services including police, fire, and first-aid, plus many other critical needs. The RTMUA will also be unable to accept additional flow from the Flemington wet weather facility as a result of the proposed upgrade of the South Branch Raritan River from County Route 613 bridge to the confluence of Neshanic River. The Department did not consider the impact of the proposed upgrades on the Department's proposed Administrative Consent Order to address the Flemington wet weather facility. (55 and 56)

172. COMMENT: The rulemaking describes the South Branch Raritan River, from Main Street (County Route 613) to Neshanic River, as only impacting Raritan and Readington Townships within Hunterdon County, which is inconsistent with the listing of both HUC 14s (the HUC 14 upstream of the County Route 613 bridge, implicates Flemington). The same inconsistency applies to the listed treatment plants, as only the RTMUA main plant is listed as being impacted by the rulemaking. However, the Flemington wet weather facility would be included if the upstream HUC is part of the C1 designation. (304)

RESPONSE TO COMMENTS 168 THROUGH 172: As explained in the Response to Comments 49 through 53, the upstream boundary of the segment of the South Branch Raritan River being upgraded through this rulemaking has been revised from the Main Street (County Route 613) bridge to the first westerly tributary downstream of the Main Street (County Route 613) bridge. As a result of this revision, RTMUA will no longer be affected by the 300-foot riparian zone

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established around C1 waters and their tributaries. Based on the revised boundaries of the proposed C1 upgrade, the RTMUA facility's outfall is located approximately 850 feet above the reclassified waters (the closest RTMUA property corner is located approximately 650 feet) and would not present a restriction based on C1 buffer requirements.

While this change in the upstream boundary means that RTMUA will no longer discharge directly to a C1 stream, antidegradation policies still apply to RTMUA with respect to any upgrade or expansion since there is a C1 stream downstream of RTMUA. As specified at N.J.A.C. 7:9B-1.5(d)1v:

> "v. Where a lower classification of water (including the different antidegradation waters) may impinge upon a higher classification/antidegradation of water, the Department shall ensure that the quality and uses of the higher classification/antidegradation water are protected."

To ensure that downstream waters that are designated as C1 are protected, antidegradation provisions can be met by maintaining effluent limitations at the current pollutant loadings by imposing more stringent concentration limitations that consider higher flow volumes. The designation of a waterbody as C1 does not necessarily mean that the facility cannot expand its flows. Any such impacts would have to be evaluated on a site-specific basis.

RTMUA is one of the 19 sewage treatment plants affected by the "Total Maximum Daily Load Report for the Non-Tidal Raritan River Basin addressing Total Phosphorus, Dissolved Oxygen, pH and Total Suspended Solids Impairments." The Total Maximum Daily Load (TMDL) allocated an overall reserve capacity as part of the TMDL due to the potential for additional development in the watershed. This reserve capacity for the South Branch Raritan River watershed was a 1.3 kilograms/day allocation. The TMDL also expressly stated, "[i]n the Raritan study area, there are both C1 and C2 streams. C1 streams receive a high level of protection under the anti-degradation policies; nevertheless, a small measure of

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reserve capacity has been provided in these areas. This is because treatment and dilution may allow for some measure of additional loading and still have no measurable change in water quality. Reserve capacity was provided through the HydroWAMIT NPS inputs to maximize flexibility in locating the additional loads. Details on the reserve capacity component set for each modeled subwatershed are provided in the Kleinfelder/Omni Report (2013, Volume 1, p. 155)."

Additionally, the RTMUA may also increase discharged flow, as long as the allocated total phosphorus loads stays within the waste load allocations assigned by the TMDL, however the RTMUA must assess the impact of other substances to downstream C1 segments.

Regarding the assertion that the Department did not assess impacts from the rule on the proposed Administrative Consent Order (ACO) for the Flemington Wet Weather Facility (NJ0028436), the Department cannot assess any impacts on this facility as a result of the change in waterbody designation since the ACO is still proposed and has not yet been executed. Any such assessment would be speculative.

Impacts to New Wastewater Treatment Plants

173. COMMENT: The siting of new wastewater treatment plants, including those meant to replace failing septic systems, will face significant economic and engineering challenges to meet the "no measurable change" requirement of the C1 protections. The Department should quantify the additional costs incurred to wastewater treatment plants, including additional capital costs, operating costs, increased use of treatment chemicals, increased electrical consumption costs, and increased costs for sludge handling and disposal. How does increased electrical consumption, increased sludge handling, and increased use of chemicals to treat

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wastewater coexist with protecting the environment? It is counter-productive to upgrade the antidegradation designation of segments of the Paulins Kill River while septic systems and cesspools in the Village of Blairstown continue to fail and negatively affect the quality of the groundwater and surface water. (65)

RESPONSE: The Department acknowledges that new wastewater treatment plants are sometimes sited to address issues, such as failing septic tanks, to provide a new means for treatment. While a new or increased discharge to a C1 waterbody may not be possible in all situations, the designation of a waterway as a C1 water does not entirely preclude issuance of a NJPDES permit for a new wastewater treatment plant to surface water, whether the plant is proposed to address failing septic systems or for other reasons, provided the applicant determines existing water quality as part of their NJPDES application and demonstrates that the new or expanded discharge would not result in a measurable change in water quality.

The Department addressed the potential costs associated with the proposed amendments, as well as the significant economic and environmental benefits resulting from the amendments in the notice of proposal Summary and impact statements. As indicated in the Summary and in the Economic Impact statement at 51 N.J.R. 338-339, any NJPDES permit issued to a facility for a new or expanded wastewater discharge to a C1 stream segment must include effluent limitations that will ensure that existing water quality will be maintained. This is also true of NJPDES-permitted dischargers upstream of a C1 stream segment. The determination of appropriate effluent limitations depends upon consideration of a number of factors, including the size of the receiving stream, the volume of wastewater, current levels of pollutants in the receiving stream, and effluent characteristics. The Economic Impact statement in the

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notice of proposal acknowledged that, in addition to any capital costs, there may be annual operating costs, such as increased use of treatment chemicals, increased electrical costs, and increased costs for sludge handling and disposal, that would be applicable to a new or expanded facility that is required to satisfy the "no measurable change" standard. However, because the factors that influence the effluent limitations that will apply to a particular discharge vary site to site, it is not possible to provide a uniform analysis quantifying the costs for all facilities.

Additional costs may or may not be incurred by wastewater treatment plants in complying with antidegradation provisions. The impacts of the C1 upgrades will vary significantly from one facility to another, and facilities may meet antidegradation requirements in a variety of ways. Additionally, the routine renewal of an existing NJPDES surface water discharge permit does not currently require a "no measurable change" analysis, unless additional flow or loading is requested as part of the renewal or as part of a permit modification. As a result, any existing NJPDES dischargers that are not proposing an expansion will not be impacted at this time based on these current policies. Any such impacts in the future will have to be evaluated on a site-specific basis. These site-specific conditions preclude a uniform assessment of how potentially affected wastewater treatment plants will be affected by these amendments.

In addition to costs associated with NJPDES permitting of discharges, any proposed 300-foot riparian zone adjacent to C1 waters must comply with the requirements specified in the FHACA Rules. Particularly, where a new wastewater treatment system is proposed, the system must not result in disturbance of riparian zone vegetation within 50 feet of the top of bank. In

the case of an existing system being reconstructed or repaired, disturbance within this area may occur only if the existing system is already located there and, even then, only if the repaired or modified system cannot be relocated outside the 50-foot area and as far from the regulated water as possible (see N.J.A.C. 7:13-11.2(q)3ii and 4iii).

While the adopted amendments may result in additional costs and limitations on what may be allowed, with actual costs dependent upon a number of factors more fully discussed in the notice of proposal Summary and impact statements, the amendments also result in positive economic impacts. Among other things, the upgrades will reduce development intensity in environmentally sensitive areas, thereby helping to maintain and enhance water quality, biodiversity, and flood control. As indicated in the notice of proposal, intense development in environmentally sensitive areas results in environmental degradation, which can lead to an inefficient and costly cycle of degradation and restoration. The standards for development in flood hazard areas and adjacent to surface waters contained in the FHACA Rules are established in order to mitigate the potential for increased downstream flooding and reduce the damage to the environment and the substantial economic cost that results from flooding.

The amendments to the SWQS will have a positive environmental impact by providing appropriate levels of protection for human health, aquatic biota, and ecological systems associated with the State's waters.

“No Measurable Change” Impacts

174. COMMENT: The Department should clarify what is meant by “no measurable change." It is questionable whether the “no measurable change” standard is reasonable to maintain. (65)

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RESPONSE: "Measurable changes," as defined in the SWQS at N.J.A.C. 7:9B-1.4, means "changes measured or determined by a biological, chemical, physical, or analytical method, conducted in accordance with USEPA approved methods as identified in 40 CFR 136 or other analytical methods (for example, mathematical models, ecological indices) approved by the Department, that might adversely impact a water use (including, but not limited to, aesthetics)." The SWQS states at N.J.A.C. 7:9B-1.5(d)2iii that "Category One Waters shall be protected from any measurable changes (including calculable or predicted changes) to the existing water quality. Water quality characteristics that are generally worse than the water quality criteria, except as due to natural conditions, shall be improved to maintain or provide for the designated uses where this can be accomplished without adverse impacts on organisms, communities, or ecosystems of concern."

Any NJPDES permit issued for a new or expanded discharge after a waterbody has been designated as C1 must include effluent limitations that will maintain the existing water quality. Renewal of an existing NJPDES surface water discharge permit does not require a "no measurable change" analysis, unless additional flow or loading is requested as part of the renewal.

C1 waters are protected from any measurable change to existing water quality because of their exceptional ecological significance, exceptional recreational significance, exceptional water supply significance, or their significance as an exceptional fisheries resource. Restoring surface waters, once they become impaired, is a difficult, time consuming, and expensive process. It is generally more cost effective to prevent degradation through water quality protections, such as upgrading waters to C1 designations, than to restore the waters after they

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become degraded. The "no measurable change" requirement is a reasonable means to ensure the protection of these high-quality waters.

NJPDES Impact Assessment

175. COMMENT: It is not clear that all treatments plants/sewer service areas impacted by the proposed rules, such as those upstream of C1 waters, have been accurately accounted for. (105)

176. COMMENT: The Department should have analyzed the size of the impacted sewer service areas and whether their designated wastewater treatment plants have adequate capacity or a need to expand. (40)

177. COMMENT: The impact assessment's list of impacted NJPDES-permitted facilities on upstream tributaries is incomplete and has conflicting information regarding the affected HUC 14s and tributaries. Examples include the Hampton Commons Wastewater Treatment Facility, Flemington Wet Weather Facility, Town of Clinton facility, Camden County Municipal Utilities Authority (CCMUA), and Town of Newton Treatment Facility. (157, 193, 239, 304, and 311)

RESPONSE TO COMMENTS 175, 176, AND 177: Table G of the rulemaking at 51 N.J.R. 338 includes the potentially impacted domestic surface water discharges and industrial/commercial/thermal discharges within the subwatershed (HUC 14) of waterbodies proposed for C1 upgrade. For the rulemaking, the Department limited its analysis to major and minor domestic wastewater dischargers within the same HUC 14 subwatersheds as the proposed C1 upgrades. Note that the Department issues minor industrial general permits for remediation and dewatering activities that were not considered in Table G due in part

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to their intermittent nature, short-term duration, and inclusion of advanced treatment technologies, which result in minimal pollutant impacts. In response to comments received, the Department has listed all dischargers potentially affected by this rulemaking in Table 2 below, including those outside the HUC 14 subwatersheds of the adopted C1 upgrades. These dischargers listed in Table 2 may be impacted as they are subject to the "no measurable change" requirement at upstream boundaries of the upgraded C1 waterbody segments. Site- and facility-specific analyses are required to determine the impact and hence cannot be estimated until an actual request for expansion is received. The CCMUA has two discharges to the mainstem Delaware River and, therefore, is not affected by the C1 upgrades.

