CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION
DRAFT ORDER NO. R1-202X-XXXX
GENERAL WASTE DISCHARGE REQUIREMENTS
FOR
IRRIGATED LANDS IN THE
SCOTT RIVER AND SHASTA RIVER WATERSHEDS

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

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I. Findings

The California Regional Water Quality Control Board, North Coast Region, (hereinafter North Coast Water Board) finds:

A. Background & Purpose

1. The purpose of these General Waste Discharge Requirements (WDRs) for Irrigated Lands in the Scott River and Shasta River Watersheds, Order R1-202X-XXXX (hereinafter Order or General Order), is to provide a water quality regulatory structure to control discharges of waste, to prevent adverse impacts to water resources resulting from Irrigated Lands in the Scott River and Shasta River watersheds within the North Coast Regional Water Quality Control Board (North Coast Water Board or the Board) jurisdiction, and restore water quality.

2. The Scott River and Shasta River Watersheds are located in Siskiyou County, California, situated in the Klamath River Basin and drain into the mid-Klamath River which in turn flows into the Pacific Ocean.

3. The Scott River and Shasta River Watersheds contain approximately 86,000 acres of Irrigated Lands of which approximately 44,000 acres are mapped as Important Farmland (Prime, Unique, and Farmland of Statewide Importance).

4. Irrigated Lands within these watersheds result in discharges (or threatened discharges) of waste to surface and groundwater, as well as other controllable water quality factors that drive impairments in both watersheds, are implicated in the Scott River TMDL Action Plan and the Shasta River TMDL Action Plan as drivers of the impairments associated with these TMDLs. A thorough description of these drivers is included in Attachment B: Supplemental Findings.

5. The purpose of this Order is to provide effective mechanisms for preventing, minimizing, or eliminating discharges of waste from Irrigated Lands to surface and groundwater and to provide sufficient control of associated controllable water quality factors to support the protection of water quality within the Scott and Shasta Watersheds.

B. Public Participation

6. From February 27, 2025 through March 30, 2026, the North Coast Water Board convened a Technical Advisory Group (TAG) to advise on conceptual options and preliminary draft regulatory language. The TAG was comprised of 34 individuals representing agricultural producers, tribes, environmental interests, technical service providers, partnering agencies and community organizations. The TAG provided feedback on regulatory concepts in meetings that occurred approximately every 2 months. Meeting topics included farm evaluations, enrollee category requirements, streamside area requirements, Coalition requirements, permitting and Coalition fees, and the Monitoring and Reporting Program.

7. On January 31, 2025, the North Coast Water Board published a Notice of Preparation and an Initial Study to begin soliciting input related to environmental review for the California Environmental Quality Act (CEQA), in preparation for developing a draft Environmental Impact Report (EIR). A 30-day public comment period was held for the Notice of Preparation and Initial Study. On February 26, 2025, North Coast Water Board staff held a hybrid public CEQA scoping meeting. Input received during the public comment period and public scoping meetings has been considered in the development of the draft EIR and Order.

8. On May 7, 2025, the North Coast Water Board heard an informational update on the development of these WDRs, which included a staff presentation, time for oral public comments, and discussion among Board Members. The informational update was conducted virtually and in-person. On May 8, 2025, the North Coast Water Board held a field trip to agricultural operations in the subject watersheds, which was organized by the Siskiyou County Far, Bureau and attended by Board Members, staff, and members of the public.

9. On October 9, 2025, the North Coast Water Board held a field trip to Shackleford Creek, a major tributary to the Scott River, which was organized by the Quartz Valley Indian Reservation and attended by Board Members, staff, and members of the public. On October 10, 2025, the North Coast Water Board conducted a Workshop on a conceptual framework for these WDRs. The workshop was conducted virtually and in-person.

10. On January 6, 2026, North Coast Water Board staff presented concepts from the Draft Order to the Siskiyou County Board of Supervisors at a public meeting, receiving their feedback on foundational elements of the Draft Order.

11. On February 4, 2026 and February 5, 2026, North Coast Water Board staff held two public town halls in Fort Jones, California and Montague, California, respectively, to seek informal public feedback on core concepts of the Draft Order. The town halls were well attended with over 150 total attendees with in-person and virtually.

12. Between March and August of 2026, North Coast Water Board staff attended numerous farm tours, including a tour of the Shasta River Water Association's delivery area to discuss specific requirements of the Draft Order and received targeted and specific feedback from the regulated public.

13. On September 17, 2026, the North Coast Water Board published the Draft Order and Draft EIR and began a 45-day public comment period.

14. In October 2026, the North Coast Water Board conducted a public workshop, which included presentations of the Draft Order and Draft EIR, time for oral public comments, and discussion among Board Members. The public workshop was conducted virtually and in-person.

Assembly Bill 2108

15. Assembly Bill 2108 (Statutes of 2022, Chapter 347) requires State and Regional Boards to address issues of environmental justice and social equity as early as possible in permit and policy planning processes. AB 2108 specifies that Regional Boards engage in equitable, culturally relevant community outreach to meaningfully involve disadvantaged and tribal communities that may be disproportionately impacted by proposed discharges of waste and ensure that outreach and engagement shall continue throughout the review and permitting processes. (Wat. Code, § 189.7, subd. (a).)

16. AB 2108 further requires the Water Boards when, among other actions, adopting general waste discharge requirements to make findings on anticipated water quality impacts in disadvantaged or tribal communities as a result of a permitted activity or facility, any environmental justice concerns within the Water Boards' authority that are raised regarding those water quality impacts, and available measures within the Boards' authority to address those water quality impacts. (Wat. Code, § 13149.2.)