Table 2. Potentially Affected NJPDES Dischargers by this Rulemaking

Waterbody	Potentially Affected NJPDES Facility	NJPDES-ID	Discharge type	Discharge class	Receiving Waterbody	Basis for C1 upgrade
Upper Delaware River Basin						
Blair Creek	Blair Academy	NJG0022101	ASC	Minor	Blair Lake	EES - EAC
Paulins Kill	Town of Newton WTP	NJ0020184	A	Major	Paulins Kill	EES - E&T

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Paulins Kill	Big N Shopping - Kennedy Constr	NJ0024163	A	Minor	Paulins Kill via unnamed trib	EES - E&T
Paulins Kill	North Warren BOE - High School	NJG0031046	ASC	Minor	Paulins Kill	EES - EAC; EES -E&T
Paulins Kill	Kittatinny Regional School	NJG0028894	ASC	Minor	Paulins Kill	EES- EAC
Paulins Kill	Sussex County MUA - Hampton Commons	NJ0050580	A	Minor	Paulins Kill River via unnamed trib	EES -E&T
Pequest River	Allamuchy Township MUA	NJ0020605	A	Minor	Pequest River via unnamed trib (interm	EES -E&T
Lower Delaware River Basin						
Cohansey River	Seabrook Brothers & Sons	NJ0033006	B	Minor	Foster Run S B via storm sewer	EES - E&T
Cohansey River	Clement Pappas Co Inc	NJ0062731	CG	Minor	Foster Run via unnamed trib & strm swr	EES - E&T

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Cohansey River	Clement Pappas Co Inc	NJ0062731	B	Minor	Foster Run via unnmd trib & strm swr	EES -E&T
Cooper River	Harrison Avenue Landfill	NJG0269999	BGR	Minor	Cooper River	EES - E&T
Woodbury Creek	Exxon S/S 3-2095	NJG0103578	B4B	Minor	Woodbury Ck via strm swr and unnamed trib	EES- E&T
Passaic, Hackensack, New York Harbor Complex Basin						
Ramapo River	Ramapo BOE - Indian High	NJG0021253	ASC	Minor	Pond Brook (Ramapo River)	EES -E&T
Ramapo River	Oakland Boro - Chapel Hill Estates	NJ0053112	A	Minor	Ramapo River via Mirror Lk and strm sw	EES- E&T
Ramapo River	Oakland Boro - Oakwood Knolls	NJ0027774	A	Minor	Ramapo R via Oak St strm swr	EES- E&T

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Ramapo River	Oakland Boro Skyview-Highbrook STP	NJ0021342	A	Minor	Caille Lk via unnamed trib & storm sewer	EES-E&T
Stone House Brook	Butler WTP	NJG0025721	BPW	Minor	Stone House Brook	EFR
Upper Raritan River Basin						
Lamington River	Fiddler's Elbow CC - Reynwood Inc	NJ0021865	A	Minor	Lamington River	EFR
South Branch Raritan River	Flemington Boro	NJ0028436	A	Major	Bushkill Brook	EES - EAC
South Branch Raritan River	NJDOT Flemington Maintenance Yard	NJG0279552	BGR	Minor	Bushkill Brook UNT via storm sewer	EES - EAC

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South Branch Raritan River	Former Touch of Glass Cleaners	NJG0275042	BGR	Minor	Raritan River UNT via storm drain and ditch	EES - EAC
South Branch Raritan River	Raritan Twp MUA	NJ0022047	A	Major	Raritan River SB	EES -EAC
South Branch Raritan River	Town of Clinton WTP	NJ0020389	A	Major	Raritan River SB	EES- EAC
South Branch Raritan River	Glen Meadows/Twin Oaks	NJ0100528	A	Minor	Raritan River SB via unnamed trib	EES- EAC
Wallkill River Basin						
Clove Brook	Rome's Coastal Service Station	NJG0197599	B4B	Minor	Clove Brook	EES- EAC

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Wallkill River	Ames Rubber Corporation	NJ0085561	B	Minor	Wallkill River via wetlands	EES - EAC; EES - E&T
West Branch Papakating Creek	High Point Regional High School	NJG0031585	ASC	Minor	Papakating Creek WB	EES- EAC

A – Domestic Surface Water Discharge

ASC – Consolidated School General Permit

B – Industrial/Commercial/Thermal Discharge

B4B – Ground Water Petroleum Products Cleanup General Permit

BGR – General Permit Authorization for General Remediation Clean-up Discharge

BPW – Consolidated Potable Water Treatment Plant General Permit

CG – Non-contact Cooling Water General Permit

RF – Stormwater Surface Water Discharge (Consolidated Permit)

EES-E&T – Exceptional ecological significance – endangered or threatened

EES-EAC – Exceptional ecological significance – exceptional aquatic community

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EFR – Exceptional fisheries resources

The antidegradation provisions of the SWQS for C1 waters at N.J.A.C. 7:9B-1.5(d)2iii are triggered when an applicant proposes a new or expanded activity that has the potential to lower water quality. Previously approved wastewater discharges authorized through the NJPDES program, as well as existing development, are subject to the general antidegradation policies, and are only subjected to the more stringent criteria at N.J.A.C. 7:9B-1.5(d)2iii if a new or expanded discharge is proposed. For existing NJPDES dischargers that are not proposing an expansion, the amendments to C1 designation will not automatically require an upgrade of treatment capabilities.

Some of the STPs potentially affected serve housing developments or are for a specific business, such as Fiddler's Elbow Country Club, and are, therefore, unlikely to expand and be affected by the designation upgrade. All potentially affected municipal STPs are discharging below the current NJPDES permitted flow. Any development resulting in an increase in flows to the municipal STPs beyond the permitted flow will require the discharger to maintain existing pollutant loadings.

Any NJPDES permit issued to a facility for a new or expanded wastewater discharge to a C1 stream segment must include effluent limitations that will ensure that existing water quality will be maintained. In calculating effluent limitations, the Department considers the size of the receiving stream, the volume of wastewater, current levels of pollutants in the receiving stream, and effluent characteristics. These site-specific conditions preclude a uniform assessment of how potentially affected wastewater treatment plants could be affected should they seek a new or expanded NJPDES-permitted discharge.

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Impacts to Sewer Service Areas

178. COMMENT: Sussex County alone will see a 41 percent increase to existing C1 streams. As proposed, the new regulations will place limitations on both existing and prospective sewer service areas within the county. (233)

179. COMMENT: The proposed C1 upgrades will prevent future expansions of the sewer service area, no matter how beneficial this may be to a community or the State, or consistent with sound planning. Such expansions are sometimes necessary to replace failing septic systems. The Department should determine if any sewer service areas are in designated centers or Planning Areas 1 or 2. (40)

RESPONSE TO COMMENTS 178 AND 179: Sewer service delineation is regulated by the WQMP Rules at N.J.A.C. 7:15. Specifically, N.J.A.C. 7:15-4.4(d) provides that "areas shall only be eligible for sewer service area delineation if they are not identified as environmentally sensitive areas." "Environmentally sensitive areas" means those areas identified in an areawide Water Quality Management Plan as land areas possessing characteristics or features that are important to the maintenance or improvement of water quality or to the conservation of the natural resources of the State. Development requiring sewer service is generally not compatible with the protection or conservation of environmentally sensitive areas.

The WQMP Rules define the 300-foot riparian zone afforded to C1 waters and their upstream tributaries in the same HUC 14 subwatershed as environmentally sensitive areas, and therefore, exclude them from sewer service with limited exceptions. The general limitation on the extension of sewer service

into riparian zones to C1 waters is consistent with the Department's mandate to protect the ecological integrity and natural resources of New Jersey, including water, endangered or threatened wildlife species, wetlands, and unique and rare assemblages of plants.

Regarding the request for an analysis of State Planning Areas 1 and 2 located in 300-foot riparian zones excluded from sewer service as a result of the C1 upgrades, the Department expects minimal impact to sewer service in these areas. As provided in the WQMP Rules at N.J.A.C. 7:15-4.4(i)1, environmentally sensitive areas located within Planning Areas 1 or within areas of an endorsed plan identified for growth and approved by the State Planning Commission are eligible for inclusion in the sewer service area. Project and activity proposals remain subject to Department regulatory permitting programs on a site-specific basis and must satisfy all permit criteria. For this and the reasons identified in the Response to Comments 208 through 212, the Department anticipates minimal negative impact to development in Planning Areas 1 and 2.

Combined Sewer Overflow (CSO) Systems at the Cooper River

180. COMMENT: The upgrade of the Cooper River to C1 designation is opposed. Listing this waterbody will affect the HUC 14 subwatershed that covers most of the City of Camden. The Department represents in the rulemaking that there are no NJPDES discharges into the Cooper River and, therefore, the listing as a C1 would have no impact on the City of Camden. However, the Department has issued NPDES Permit NJ0026182 to the Camden County Municipal Utilities Authority (CCMUA) on behalf of the City of Camden for regulation of Combined Sewer Overflows.

Designating the Cooper River based on sensitive species will make it harder and more expensive for the Camden MUA to implement the long-term Combined Sewer Overflow (CSO) controls under USEPA CSO policy, discourage redevelopments, and prevent reduction of nonpoint source pollution to improve instream habitat. Since dredging will not be allowed in C1 waters, maintaining waterbodies for navigation will be difficult. (262)

181. COMMENT: The regulatory reach for Cooper River is significantly far beyond the 1.3 river miles proposed for C1 upgrade. All potential upstream impacts have not been discussed, which includes identifying any potentially affected major and minor NJPDES facilities discharging to the waterbody. (40 and 186)

182. COMMENT: The upgrade of Cooper River to C1 designation will have significant impact to the remediation of CSOs in Camden. The Department should conduct an impact analysis with reference to the impact on remediation of CSOs. (105)

RESPONSE TO COMMENTS 180, 181, AND 182: The C1 upgrades on Cooper River are based on the river qualifying as being of exceptional ecological significance, supporting endangered or threatened species. Based on the Department's Landscape Project Stream Habitat GIS database (see https://www.nj.gov/dep/gis/digidownload/metadata/landscape/Envr_hab_ls_v3_3_regions.html), the areas in the Delaware River at the mouth of the Cooper River are suitable habitat for one or more freshwater mussels, namely Eastern Pondmussel, Yellow Lampmussel, and/or Tidewater Mucket. As discussed in the Response to Comment 96, the presence of Eastern Pondmussel in Cooper River has been confirmed. The confirmed presence of Eastern Pondmussel and its suitable habitat was the basis for the designation of the Cooper River as a C1 waterbody.

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The NJPDES rules at N.J.A.C. 7:14A require issuance of a NJPDES permit to regulate pollutant discharges to a surface waterbody, including both wastewater and CSO point source discharges. As part of the implementation of the NJPDES rules and the SWQS, in preparing a NJPDES permit, the designation of a C1 waterway requires the Department to perform a "no measurable change" analysis for any new or expanding wastewater discharges to any affected waterway. N.J.A.C. 7:9B-1.5(d)2iii states the following:

> "Category One Waters shall be protected from any measurable changes (including calculable or predicted changes) to the existing water quality. Water quality characteristics that are generally worse than the water quality criteria, except as due to natural conditions, shall be improved to maintain or provide for the designated uses where this can be accomplished without adverse impacts on organisms, communities, or ecosystems of concern."

While the designation of a C1 waterway does not prohibit development or redevelopment, there is some impact on the requisite permitting analysis as it relates to the implementation of any NJPDES permit associated with a new or expanded wastewater discharge that may be part of that development or redevelopment.

With reference to the analysis of upstream discharges to the Cooper River impacted by this rulemaking, there are no active major or minor domestic wastewater NJPDES-permitted facilities within or outside of the HUC 14 subwatershed containing the adopted Cooper River C1 upgrade with the exception of CSOs. For this reason, no NJPDES facilities on the Cooper River were included in Table A or Table G of the rulemaking.

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The Department has issued a NJPDES permit (NJ0108812) to the City of Camden to continue to regulate the CSO discharges on the Cooper River. The March 12, 2015 permit requires the preparation of a Long-Term Control Plan by June 1, 2020 to develop and evaluate a range of CSO control alternatives that meet the requirements of the Federal CSO Control Policy Section II.C.4 and N.J.A.C. 7:14A-11 Appendix C. Such evaluation shall include a range of CSO control alternatives for eliminating, reducing, or treating CSO discharges. CSO control alternatives that are utilized to reduce or eliminate CSO discharges that could result in changes to wastewater or stormwater discharges include satellite treatment and sewer separation. CSO control alternatives that could trigger the construction of treatment or infrastructure within the flood plain include storage tanks, storage tunnels, and satellite treatment. While addressing CSO discharges could result in changes that trigger NJPDES and an analysis under N.J.A.C. 7:9B-1.5(d), water quality improvements are not prohibited by anti-degradation policies (Federal and State).

The Department is aware that there may be site-specific impacts related to the designation of C1 upgrades through the implementing programs of the NJPDES and FHACA Rules. As discussed in the impact statements in the notice of proposal, the C1 upgrades may result in economic impacts depending on a wide variety of site-specific conditions and practices. The actual impact depends on the conditions within each segment, as well as site-specific factors associated with any proposed projects as it relates to proposed discharges of wastewater, stormwater management, and/or the project footprint in relation to the flood plain.

Water Supply

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183. COMMENT: The Department should work closely with the Bureau of Water Allocation and Well Permitting to make sure that when water allocation permits are received in a HUC that has a C1 waterbody, there is a greater level of scrutiny to protect stream flow. The Department should deny allocation permits where HUCs exceed the 25 percent Low Flow Margin. The proposed C1 upgrades will affect water consumption/withdrawals from surface waters. To address this issue, applicants for newly proposed or expanded depletive/consumptive water allocations from surface waters should be required to demonstrate that the withdrawal would comply with the "no measurable change" requirement in existing water quality under low flow conditions.

Stream flows, particularly for streams adjacent to or within wetlands, should be maintained after C1 designation. Water withdrawals from surface and groundwater should not produce a measurable change in the stream flows of C1 waters. (23, 24, and 153)

RESPONSE: The Department reviews water allocation applications and Agricultural Certifications in accordance with the requirements outlined in the Water Supply Allocation Permits rules, N.J.A.C. 7:19, and the Agricultural, Aquacultural, and Horticultural Water Usage Certification rules, N.J.A.C. 7:20A, and approves or denies applications in accordance with those rules. The low flow margin is only one of the tools used to determine if impacts from proposed withdrawals are too significant to allow a permit application to be approved. The low flow margin helps estimate the potential impact if all allocated water is diverted. Whether an allocation application is approved or denied depends not only upon consideration of the low flow margin calculations, but also application-specific hydrogeologic data and other available

information which, in combination, informs the Department's determination as to the potential effect a proposed diversion would have on ground and surface water.

Agricultural Water Use Certification applicants for new or major modified certifications must provide sufficient information to demonstrate that the diversion will "not reduce the dry season flow or level of a river, stream, lake, or pond so as to adversely affect the sanitary conditions downstream, ecologically-based flows as determined by the Department, or otherwise unduly injure public or private interests, including the maintenance of fish life" in accordance with N.J.A.C. 7:20A-2.5(a)11iv. Please note that agricultural certification holders have the largest amount of unused allocation, and this full allocated demand historically is significantly underused and likely never to be used.

Existing water quality accounts for previously approved water transfers/withdrawals authorized through a Water Allocation Permit. For the purposes of implementing the antidegradation protection for C1 waters, the Department considers withdrawals and transfers authorized under an existing Water Allocation Permit as part of the "existing water quality." Establishing a minimum flow condition down to which water can be safely withdrawn will balance the need to provide potable water and ensure that adequate stream flow exists to protect aquatic life uses. The Bureau of Water Allocation and Well Permitting coordinates internally with appropriate Department programs, as well as externally with the Highlands Council, Pinelands Commission, and DRBC.

184. COMMENT: The Delaware River Basin Commission controls the Merrill Creek Reservoir and uses it as a drought response reservoir during drought conditions. This requires withdrawing

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water from Merrill Creek and using it to refill the Delaware River. Water from the Delaware River is also pumped into Merrill Creek during non-drought conditions. Because of these operations, it is unclear whether the Merrill Creek Reservoir would be able to satisfy the "no measurable change" requirements of a C1 antidegradation designation, particularly the requirements of its Trout Maintenance designation. The C1 designation of Merrill Creek would significantly impair the reservoir's ability to serve its core purpose during drought conditions. (34 and 121)

RESPONSE: The water allocation permit issued for the operation of Merrill Creek Reservoir requires the permittee to maintain a minimum flow of three cubic feet per second at the outlet of the dam at all times. During low flow periods in the Delaware River, additional water would be released from Merrill Creek as part of the reservoir's operation for flow augmentation of the Delaware River.

The Merrill Creek Reservoir was funded and constructed for the purpose of providing low flow augmentation during declared drought in the Delaware River Basin. If the operation of the reservoir in releasing large volumes of water during dry or drought periods in the Delaware River and pumping Delaware River water into Merrill Creek (during non-drought periods in the Delaware River) would result in a violation of the C1 stream designation, it would be counter to the original purpose of the reservoir. It is not the intent of the Department that upgrading the designation of the Merrill Creek Reservoir to FW2-TP(C1) will interfere with the necessary operations of the Reservoir, either filling with water from the Delaware River or the release of water for flow augmentation purposes. The designation to C1 status protects these existing uses, as Merrill Creek Reservoir supports a trout production classification with these operations already taking place. Pursuant to the definition of exceptional fisheries resources at

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N.J.A.C. 7:9B-1.4, trout production waters are afforded C1 antidegradation designation. Therefore, the Department is adopting the C1 upgrade of Merrill Creek Reservoir as proposed.

Clarifications Regarding the 300-foot Riparian Zone:

Agricultural Activities

185. COMMENT: The Department should impose the 300-foot riparian zone on existing farms to protect C1 waters. (280)

186. COMMENT: The proposed amendments are opposed as farming activities will be inhibited by the proposed changes. (152)

187. COMMENT: The Department provided no discussion of the 300-foot riparian zone impacts on agricultural industries. (55 and 56)

RESPONSE TO COMMENTS 185, 186, AND 187: As noted in the Agriculture Industry Impact analysis accompanying the Department's March 4, 2019 notice of proposal at 51 N.J.R. 340, the Department has "reviewed the proposed amendments to SWQS to determine the nature and extent of the impacts of the proposed rules on the agricultural industry and has determined that there is minimal impact" for a variety of reasons. While the analysis focuses primarily on potential NJPDES issues, the Department's FHACA Rules at N.J.A.C. 7:13 authorize certain ongoing and new agricultural activities within riparian zones, which remain unaffected by this adoption. As previously noted, N.J.A.C. 7:13-4.1(c)1 establishes a 300-foot riparian zone adjacent to regulated waters designated as C1 waters, as well as upstream tributaries to said waters within the same HUC 14 subwatershed. The FHACA Rules provide several permits-by-rule that address agricultural activities. For example, permit-by-rule 54 at N.J.A.C. 7:13-7.54 authorizes "the

continuation of lawfully existing agricultural activities, such as grazing, harvesting, horticulture, irrigation, planting, tilling, viticulture, and watering, on land that is actively farmed," provided certain conditions are met. "Actively farmed" is defined at N.J.A.C. 7:13-1.2 to mean land that is "currently and continually in use for cultivation, grazing or other agricultural purposes, provided such activities are recognized as agricultural by the USDA …" Similarly, under permit-by-rule 55 at N.J.A.C. 7:13-7.55, new agricultural activities within flood hazard areas and riparian zones may commence on land that is not currently actively farmed provided certain conditions are met. Specifically, N.J.A.C. 7:13-7.55(a)3 requires that "any clearing, cutting, and/or removal of riparian zone vegetation is limited to actively disturbed areas." N.J.A.C. 7:13-1.2 defines an "actively disturbed area" as "land within a riparian zone in which vegetation has been permanently or periodically cleared, cut, removed, or otherwise altered by humans to accommodate an ongoing, lawfully existing land use …" As this rulemaking does not amend or affect these provisions of the FHACA Rule, adoption of new C1 waters and the application of a 300-foot riparian zone to these waters and their tributaries within the same HUC 14 subwatershed will not affect agricultural activities that qualify for these permits-by-rule.

Grandfathering

188. COMMENT: Do the 300-foot riparian zone protections apply for a plan that may have been grandfathered under the FHACA rules? (226)

189. COMMENT: Agricultural practices occurring within new riparian zones should be grandfathered. The existing rules for C1 streams already ensure the continuation of existing farm practices without any interference by the rules. This should apply likewise to any new riparian

zones within current farmland areas. As farming evolves, changes of various agricultural uses will also need to be acceptable within the riparian zones. (160)

RESPONSE TO COMMENTS 188 AND 189: The SWQS do not directly regulate development through the issuance of permits and, therefore, do not include exemption or "grandfathering" provisions. However, the new C1 designations are utilized by other Department rules that regulate development and can impact the requirements that must be satisfied under those other Department programs. The Economic Impact analysis at 51 N.J.R. 338, explained the potential impacts that the proposed new C1 designations may have under the Department's NJPDES wastewater discharge permitting and land use permitting programs. As the SWQS are applied by these other programs, it is the rules of those permitting programs that address how changes in C1 designations could impact projects where: (1) the applicant submitted an application prior to the effective date of the adoption of the changes in antidegradation designation; and (2) the project received a permit prior to the effective date of this rulemaking.

Specifically, the FHACA Rules at N.J.A.C. 7:13-21.1(e) provide that, "In reviewing an application, the Department shall apply the requirements of this chapter in effect at the time the application is declared complete for review." Therefore, where a FHACA permit application has been deemed "complete for review" by the Department prior to April 6, 2020, the requirements associated with the new C1 designation do not apply. However, applications not deemed "complete for review" prior to the April 6, 2020 effective date of the new C1 designation will be subject to the requirements associated with the new C1 designation. Under the FHACA Rules, "complete for review" means that the application is both administratively and technically complete and is ready to be evaluated by the Department for compliance with the applicable requirements. (See N.J.A.C. 7:13-1.2).

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Further, for a project or regulated activity that did not require a FHACA permit prior to the effective date of this rulemaking, the project or activity will not require a FHACA permit as a result of the new C1 designation, provided it is authorized under a valid Department permit issued pursuant to the Coastal Zone Management (CZM) Rules at N.J.A.C. 7:7, the Freshwater Wetlands Protection Act (FWPA) Rules at N.J.A.C. 7:7A, or the Highlands Water Protection and Planning Act (HWPPA) Rules at N.J.A.C. 7:38.

Additionally, a project or regulated activity that received a permit under the CZM, FWPA, FHACA, or HWPPA Rules issued prior to the effective date of this rulemaking remains effective until its expiration date, unless revisions to the project scope or authorized activities warrant an application for a new or modified permit pursuant to N.J.A.C. 7:7, 7:7A, and 7:38, respectively.

Finally, in cases where no permit under the CZM, FWPA, or HWPPA Rules is required, an FHACA permit will not be required as a result of the new C1 designation if, prior to the effective date of this rulemaking, the project or regulated activity: (1) received a municipal approval that enables commencement of construction; or (2) did not require a municipal approval and specific construction activities were completed. This regulatory approach is consistent with the provisions set forth at N.J.A.C. 7:13-2.1(c).

The above approach appropriately balances environmental protection along C1 waters with situations in which a significant investment has been expended on projects or activities not situated within riparian zones prior to the new C1 designations and which would be affected by this rulemaking. Further, this approach is consistent with the grandfathering provisions described in the Response to Comments 241 through 263 in the November 5, 2007, adoption of the FHACA Rules, at 39 N.J.R. 4605 through 4609.

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Impact(s) Due to Riparian Zones

190. COMMENT: The C1 designations will result in multiple significant and costly impacts. Homeowners will be unable to clear cut and/or remove vegetation (including trees and shrubs) within 150 feet of the top of the bank, unless the homeowner/landowner can prove there is no practical alternative, there is minimal alteration, and the activity is in the public interest. Additionally, unless there is a threat to public health and safety, redevelopment of an existing site will require the removal of all existing impervious surfaces within 25 feet of the top of the bank, and the area must be replanted with specific vegetation, regardless of whether the proposed activity itself will be located within 25 feet of the bank. (55 and 56)

RESPONSE: Pursuant to N.J.A.C. 7:13-2.3(c), every regulated water, with certain exceptions provided at N.J.A.C. 7:13-2.3(c)1, possesses a riparian zone. The adoption of new C1 designations does not add riparian zones to any regulated water that does not currently possess a riparian zone. However, the width of the existing riparian zone will expand from 50 or 150 feet to 300 feet along the newly designated C1 waters and tributaries within the same HUC 14 subwatershed. Along these waters, added restrictions on the removal of existing vegetation are warranted and appropriate in order to effectively preserve the functions and benefits of riparian zones. Such functions and benefits include water quality improvements through pollutant uptake and increases in dissolved oxygen, reduced potential for erosion and nuisance flooding, and wildlife habitat enhancement.

Permit-by-rule 1 at N.J.A.C. 7:13-7.1 authorizes “normal property maintenance” of riparian zone vegetation for property owners and includes activities such as pruning, selective tree cutting to remove dead or dying trees, and periodic clearing or cutting of vegetation, such as mowing a lawn or existing right-

of-way. Permits-by-rule are adopted as part of the FHACA rules and do not require public notice or any application or fee to the Department. "Normal property maintenance" does not include the permanent removal of vegetation to create, new, open or landscaped areas. Specifically, removal of vegetation to accommodate an ongoing or proposed regulated activity or to create new, open, or landscaped areas is not authorized under this permit-by-rule.

Regarding the commenter's concern related to N.J.A.C. 7:13-11.2(b)3, which requires all existing onsite impervious surface located within 25 feet of the top of bank to be removed and replanted with native, non-invasive vegetation in accordance with N.J.A.C. 7:13-11.2(z), this requirement is carefully stated in order to avoid unreasonable, unsafe, or infeasible situations. For example, where removing and/or preventing the replacement of the existing impervious surface would prevent reasonable use or access to a site, cause an unreasonable burden upon an applicant, exacerbate flooding or erosion, expose hazardous substances or solid waste, or otherwise threaten public health, safety, welfare, and/or the environment, the existing impervious surface can remain or be replaced. It should also be noted that this provision applies only where activities require a flood hazard area individual permit. Activities covered under a permit-by-rule would not be subject to the requirements of N.J.A.C. 7:13-11.2(b)3 regarding restoration of the inner-25 feet of the riparian zone or the requirements at N.J.A.C. 7:13-11.2(d) for activities within a 300-foot riparian zone.

191. COMMENT: The 300-foot riparian zones required by the FHACA Rules have undeniable impacts to transportation and energy infrastructure projects. (157)

192. COMMENT: The C1 designations add time and costs to any public works projects for the maintenance and repair of any roadway, bridge, and culvert located on or within the 300-foot riparian zone. Exemptions should be provided in the regulations for maintenance and repair work. (65)

193. COMMENT: The imposition of the 300-foot riparian zone will affect the ability to maintain New Jersey's roadways. It is understood that, once the new 300-foot riparian zones are in place, permits are required for all activity within the riparian zone. This activity can include maintenance activities such as road repair, roadside swale cleaning, tree/brush maintenance, etc. Permitting and associated fees greatly limit the ability to effectively schedule and perform maintenance in a timely manner. Inconsistent maintenance can lead to unintended public safety issues. (88 and 169)

RESPONSE TO COMMENTS 191, 192, AND 193: As noted in the Response to Comment 179 and 180 through the Response to Comments 184 through 193, the FHACA Rules provide for a variety of development and redevelopment activities within riparian zones, including infrastructure projects, such as roads and utility lines. Further, several permits-by-rule, general permits-by-certification, and general permits have been adopted to facilitate normal property maintenance of structures and easements, as well as the repair, reconstruction, and replacement of existing roadways, utilities, and attendant features. For example, repair and in-kind replacement of lawfully existing structures is authorized in specific cases under flood hazard area permits-by-rule 2 and 3 at N.J.A.C. 7:13-7.2 and 7.3, respectively.

Additional flood hazard area permits-by-rule that address roadways include: permit-by-rule 40 at N.J.A.C. 7:13-7.40, which authorizes milling, repaving, and/or resurfacing of a lawfully existing pavement;

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permit-by-rule 41 at N.J.A.C. 7:13-7.41, which authorizes the placement of a guiderail along a lawfully existing public roadway; permit-by-rule 42 at N.J.A.C. 7:13-7.42, which authorizes the reconstruction of all or part of a lawfully existing bridge superstructure; and permit-by-rule 43 at N.J.A.C. 7:13-7.43, which authorizes the placement of traffic safety structures on poles, such as overhead signs, variable message signs, streetlights, and traffic signal equipment. Similarly, permits-by-rule 33 through 39, at N.J.A.C. 7:13-7.33 through 7.39, authorizes a variety of activities related to the construction, maintenance, and replacement of utility lines.

Authorization under a permit-by-rule is automatic and available without application materials, fees, or notice to the Department. Authorization under a general permit-by-certification is available instantly to online users, and authorization under a general permit is obtained by making a simplified application to the Department. As this rulemaking does not alter or affect these existing provisions, the Department does not anticipate that the adoption of new C1 designations will add increased time or costs to the maintenance, repair, reconstruction, or replacement of existing transportation or energy infrastructure projects located within any 300-foot riparian zone.

New transportation and energy infrastructure projects located within existing 300-foot riparian zones, as well as the new 300-foot riparian zones resulting from this rulemaking, are appropriately subject to the requirements of the FHACA Rules at N.J.A.C. 7:13-11.2, which are intended to ensure that disturbance to riparian zone vegetation is avoided where possible, minimized, and mitigated pursuant to N.J.A.C. 7:13-13. Further, where development is proposed within 150 feet of the top of the bank, the applicant must demonstrate that any proposed removal of riparian zone vegetation is in the public interest. Such restrictions on clearing, cutting, and removing vegetation along C1 waters and their

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tributaries are necessary to preserve the important functions and benefits of riparian zones, which include water quality improvements through pollutant uptake and increases in dissolved oxygen, reduced potential for erosion and nuisance flooding, and wildlife habitat enhancement.

Highlands Overlap

194. COMMENT: The Town of Belvidere is negatively affected by the C1 upgrade of the Pequest River and the Pophandusing Creek, as the Pequest River flows through the center of the town. The impact of the 300-foot riparian zones and the stricter water quality standards will hinder redevelopment. Further, such restrictions are inconsistent with the SDRP and the Highlands Regional Master Plan (HRMP) in its stated efforts to encourage growth and development within existing Towns Centers. All existing and proposed C1 designations Statewide should be reexamined for consistency with the SDRP, HRMP, and other appropriate plans. The C1 designations seem to conflict with the economic development goals of the SDRP and HRMP in many areas. The Town of Oxford is also in need of development; the C1 upgrades and HMRP negatively affect this need. (65)

195. COMMENT: The Highlands Act has been a great detriment to local job growth and creation in the Highlands region. Further regulating hundreds of miles of waterways in the State must be done with careful consideration to ensure that economic development in areas that are already subject to onerous regulations are not harmed even more. (233)

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196. COMMENT: The Highlands Water Protection and Planning Act Rules at N.J.A.C. 7:38 prohibit Major Highlands Development within Highlands Open Waters and the adjacent 300-foot protection area in the Preservation Area, with limited exception. With respect to the Planning Area lands of conforming municipalities, the HRMP provides a Highlands Open Water Protection Area of 300 feet from the edge of the discernible bank of the Highland Open Waters feature, or from the centerline where no discernible bank exits. Furthermore, the antidegradation provisions of the SWQS applicable to C1 waters apply to all Highlands Open Waters in the Preservation Area.

The Department has proposed rule amendments that will designate an additional 749 miles of rivers and streams as C1 waterways. As such, these waterways would now be afforded 300-foot riparian zones under the FHACA Rules. Any wastewater or other regulated discharges affecting these waterways will need to meet the stringent anti-degradation water quality standards, and many of the proposed segments for upgrade are located within the Highlands Region. From a review of the proposed expanded designations in the Preservation Area, lands affected by expanded 300-foot riparian zones are already within Highlands Open Water Protection Areas. In the Planning Area, lands affected by the expanded designations are within municipalities that are not conforming to the HRMP and not already overlain by Highlands Open Water Protection Area. (247)

RESPONSE TO COMMENTS 194, 195, AND 196: A 300-foot buffer is required adjacent to all “Highlands Open Waters” in the Highlands Preservation Area, if the proposed project is regulated by the Highlands

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Water Protection and Planning Act rules (N.J.A.C. 7:38). Pursuant to N.J.A.C. 7:38-2.2(d), if a project requires and receives a Highlands Preservation Area Approval, it does not require a separate authorization under the FHACA Rules. If a project is exempt from the Highlands Water Protection and Planning Act rules and the project involves regulated activities in regulated areas pursuant to the FHACA Rules, then authorization under the FHACA Rules permit is required. Thus, one permit or the other is required for regulated activities. Where there is regulatory overlap, such as the Highlands Preservation Area, a C1 designation continues to be relevant for projects that are exempt from the Highlands Water Protection and Planning Act rules and yet may still impact water quality. With respect to the designation of C1 waters in the Highlands Planning Area, the Highlands Water Protection and Planning Act does not preclude the Department from upgrading waterbodies in the Planning Area.

The Highlands Water Protection and Planning Act Rules at N.J.A.C. 7:38 prohibit any disturbance within a 300-foot buffer adjacent to Highlands open waters except for linear development, which is permitted provided that there is no feasible alternative for linear development outside the Highlands open water or the 300-foot buffer. The Highlands Water Protection and Planning Act Rules also allow redevelopment of structures or land uses in Highlands 300-foot buffers existing on August 10, 2004, provided that the area of disturbance is not increased by more than 25 percent. If a project is exempt from Highlands and is within the 300-foot buffer resulting from this rulemaking, the disturbance would be subject to the limitations applicable to the FHACA rules.

Further, as noted previously, the FHACA Rules do not prohibit development within riparian zones but rather set stringent standards for clearing, cutting, and removing vegetation. Such restrictions are necessary to preserve the important functions and benefits of riparian zones, which include water quality

improvements through pollutant uptake and increases in dissolved oxygen, reduced potential for erosion and nuisance flooding, and wildlife habitat enhancement.

Pursuant to the FHACA Rules, riparian zones apply to most regulated waters, as set forth at N.J.A.C. 7:13-2.3(c). Surface waters subject to the FHACA Rules are defined as "regulated waters" pursuant to N.J.A.C. 7:13-1.2 and 2.2(a), and include all waters except manmade canals, coastal wetlands, certain tributaries that drain less than 50 acres, and certain manmade depressions incidental to ongoing construction or remediation activities. Further, all regulated waters possess a riparian zone, with certain exceptions listed at N.J.A.C. 7:13-2.3(c)1, such as some tidal and/or manmade waters. Pursuant to N.J.A.C. 7:13-2.4, the FHACA rules regulate the following activities within flood hazard areas and riparian zones: excavation, grading, and/or placement of fill; the clearing, cutting, and/or removal of vegetation in a riparian zone; the creation of impervious surface; the storage of unsecured material; the construction, reconstruction, and/or enlargement of a structure; and the conversion of a building into a private residence or a public building. Minor riparian zone disturbance is authorized under a number of permits-by-rule under N.J.A.C. 7:13-7, general permits-by-certification under N.J.A.C. 7:13-8, and general permits under N.J.A.C. 7:13-9. Activities that result in greater riparian zone disturbance can in some instances be authorized under an individual permit pursuant to N.J.A.C. 7:13-11.2.

In addition, prospective applicants who contend that strict compliance with the riparian zone standards of the FHACA Rules would create an exceptional and undue hardship may qualify for a hardship exception of regulatory standards, pursuant to N.J.A.C. 7:13-15.1. For additional information regarding Department land use rules, such as the FHACA Rules, see the Division of Land Use Regulation's website at https://www.nj.gov/dep/landuse/.

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While other Department rules may also positively impact water quality, the additional protections provided for in the Department's land use rules for C1 waters are warranted to ensure that there is no measurable change in water quality. Where there is some regulatory overlap in areas, such as the Highlands Preservation Area, a C1 designation continues to be relevant for projects that are exempt from the Highlands Water Protection and Planning Act rules and yet may still impact water quality.

Affordable Housing

197. COMMENT: The Department should reconsider the adverse impacts that the C1 designations will have on affordable housing projects in Hunterdon and Somerset counties. (134)

198. COMMENT: The implications for long-term capital planning in economic growth areas and affordable housing planning were not sufficiently addressed in the notice of proposal. (105)

199. COMMENT: The restriction of development will adversely affect Raritan Township's ability to provide designated affordable housing. The current quantity of Council on Affordable Housing (COAH) units would be the maximum that the township could support/provide as a result of the proposed regulations. (88 and 169)

200. COMMENT: The proposed rule inhibits municipalities' ability to meet affordable housing obligations under the *Mount Laurel* Doctrine and the additional sewer capacity to serve additional affordable housing units. (30, 169, and 193)

201. COMMENT: Capping sewerage capacity restricts development in general but has an even more drastic impact on affordable housing. Many affordable housing units are developed as

multifamily dwellings with much higher density. Without the ability of a wastewater treatment plant to expand or increase discharge, it would be impossible to develop affordable housing units, which could lead to an expanded use of septic systems, an unintended consequence of C1 expansion with additional environmental concerns. The Department should perform an Environmental Justice assessment. (193 and 304)

202. COMMENT: The impact on affordable housing obligations of the Council on Affordable Housing were not expressly analyzed. One of the most common points of contention in affordable housing evaluations is the availability of adequate wastewater treatment, which is often classified as a scarce resource. Only a few treatment plants were listed in the notice of proposal, yet no attempt was made to analyze their remaining capacity and compare it to the directly affected housing needs in their service areas, as required by the APA. The Department's impact statements did not adequately address the effects on local taxes and, therefore, did not meet APA requirements. (193 and 304)

203. COMMENT: The goal of the Governor's Executive Order No. 23 (2018), environmental justice incentive is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to development, implementation, and enforcement of environmental laws, regulations, and policies. Under the *Mount Laurel* doctrine developed by the New Jersey Supreme Court, these are the very areas required to provide "affordable housing" options and to prevent and avoid exclusionary zoning. Given the *Mount Laurel* doctrine and the Governor's Executive Order No. 23, the South Branch Raritan River

should not be designated a C1 water without a better dissemination of the supporting data and a more precise explanation of the impacts, so all interested persons are aware of the potential impacts and have a reasonable opportunity to comment on the rulemaking. Anything less violates both the APA and the principles of Environmental Justice. (193, 262, and 304)

204. COMMENT: The Department did not provide sufficient justification for the Housing Affordability Impact Analysis. The New Jersey Supreme Court ruled in *Mount Laurel I* (1975) and *Mount Laurel II* (1983) that municipal land use regulations that prevent affordable housing opportunities for the poor are unconstitutional, and that, as a result, all municipalities must plan to provide for their "fair share" of the region's need for affordable housing. The Department's rulemaking does not evaluate whether current municipal affordable housing plans are impacted by the newly proposed riparian zone areas or the potential sewage treatment limitations created by this rulemaking. The commenter has identified several affordable housing projects that may be impacted by this rulemaking and is aware of numerous housing and other projects that may be affected by upstream buffers. (186)

205. COMMENT: The impacts of the proposed amendments on economic development and affordable housing opportunities is of concern. (2)

206. COMMENT: The rulemaking fails to evaluate whether current municipal affordable housing plans are impacted by the newly proposed buffer areas or the potential sewage treatment limitations created by this rulemaking.

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In the Housing Affordability Impact Analysis, the Department states: "The Department does not anticipate that the proposed amendments will have an impact on the affordability of housing because it is extremely unlikely that the amendment will evoke a major change in the average costs associated with housing". The Department did not provide any basis or analysis for this statement. (55 and 56)

207. COMMENT: The Department has not undertaken the necessary research into potential impacts to affordable housing, making the Department's assessment of minimal impact arbitrary and unreasonable. High density residential housing is zoned for within 300 feet of the Cooper River and a C1 designation would bar high density affordable housing by barring connections to the sanitary sewer system. The U.S. Department of Housing and Urban Development hosts a publicly available mapping tool to locate Federally assisted housing locations and Qualified Census Tracts (QCT). A QCT is a location that is eligible for private investment in local affordable housing programs. The QCTs border the Cooper River on both sides within the proposed C1 listing areas. A C1 listing makes it more expensive and riskier to develop in Camden, making Camden applications for Federal funding less attractive and, thus, reducing investment in affordable housing for those who need it most. The Department needs to consider whether a C1 listing will impact affordable housing in Camden. (262)

RESPONSE TO COMMENTS 196 THROUGH 207: The Department supports the efforts of communities striving to meet their affordable housing obligations. The Department evaluated the proposed C1 designations, to determine the impact, if any, on housing production in Planning Areas 1 or 2, or within

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designated centers, under the State Development and Redevelopment Plan (SDRP). The Department identified town centers with proposed C1 upgrades within their boundaries in Table H in the notice of proposal at 51 N.J.R. 341. While these proposed upgrades to C1 designation may restrict the use of the land within the riparian zones of these town centers, the rulemaking is not anticipated to have an overall impact on either housing development or the cost of affordable housing.

The Department recognizes that municipalities have concerns regarding the ability of local sewage treatment plants discharging to or upstream of the C1 waterbodies to expand in order to meet the demands of affordable housing units. The Department analyzed this issue specifically in the rulemaking and found that most of the affected STPs serve existing housing developments or are for a specific business, such as Fiddler's Elbow Country Club, and are unlikely to expand and be affected by the designation upgrade. All the potentially affected municipal STPs are discharging below the current NJPDES permitted flow. Accordingly, these STPs can accept additional flow, including potential flow from affordable housing units, without being impacted by the "no measurable change" standard. However, any development resulting in increased flows to the municipal STPs beyond the permitted flow will require the discharger to maintain existing pollutant loadings. For existing NJPDES dischargers that are not proposing an expansion, the adopted C1 designation upgrades will not automatically require an upgrade of treatment capabilities. See the Response to Comments 178 and 179 regarding potential impacts to sewer capacity.

The Department recognizes that municipalities are also concerned with the impact to land development. The FHACA Rules contain provisions that will allow for some disturbance in the riparian zones (see N.J.A.C. 7:13-11.2) and small expansions may not be regulated at all. Further, the adopted

upgrades may have little to no impact on redevelopment of existing impervious areas because the 300-foot riparian zones are designed to protect existing vegetation, and existing impervious surface cover is usually void of vegetation. See the Response to Comments 128 through 134 for more information on FHACA rules and riparian zones. The Department considers the protection of these riparian zones to be an essential best management practice that will protect C1 designated waters from changes in water quality associated with new development.

While the Department has found that there will be minimal impact to affordable housing, there are many costs associated with the deteriorating quality of water in the State. The costs of deteriorated water quality include the costs related to the treatment of New Jersey's drinking water, loss of recreation and tourism due to beach closings, decline in wildlife populations, as well as the costs to industry, including agricultural water supply, commercial fishing, and shellfish harvesting. In addition to benefitting water quality, the 300-foot riparian zones implemented through the FHACA Rules also help to protect against the widespread costs of flooding resulting from unwise development in flood-prone riparian areas. Further, in order to promote Environmental Justice, the Department does not recommend planning affordable housing developments in flood-prone riparian areas. The C1 antidegradation protections will also discourage development where it would impair waterbodies of exceptional ecological significance and protect those waterbodies for the many different communities within New Jersey that rely on pristine water sources.

Regarding *Mount Laurel I* and *II*, one commenter noted these cases held that municipal land use regulations that prevent affordable housing development are unconstitutional. However, both cases recognize the importance of environmental concerns, and assured that the rulings do not sweep away

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land use and environmental restrictions. (*See Mount Laurel I*, 67 *NJ* 151, 186 (1975) (reasoning that "ecological or environmental factors" should always be considered when implementing land use regulations); *see also Mount Laurel II*, 92 *NJ* 158, 219 (1983) (reassuring "all concerned that *Mount Laurel* is not designed to sweep away all land use restrictions or leave our open spaces and natural resources prey to speculators)".

State Planning Act; State Development and Redevelopment Plan (SDRP)

208. COMMENT: How is hindering potential development and redevelopment activities within an existing town center consistent with the State Development and Redevelopment Plan (SDRP) and the stated efforts to encourage growth and development within existing Town Centers? All existing and proposed C1 designations Statewide should be reexamined for consistency with the SDRP, Highlands Regional Master Plan (HRMP), and other appropriate Plans. In many areas, the C1 classifications seem to conflict with the economic development goals of the SDRP. (65)

209. COMMENT: Sussex Borough contains several designated Areas in Need of Redevelopment. The proposed 300-foot riparian zone associated with Clove Brook will have a chilling effect on the prospects of these redevelopment areas, as well as several other locations in the borough, including much of the downtown area. Sussex Borough, with a central sewer system and water supply and existing compact land use pattern, is the type of location in Sussex County where new growth is intended to be directed, and the proposed C1 upgrade to Clove Brook will be contrary to the planning policies of the State. (183 and 226)

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210. COMMENT: In Newton, the 300-foot riparian zone resulting from C1 upgrades to the Paulins Kill River would occupy approximately 482 acres of the 1,992-acre town, or about 24 percent. Approximately 1,647 acres of the town is a designated Regional Center on the State Plan maps. Of this, about 236 acres are in the riparian zone, which is 14 percent of the Regional Center area. The 300-foot riparian zone would impact 274 parcels within Newton, many of which are individual homes or commercial/industrial parcels. (186)

211. COMMENT: The new regulations will place limitations on both existing and prospective sewer service areas within Sussex County, limit the growth of Town Centers, both existing and proposed, and impact lands in private ownership. (229 and 233)

212. COMMENT: The Department should determine if any sewer service areas affected by the proposed C1 upgrades are in designated centers or Planning Areas 1 or 2. (40)

RESPONSE TO COMMENTS 208, 209, 210, 211, AND 212: The Department's action is consistent with and supports the SDRP. The C1 designations implement State Planning Goal 2 by conserving the State's natural resources—namely, its surface waters and associated biota. The actions also implement State Planning Goal 4 by providing a clean, safe, and attractive environment essential to assuring the health of New Jersey's residents. Sustainable supplies of clean water, clean air, and an abundance of open space and recreational opportunities also assure a sustainable economy. Consistent with the SDRP, the Department is designating waters with exceptional ecological significance and fisheries resources for additional protections.

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Protection of 300-foot riparian zones for C1 waters is implemented through the FHACA Rules and the WQMP Rules. For a more detailed response regarding implementation of the FHACA Rules and the WQMP Rules, see the Response to Comments 128 through 134 and the Response to Comments 178 and 179, respectively. The Department does not anticipate that the impacts of the 300-foot riparian zones to Town Centers and Planning Areas 1 and 2 will differ from those experienced in other areas of the State.

The commenters raise concerns regarding redevelopment projects within the 300-foot riparian zone in Sussex Borough. The portion of Clove Brook that flows through Sussex Borough is designated as C2 and classified as FW2-NT. This rulemaking is not affecting Sussex Borough for three reasons. First, no waterbody within Sussex Borough is being upgraded to C1 designation. Second, while Sussex Borough is in the same HUC 14 subwatershed as the adopted C1 upgrades to Clove Brook, it is downstream from these upgrades and, therefore, not subject to 300-foot riparian zones under the FHACA Rules due to Clove Brook. Third, while the portion of Clove Brook within Sussex Borough is a tributary of the portion of the Wallkill River (Vernon/Wantage) being upgraded, it is not within the same HUC 14 subwatershed and is, therefore, not subject to the 300-foot riparian zone protections afforded to upstream tributaries of C1 waterbodies under the FHACA Rules.

Newton Town will be affected by the adopted upgraded C1 designation of a segment of the Paulins Kill, which will result in the segment's upstream tributaries in the town receiving 300-foot riparian zone protections under the FHACA Rules.

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213. COMMENT: Areas approved as Planning Areas 1 and 2 in the State Development and Redevelopment Plan, which are areas targeted for development, should be exempt from this rulemaking. (127)

214. COMMENT: The rulemaking is in direct conflict with the goals of the State Development and Redevelopment Plan (State Plan) for Flemington and the surrounding environs. Flemington Borough is a Designated Center and claims the changes to C1 designated waterways will prevent the Borough from achieving the growth envisioned for Town Centers in the State Plan. (239)

RESPONSE TO COMMENTS 213 AND 214: The extent of any applicable development limitations will be determined on a case-by-case, site-specific basis depending upon the location of a proposed project in an area subject to regulation as a result of the redesignation of a waterbody to C1 status. For example, factors such as whether a potential treatment option discharging to an upgraded water has available capacity under its existing permit, and whether the proposed project is located partially or entirely on portions of the site currently covered by impervious surface will influence a determination as to what can be approved on the site. Additionally, if an applicant believes that strict compliance with the requirements of the FHACA Rules would create an undue hardship, N.J.A.C. 7:13-15.1 sets forth a procedure by which an applicant can apply to the Department for an exception from strict compliance with one or more requirements of those rules, including the riparian zone provisions.

The Department has evaluated the proposed C1 amendments to determine the impact, if any, on housing production in Planning Areas 1 or 2 or within designated centers under the SDRP as indicated in the rulemaking. As discussed in the Response to Comments 196 through 207, the Department has

identified town centers that contain the proposed C1 upgrades at Table H in the rulemaking. While these proposed upgrades to C1 designation may restrict the use of the land within the riparian zones of these town centers, the Department expects minimal impacts to development and redevelopment as a result of this rulemaking.

With respect to potential impacts to Flemington Borough, as indicated in the Response to Comments 143 through 146, the Department's actions are consistent with and support the SDRP. Additionally, as explained in the Response to Comments 49 through 53, the upstream boundary of the proposed South Branch Raritan River C1 upgrade has been revised. As originally proposed, the segment of the South Branch Raritan River specified for upgrade to C1 designation ran from Main Street (County Route 613) bridge to Neshanic River. However, the Department is revising the proposed upstream boundary from Main Street (County Route 613) to the first westerly tributary below the Main Street (County Route 613) bridge. As a result, Flemington Borough will no longer be impacted by the 300-foot riparian zone that is afforded to the tributaries of C1 waters. Flemington Borough is therefore unlikely to be affected by the proposed C1 upgrades.

Jurisdiction

215. COMMENT: The Department may not have the authority to list C1 waters in tidal portions of the Delaware River. The Department did not reveal that it has delegated responsibility for establishing water uses of the tidal section of the Cooper River to the DRBC and did not discuss if applying the C1 designation is consistent with the rules. The DRBC lists navigation as a

designated use and dredging is routinely needed to preserve navigation in the New Jersey tidal zone. However, C1 regulations would prohibit disturbance of sediments. The Department needs to discuss how Camden can use its waterfront to revitalize the city but be prohibited from dredging and restoring riparian areas that impact near stream and instream organisms. (262)

RESPONSE: Pursuant to New Jersey's Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., the Department's Commissioner has the power to adopt, amend, and enforce rules to prevent water pollution (see N.J.S.A. 58:10A-4). Such rules include the classification of the surface waters of the State and the determination of the water quality standards for each such classification (see N.J.S.A. 58:10A-4(c)). New Jersey's Water Pollution Control Act is implemented through the Surface Water Quality Standards, which list the surface water classifications and antidegradation designations for the waters of the State of New Jersey (see N.J.A.C. 7:9B-1.15). Antidegradation designations for the mainstem Delaware River are established by the DRBC. Tributaries to the Delaware River, including all river miles being upgraded to C1 within this amendment, are under the Department's jurisdiction.

Further, the Department is not changing the designated uses, specified at N.J.A.C. 7:9B-1.12, of the Cooper River. Antidegradation designations do not affect a waterbody's designated uses. Upgrading a waterbody to C1 antidegradation designation does not alter its designated uses as the commenter suggests.

Additionally, while the commenter is correct that the SWQS at N.J.A.C. 7:9B-1.13(a) state "The designated uses for the mainstem Delaware River and Delaware Bay are those contained in

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the DRBC Water Quality Regulations," N.J.A.C. 7:9B-1.13(b) states that "The designated uses for other waters under the jurisdiction of the DRBC are as set forth at N.J.A.C. 7:9B-1.12." "Other waters" includes the tidal section of the Cooper River; the designated uses of the Cooper River are, therefore, determined by the SWQS at N.J.A.C. 7:9B-1.12, which are promulgated by the Department.

Arsenic

216. COMMENT: The commenter would like to understand the implications of the C1 rulemaking for Hackettstown MUA, Raritan Township MUA, and possibly other dischargers in relation to the Department's Arsenic Water Quality Standards Variance Workgroup, whose objective was to develop a water quality standard variance for arsenic. Hackettstown MUA (HMUA) and RTMUA are among NJPDES permit holders facing arsenic limits that are lower than human health criteria in their discharge area. The commenter questions if a waiver will be applicable to all streams, including C1, or only streams designated as impaired. The commenter states that if the latter is the case, that would mean that treatment plants could be required to meet arsenic limits even more stringent that the 0.017 µg/L with which they are currently struggling. (105)

RESPONSE: The Department is anticipating amending the SWQS at N.J.A.C. 7:9B to include SWQS variance provisions based on the 2015 USEPA Water Quality Standards Variance (WQSV) publication (40 CFR

131.14; 80 FR 51019). However, it should be noted that there is no assurance that the SWQS variance policies will be adopted.

The C1 stream designation does not have an impact on whether a potential WQSV could be adopted for arsenic or any other substance.

WQSV is not a waiver but is intended to promote incremental improvements to the water quality of a waterbody/waterbody segment(s) for a specific pollutant. A WQSV's requirements are not intended to result in any lowering of the currently attained ambient water quality, and any water quality improvement resulting from future upgrades are not prohibited by the antidegradation policies (both Federal and State).

In anticipation of amending the SWQS to include the USEPA's WQSV provisions, the Department is currently conducting a workgroup comprising of stakeholders, including representatives from utilities, academia, environmental groups, and consultants. More information is available at https://www.nj.gov/dep/workgroups/swqs.html. The Department does not anticipate the WQSV for any applicant permittee to be lower than human health criteria for arsenic (0.017 µg/L of total recoverable arsenic in freshwater and 0.067 µg/L of total recoverable arsenic in saline waters). On the contrary, the Department anticipates that methods will be developed through the workgroup to identify the highest attainable conditions, the duration and other requirements pertaining to a variance. These methods will allow the Department to utilize a transparent process for deriving permit limits for the duration of the variance that will allow incremental improvement of the water quality.

Summary of Agency-Initiated Changes:

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As explained in the introduction to this adoption, the Department is making changes upon adoption to the proposed 2019 C1 designations resulting from the availability of more recent AMNET, FIBI, and habitat assessment data, and water quality and percent impervious surface information that were not publicly available at the time of evaluation of waterbodies for inclusion in this rulemaking at the time of proposal. See the introduction of this adoption regarding the Department's evaluation of the latest publicly available data. As a result, the Department is adopting approximately 600 of the 749 river miles proposed for C1 upgrades. See Table 3 below for more information.

Table 3. Proposed Designations Changed upon Adoption

Waterbody Name	Municipality (County)	Reason for Exclusion	River Miles not being adopted
Changes based on updated Primary Factor: AMNET data			
Furnace Brook	White Twp. (Warren)	AMNET: rating dropped from Good to Fair	10.7
Paulins Kill	Hampton (Sussex)	Insufficient AMNET data	3.3
Pond Brook	Stillwater (Sussex)	Insufficient AMNET data	1.1
Indian Run	Pittsgrove Twp. (Salem) / Upper Delaware Twp. (Cumberland)	AMNET: rating dropped from Good to Poor	2.9
Muddy Run	Pittsgrove Twp. (Salem) / Upper Delaware Twp. (Cumberland)	AMNET: rating dropped from Good to Poor	6.8
Oldmans Creek	S. Harrison Twp. (Gloucester)	AMNET: rating dropped from Good to Fair	12.6
Still Run	Glassboro Borough, Elk Twp. (Gloucester)	AMNET: rating dropped from Good to Fair	10.1
Whippany River	Harding, Mendham, Morris (Morris)	Insufficient AMNET data	11.2
Total river miles			**~58.7**

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Changes based on two of the supporting factors necessary for a waterbody to be determined to support an exceptional aquatic community			
Weldon Brook	Jefferson (Morris) / Sparta (Sussex)	Habitat: rating dropped from Optimal to Suboptimal	9.4
Little Robin Branch	Vineland City (Cumberland)	Habitat: rating dropped from optimal to Suboptimal	1.6
Maurice River	Vineland, (Cumberland) / Pittsgrove Twp. (Salem)	Habitat: rating dropped from optimal to Suboptimal	15.0
Beaver Run	Wantage (Sussex)	Habitat: rating dropped from Optimal to Suboptimal	2.3
Rutgers Creek	Wantage (Sussex)	Habitat: rating dropped from Optimal to Suboptimal	10.6
Total river miles			**~38.9**
Pleasant Run	Readington (Hunterdon)	Insufficient WQ data	26.4
Blackwater Branch	Vineland City (Cumberland)	Insufficient WQ data	4.7
N. Br. Raritan River (Far Hills)*	Bedminster, Far Hills Boro (Somerset)	Insufficient WQ data	2.5*
Total river miles			**~33.6**
Burnt Mill Br.	Vineland (Cumberland)	% Impervious surface: 13.4%. Does not fulfill criteria for <10%.	2.9
Fishing Creek	Lower Twp., Middle Twp. (Cape May)	% Impervious surface: 11.8%. Does not fulfill criteria for <10%.	7.7
N. Br. Raritan River (Far Hills)*	Bedminster Twp., Far Hills Borough (Somerset)	% Impervious surface: 13.2%. Does not fulfill criteria for <10%.	2.5*
Portion of Wallkill River	Hardyston Twp., Vernon Twp., Wantage Twp. (Sussex)	% Impervious surface: 11.3%. Does not fulfill criteria for <10%.	8.0
Total river miles (excludes N. Br. Raritan River*)			**~18.6**

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Changes based on alternative boundary			
Westecunk Creek	Eagleswood, Little Egg Harbor (Ocean)	Change of appropriate boundary	1.2
S. Br. Raritan River (Three Bridges)	Branchburg, Hillsborough (Somerset) / Raritan, Reading (Hunterdon)	Change of appropriate boundary	0.1

*N. Br. Raritan River did not qualify based on changes to two of the supporting factors necessary for a waterbody to be determined to support an exceptional aquatic community (water quality and impervious surface).

In addition, the Department is also making administrative changes to the following waterbodies upon adoption:

Atlantic Coastal Basin (N.J.A.C. 7:9B-1.15(c)):

Old Robins Branch – The Department listed Old Robins Branch under Lower Delaware River Basin at N.J.A.C. 7:9B-1.15(e) (51 N.J.R. 308(a)). While the geographic description of the location of this waterbody in the notice of proposal was accurate, Old Robins Branch is actually in the Atlantic watershed. Accordingly, the Department is reflecting the Old Robins Branch as a waterbody of the Atlantic Coastal Basin at N.J.A.C. 7:9B-1.15(c).

Upper Delaware River Basin (N.J.A.C. 7:9B-1.15(d)):

Beaver Brook - The Department is revising Beaver Brook listing to correct the spelling of Manunka Chunk. The name of this waterbody was spelled incorrectly in the notice of proposal and in the Administrative Code prior to this notice of adoption as Mununka Chunk.

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Blair Creek – The Department is revising the first Hardwick listing under Blair Creek at N.J.A.C. 7:9B-1.15(d) to add 'downstream boundary of' before Bass Lake to be more specific.

Mountain Lake Brook – The Department is revising the two listings of Mountain Lake Brook under (White) to clarify the boundary between the two segments. Particularly, the Department is adding 'lower boundary' to Lake Bog Preserve to be more specific.

Paulins Kill – In addition to not adopting Paulins Kill from Balesville Dam to Parson Road, the Department is revising the Paulins Kill listing of Paulins Kill Lake under the Main Stem to delete 'below', as there are other named tributaries listed in the Upper Delaware River Basin table. The Department is also deleting Pond Brook from the Paulins Kill Lake listing under the Main Stem because Pond Brook no longer meets the definition of exceptional ecological significance, specifically the primary factor of an exceptional aquatic community.

Swartswood Creek – The Department proposed C1 antidegradation protection for several lakes in the second listing of Swartswood under Swartswood Creek. As a result of the upgraded C1 designation, as indicated in the summary of the changes at 51 N.J.R. 321, these lakes would all be classified as FW2-NT(C1). However, due to a typographical error, the proposed rule text incorrectly indicated the proposed amendment would result in the lakes being classified as FW2-TM(C1). Therefore, the Department is correcting N.J.A.C. 7:9B-1.15(d) to reflect the accurate FW2-NT(C1) classification upon adoption.

Lower Delaware River Basin (N.J.A.C. 7:9B-1.15(e)):

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Cohansey River – The Department is revising the Cohansey River listing to correct the spelling of Finley Road, under Beals Mill and first Upper Deerfield listings, which was spelled incorrectly in the notice of proposal as Finely Road.

Maurice River – The Department is not adopting those portions of Maurice River for C1 designation that were proposed based on exceptional ecological significance, as they no longer meet the supporting factors for an exceptional aquatic community. See the introduction of this adoption and Table 3 under the Summary of Agency-Initiated Changes for more information. As a result, the Department is deleting the reference to the Union Lake Wildlife Management Area under the Willow Grove listing to indicate that Maurice River from Willow Grove Road to the confluence of Blackwater Branch is designated as FW2-NT(C1). As the boundaries of the Union Lake Wildlife Management Area have expanded, the portion of Maurice River between Green Branch and northern boundary of the Union Lake Wildlife Management Area is now within the Wildlife Management Area. Therefore, this change would include the upstream segment of Union Lake Wildlife Management Area within the portion of Maurice River from Willow Grove Road to Blackwater Branch.

Menantico Creek – The Department is revising the Menantico Creek listing to correct the spelling of Menantico. This name of this waterbody was spelled incorrectly in the notice of proposal and in the Administrative Code prior to this notice of adoption as Manantico. In addition, the

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Department is also placing the Menantico Creek listing after the Maurice River as waterbodies at N.J.A.C. 7:9B-1.15 are listed alphabetically.

Scotland Run - The Department is revising Scotland Run to list the name in capital letters to be consistent with all other waterbody listing at N.J.A.C. 7:9B-1.15.

Passaic, Hackensack, and New York Harbor Complex Basin (N.J.A.C. 7:9B-1.15(f)):

Bear Brook – The Department is correcting the listing for the portion of Bear Brook from source to Spring Valley Road to reflect that it continues to be classified as FW2-NT(C1). As indicated in the proposal summary at 51 N.J.R. 333, Bear Brook is a tributary of Pascack Brook. Pascack Brook and all its tributaries, including Bear Brook were classified as FW2-NT(C1) at the time of publication of the notice of proposal. The Department proposed to upgrade a downstream portion of Bear Brook to FW2-TM(C1), with the portion from source to Spring Valley Road maintaining its existing classification as FW2-NT(C1). However, the existing (C1) designation was not reflected in the rule text in the notice of proposal. The Department is correcting this error upon adoption.

Fox Brook – Fox Brook is a tributary of the Ramapo River that was previously classified at N.J.A.C. 7:9B-1.15(f) as FW2-NT water. The parenthetical identifier for Fox Brook in the Code prior to this rulemaking was Mahwah. In proposing to upgrade the classification and antidegradation designation of Fox Brook, the notice of proposal rule text mistakenly identified Fox Brook as a newly listed water and included a reference to Ramapo in the

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parenthetical following the waterbody name, rather than Mahwah. The Department is correcting this typographical error upon adoption, with the resulting rule text identifying a single listing of the entire length of Fox Brook (Mahwah), including all tributaries, as FW2-TP(C1).

Federal Standards Analysis

N.J.S.A. 52:14B-22 requires that State agencies that adopt, readopt, or amend State regulations that exceed any Federal standards or requirements include in the rulemaking document a Federal standards analysis.

The CWA, 33 U.S.C. §§ 1251 et seq., as amended by the Water Quality Act of 1987 (PL 100-4) requires the establishment of water quality standards for all surface waters of the United States. (The Water Quality Act of 1987 amended the CWA to require the adoption of criteria for toxic pollutants identified as causing or contributing to an impairment of a waterbody's designated use(s).) Individual states are given primary responsibility for developing and adopting surface water quality standards applicable to their waters. The USEPA is responsible for overseeing and approving state water quality standards, providing guidance on the content of the standards, and developing water quality criteria guidance documents. Key elements of the surface water quality standards program required under the CWA are: a classification system establishing designated beneficial uses of the waters; ambient water quality criteria necessary to protect those uses; minimum uses to be attained that reflect the fishable and swimmable goals of the CWA; and antidegradation policies and implementation procedures to prevent water quality from deteriorating. Furthermore, the CWA includes provisions requiring the USEPA to

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promulgate superseding Federal standards where the USEPA concludes that a state's standards are not consistent with the requirements of the CWA, or where Federal requirements are necessary to meet the requirements of the CWA.

The SWQS adopted amendments are required by, and consistent with, the Federal statutes, regulations, and guidance. The Department has prepared the following sectional analysis of the SWQS, which compares each section with the applicable Federal law, regulations, and guidance, as required by Executive Order 27 (1994) and P.L. 1995, c. 65.

N.J.A.C. 7:9B-1.4 contains definitions of terms used within the SWQS. The adopted amendment to the definition of exceptional ecological significance is a minor correction/clarification; therefore, no further analysis is required.

N.J.A.C. 7:9B-1.15 contains specific waterbody classification listings and antidegradation designations, arranged by major drainage basin, and instructions for the use of the classification tables. The Federal water quality regulations at 40 CFR Part 131.10 require that states specify appropriate water uses to be achieved and protected. The Department's SWQS waterbody classification listing is a tool to identify these designated uses, such as protection and propagation of fish, shellfish, and wildlife, recreation in and on water, public water supplies, agricultural, and industrial. Therefore, these waterbody classifications are consistent with the Federal regulations.

In addition, 40 CFR Part 131.12 establishes requirements for the states to develop and adopt antidegradation policies and implementation procedures to ensure that the level of water quality needed to protect existing uses is maintained, and that water quality better than

necessary to protect existing uses is maintained and protected unless demonstrations are made in support of lowering the water quality. The adopted changes in antidegradation designation identify the level of protection and implementation procedures that must be followed. The antidegradation designations are consistent with and do not exceed Federal standards; therefore, no further analysis is required.

Full text of the adoption follows (additions to proposal indicated in boldface with asterisks ***thus***; deletions from proposal indicated in brackets with asterisks *[thus]*):

SUBCHAPTER 1. SURFACE WATER QUALITY STANDARDS

7:9B-1.15 Surface water classifications for the waters of the State of New Jersey

(a)-(b) (No change.)

(c) The following surface water classifications are for waters of the Atlantic Coastal Basin:

Waterbody	Classification
...	
***OLD ROBINS BRANCH**	
(North Dennis) –Source to Pinelands Area boundary	**PL**
(North Dennis) –Pinelands Area boundary to Dennis Creek	**FW2-NT/SE1(C1)***

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WESTECUNK CREEK

(Eagleswood) - Source to Pinelands Area boundary PL

(Eagleswood) - Pinelands Area boundary to *[Uriah Branch]* ***Railroad Ave.***,

including all tributaries FW2-NT/SE1(C1)

(Eagleswood) - *[Uriah Branch]* ***Railroad Ave**** to Little Egg Harbor FW2-NT/SE1

...

(d) The following surface water classifications are for waters of the Upper Delaware River Basin:

Waterbody	Classification
...	
BEAVER BROOK (Hope) –Source to confluence with Honey Run	FW2-NT
(Hope) - Confluence with Honey Run to Pequest River, including all unnamed tributaries, except tributary East of *[Mununka]* ***Manunka**** Chunk	FW2-NT(C1)
(East of *[Mununka]****Manunka**** Chunk) – Entire length, including all tributaries	FW2-TM(C1)

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BLAIR CREEK

(Hardwick) - Source to ***downstream boundary of*** Bass Lake,

including all tributaries FW2-NT(C1)

(Hardwick Center) - Bass Lake outlet to Paulins Kill, including all lakes

and tributaries FW2-TM(C1)

...

FURNACE (OXFORD) BROOK

(Oxford) - Source to railroad bridge at Oxford FW2-TP(C1)

(Oxford) - Railroad bridge to Pequest River, including all tributaries FW2-NT*[(C1)]*

...

MOUNTAIN LAKE BROOK

(Liberty) - Source to Mountain Lake FW2-TM

(White) - Mountain Lake dam to Lake Bog Preserve ***lower Boundary*** FW2-NT

(White) –Lake Bog Preserve ***lower*** Boundary to Pequest River FW2-NT(C1)

...

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PAULINS KILL

...

WEST BRANCH (No change from proposal.)

MAIN STEM

(Blairstown) - Confluence of East and West branches to Rt. 15 bridge (bench mark 507), including all tributaries FW2-TM(C1)

(Hampton) - Rt. 15 bridge (bench mark 507) to *[Parson Road]* ***Balesville dam*** FW2-NT(C1)

(Hampton) –*[Parson Road]* ***Balesville dam*** to Paulins Kill Lake dam FW2-NT

(Paulins Kill Lake) - Paulins Kill Lake dam to Delaware River, including all tributaries, except Blair Creek*[, Pond Brook,]* and tributaries described separately *[below]* FW2-TM(C1)

TRIBUTARIES, MAIN STEM (No change from proposal.)

...

POND BROOK (Middleville) - Swartswood Lake outlet to Paulins Kill FW2-NT*[(C1)]*

...

SWARTSWOOD CREEK

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(Swartswood) – Entire length, including all tributaries, but not

including lakes described separately below FW2-TM(C1)

(Swartswood) – Crandon Lake, Lower Crandon Lake, Mecca Lake,

Plymouth Pond, Quick Pond, and

Willow Crest Lake *[FW2-TM(C1)]* ***FW2-NT(C1)***

...

WELDON BROOK (Jefferson Township) **-** From source to, but not including,

Lake Shawnee, including all tributaries FW2-TM*[(C1)]*

...

(e) The surface water classifications for waters of the Lower Delaware River Basin:

Waterbody	Classification
...	
BLACKWATER BRANCH	
(Vineland) – *[Source to Pine Branch]* ***Entire length***	FW2-NT
*[(Vineland) - Pine Branch to Maurice River, including all tributaries	FW2-NT(C1)]*
...	

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BURNT MILL BRANCH

(Newfield) - *[Source to Burnt Mill Pond]* ***Entire length*** FW2-NT

*[(Brotmanville) - Burnt Mill Pond to Maurice River, including

all tributaries FW2-NT(C1)]*

...

COHANSEY RIVER

(Beals Mill) – Source to *[Finely]* ***Finley*** Road, including all tributaries

and Sunset Lake FW2-NT

(Upper Deerfield) – *[Finely]* ***Finley*** Road to Loper Run, including all unnamed

tributaries FW2-NT(C1)

...

...

*[FISHING CREEK

(Fishing Creek) – Source to Fulling Mill Stream, including all

tributaries FW2-NT/SE1(C1)

(Fishing Creek) – Fulling Mill Stream to Delaware Bay FW2-NT/SE1]*

...

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INDIAN RUN

(Palatine) – *[Source to Olivet Road]* ***Entire length*** FW2-NT

[(Palatine) – Olivet Road to Muddy Run, including all tributaries FW2-NT(C1)]

...

LITTLE ROBIN BRANCH (Vineland) – Entire length FW2-NT*[(C1)]*

...

*[MANANTICO CREEK

(Millville) –Source to Mays Landing Road FW2-NT

(Millville) – Mays Landing Road to Berryman Branch, including

all tributaries FW2-NT(C1)

(Manantico) - Berryman Branch to Maurice River, except segment

described below FW2-NT

(Manantico) - Segment within the boundaries of the Manantico Ponds Wildlife

Management Area FW2-NT(C1)]*

…

MAURICE RIVER

MAIN STEM

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(Willow Grove) – Willow Grove Road to *[Union Lake Dam, including the portion of the river within the Union Lake Wildlife Management Area and all unnamed tributaries, except tributaries described under Tributaries below]* ***the confluence with Blackwater Branch*** FW2-NT(C1)

(Vineland) - Confluence with Blackwater Branch to West Sherman Avenue, except tributaries described under Tributaries below** **FW2-NT

(Millville) - West Sherman Avenue to Union Lake Dam, including Union Lake** **FW2-NT(C1)

...

TRIBUTARIES, MAURICE RIVER (No change from proposal.)

...

***MENANTICO CREEK**

(Millville) –Source to Mays Landing Road **FW2-NT**

(Millville) – Mays Landing Road to Berryman Branch, including all tributaries **FW2-NT(C1)**

(Menantico) - Berryman Branch to Maurice River, except segment described below **FW2-NT**

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(Menantico) - **Segment within the boundaries of the Menantico Ponds Wildlife**

Management Area **FW2-NT(C1)***

...

MUDDY RUN

(Elmer) –*[Source to Olivet Road,]* ***Entire length*** except *[the portion within Elmer Lake

Wildlife Management Area]* ***segments described below*** FW2-NT

(Elmer) - Portion of the Run within Elmer Lake Wildlife

Management Area FW2-NT(C1)

*[(Centerton) – Olivet Road to the downstream boundary of Parvin State

Park, including Centerton Pond and all unnamed tributaries FW2-NT(C1)

(Centerton) – Downstream boundary of Parvin State Park to Landis

Avenue FW2-NT

(Centerton) – Landis Avenue to Maurice River, including portion

within Union Lake Wildlife Management Area FW2-NT(C1)]*

***(Centerton) - Portion of the Run within Parvin State Park** **FW2-NT(C1)**

(Pittsgrove) - Portion of the run within Union Lake Wildlife Management

Area **FW2-NT(C1)***

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OLDMANS CREEK

__(Lincoln) – Source to the eastern boundary of the Harrisonville Lake Wildlife Management Area boundary__ __FW2-NT__

(Harrisonville) – *[Source]* *__Eastern boundary of the Harrisonville Lake Wildlife Management Area__* to Kings Highway by Porches Mill, including all tributaries FW2-NT(C1)

(Oldmans) – Kings Highway by Porches Mill to Main Street FW2-NT

(Oldmans) – Main Street to the Delaware River FW2-NT/SE1

...

*[OLD ROBINS BRANCH

(North Dennis) –Source to Pinelands Area boundary PL

(North Dennis) –Pinelands Area boundary to Dennis Creek FW2-NT/SE1(C1)]*

...

[Scotland Run] *__SCOTLAND RUN__*

(Monroe) – Entire length FW2-NT

...

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STILL RUN

(Aura) – *[Source to Silver Lake, including all tributaries]*

Entire length FW2-NT*[(C1)]*

[(Willow Grove) - Silver Lake to Willow Grove Lake FW2-NT]

...

(f) The following surface water classifications are for waters of the Passaic, Hackensack**,** and New York Harbor Complex Basin:

Waterbody	Classification
...	
BEAR BROOK	
(Washington) – Source to Spring Valley Road	FW2-NT***(C1)****
(Washington) – Spring Valley Road to Woodcliff Lake, including all tributaries	FW2-TM(C1)

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...

FOX BROOK (Mahwah) – Entire length***, including all tributaries*** *[FW2-NT]* ***FW2-TP(C1)***

[FOX BROOK (Ramapo) – Entire length, including all tributaries FW2-TP(C1)]

...

WHIPPANY RIVER

(Brookside) - Source to Whitehead Rd. bridge*[, including all tributaries]* FW2-TP(C1)

*[(Morristown) - Whitehead Rd. bridge to Gillespie Hill tributary, including

all tributaries, except E. of Brookside tributary described below FW2-NT(C1)]*

(Morristown) – *[Gillespie Hill tributary]* ***Whitehead Rd. bridge*** to Rockaway

River FW2-NT

TRIBUTARIES (No change from proposal.)

...

(g) The following surface water classifications are for waters of the Upper Raritan River and Raritan Bay Basin:

Waterbody	Classification

...

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PLEASANT RUN ***(Readington) – Entire length** **FW2-NT***

*[(Readington) – Source to Old York Road, including all tributaries FW2-NT(C1)

(Readington) – Old York Road to South Branch Raritan River FW2-NT]*

...

RARITAN RIVER

NORTH BRANCH (Also see INDIA BROOK)

(Pleasant Valley) - Source to, but not including, Ravine Lake FW2-TP(C1)

(Far Hills) - Ravine Lake dam to Rt. 512 bridge FW2-TM

*[(Far Hills) - Rt. 512 bridge to Mine Brook, including all

tributaries FW2-NT(C1)]*

(Bedminster) – *[Mine Brook]* ***Rt. 512 bridge*** to

confluence with South Branch, Raritan River, except tributary

SE of Bedminster described below FW2-NT

TRIBUTARIES, NORTH BRANCH RARITAN RIVER (No change from proposal.)

SOUTH BRANCH RARITAN RIVER

(Mt. Olive) - Source to confluence with first tributary SW of

Budd Lake FW2-NT(C1)

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(Washington) - Confluence with and including first tributary SW of

Budd Lake to Lake Solitude, including all tributaries, except

tributaries described *[below]* ***separately*** FW2-TP(C1)

(Clinton) - Lake Solitude outlet to Spruce Run, including all tributaries FW2-TM(C1)

(Clinton) - Spruce Run to downstream end of Packers Island FW2-TM

(Clinton) - Downstream end of Packers Island to ***confluence with**

and including the first westerly tributary below*

Main Street (County Route 613) FW2-NT

(Three Bridges) - ***Confluence with, the first westerly tributary**

below* Main Street (County Route 613)

to Neshanic River, including all tributaries FW2-NT(C1)

(Neshanic Sta.) –Neshanic River to confluence with North Branch,

Raritan River FW2-NT

TRIBUTARIES, SOUTH BRANCH RARITAN RIVER (No change from proposal.)

MAIN STEM RARITAN RIVER (No change from proposal.)

...

(h) (No change.)

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(i) The following surface water classifications are for waters of the Wallkill River Basin:

Waterbody	Classification
...	
BEAVER RUN (Wantage) - Entire length, *[including all tributaries]* ***except tributaries**	
that originate in Wantage Township*	FW2-NT(C1)
...	
RUTGERS CREEK	
(Mt. Salem) – All unnamed tributaries from source to State line	FW2-NT*[(C1)]*
(High Point) - The Cedar Swamp headwaters of the tributary to Rutgers	
Creek located entirely within the High Point State Park boundaries	
just south of the State line	FW1
...	
WALLKILL RIVER	
(Sparta) - Source to confluence with Sparta Glen Brook	FW2-NT(C1)
(Franklin) - Sparta Glen Brook to, but not including, Franklin Pond,	
including all unnamed and unlisted tributaries	FW2-TM(C1)

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(Wantage) - Outlet of Franklin Pond to confluence with *[Wantage Brook]*

__Beaver Run__, including all unnamed and unlisted tributaries FW2-NT(C1)

***(Wantage) - Confluence with Beaver Run to Glenwood Road** **FW2-NT**

(Wantage) - Glenwood Road to confluence with Wantage Brook,

including all unnamed and unlisted tributaries **FW2-NT(C1)***

(Wantage) - Confluence with Wantage Brook to State line FW2-NT

TRIBUTARIES (No change from proposal.)

...

(j)-(k) (No change.)