17. The North Coast Water Board publicly noticed the Order and provided opportunities for public comment. Public notice was provided to interested persons and public agencies in the North Coast Region. The North Coast Water Board conducted outreach in potentially affected disadvantaged communities. North Coast Water Board staff contacted the Native American Heritage Commission to obtain a list of all Native American Tribes within the North Coast Region. Staff sent consultation letters to all six Tribes on the list that could be affected by the Order.

18. The North Coast Water Board has satisfied the outreach requirements set forth in Water Code section 189.7 by conducting outreach in affected disadvantaged and tribal communities.

19. Pursuant to Water Code section 13149.2, the North Coast Water Board reviewed readily available information and information raised to the Board by interested persons concerning anticipated water quality impacts in disadvantaged or tribal communities resulting from adoption of this Order. The Board also considered

environmental justice concerns within the Board's authority and raised by interested persons regarding those impacts.

20. The North Coast Water Board anticipates that the discharges regulated by this Order will not result in disproportionate impacts that are within the scope of the Board's authority to tribal or disadvantaged communities.

21. Compliance with this Order and all mitigation measures identified in the accompanying EIR are expected to address impacts associated with the management practices in this Order. The mitigation and monitoring required by the Order are not expected to disproportionately impact disadvantaged or tribal communities and mitigation measures are expected to mitigate any impacts to disadvantaged or tribal communities.

Assembly Bill 52

22. Assembly Bill 52 (Statutes of 2014, Chapter 532), which went into effect on July 1, 2015, requires that lead agencies under CEQA consult with California Native American tribes that have requested in writing to be notified and that are traditionally and culturally affiliated with the geographic area of a proposed project, prior to the development of a CEQA document. Under the same bill, Public Resources Code section 21084.2 specifies that a project with an effect that may cause a substantial adverse change in the significance of a Tribal Cultural Resource is a project that may have a significant effect on the environment.

23. In December 2024, North Coast Water Board staff contacted all Tribes that had requested notification of this project under AB 52, as well as Tribes that had not requested AB 52 notification but could be affected by the Order to solicit consultation if desired.

24. Of the six AB 52 Tribes contacted by the North Coast Water Board, no tribes responded in writing to the notice. North Coast Water Board attempted to make appointments with tribal staff to discuss the Order within their tribal jurisdictions. North Coast Water Board staff met two tribes in person to discuss the project. One tribe indicated that the project is outside their tribal area and did not want to undergo formal consultation, but did request listening sessions occur within their tribal territory.

C. Scope of Order

25. This Order establishes general WDRs for Irrigated Lands and Associated Grazing Operations within the Scott and Shasta River watersheds. The primary activity that would require an owner or operator to enroll is the application of irrigation water to 25 acres or more of agricultural land.

26. "Irrigated Lands" means any operation within the Scott River or Shasta River watersheds that applies water to 25 acres or more of land for the purpose of

producing crops, forage, pasture, or other agricultural commodities, including but not limited to:

(a) Flood-irrigated, sprinkler-irrigated, or drip-irrigated cropland;

(b) Irrigated pasture used for livestock grazing or hay/forage production;

(c) Land receiving applied water for frost protection, dust suppression, leaching, or other agricultural management purposes;

(d) Land on which water is applied and from which tailwater, irrigation return flows, subsurface drainage, or stormwater runoff that has contacted irrigated land discharges or has the potential to discharge to waters of the state.

“Associated Grazing Lands" means non-irrigated lands used for livestock grazing that meet both of the following criteria:

(a) The non-irrigated grazing land is located on an irrigated parcel under common ownership or operational control (including lease or management agreements) with an Irrigated Agricultural Operation enrolled under this Order;

(b) The non-irrigated grazing land is functionally integrated with the enrolled Irrigated Agricultural Operation, as demonstrated by one or more of the following:

(i) Livestock are routinely rotated between irrigated and non-irrigated portions of the operation on a seasonal or periodic basis;

(ii) The non-irrigated grazing land is used to support livestock that are primarily maintained on irrigated pasture (e.g., dry-season holding areas, calving areas, or winter rangeland for livestock that graze irrigated pasture during the irrigation season);

(iii) Feed, forage, or hay produced on the irrigated portions of the operation is used to supplement grazing on the non-irrigated land, or vice versa;

(iv) The non-irrigated grazing land and the irrigated land are managed under a single, agricultural business entity, or unified operational structure.

27. This Order does not require enrollment of Standalone Dryland Grazing Operations — that is, livestock grazing operations conducted on non-irrigated agricultural parcels. The North Coast Water Board finds that the management measures, monitoring protocols, and compliance frameworks appropriate for irrigated agricultural discharges differ substantively from those appropriate for rangeland grazing, and that including standalone dryland grazing within an irrigated lands order would create regulatory mismatches that could undermine effective implementation.

28. The exemption of Standalone Dryland Grazing Operations from enrollment does not relieve any discharger of obligations under the Action Plan for the Scott River

Sediment and Temperature Total Maximum Daily Loads (Basin Plan Table 4-10) or the Action Plan for the Shasta River Dissolved Oxygen and Temperature Total Maximum Daily Loads (Basin Plan Table 4-14). Both TMDL Action Plans identify grazing activities as significant contributors to sediment loading, nutrient discharge, and riparian shade loss, and both authorize and direct the North Coast Water Board to take appropriate permitting and enforcement actions to address grazing-related discharges. The Executive Officer retains full authority under Water Code sections 13267, 13263, 13269, 13300, 13301, 13304, and 13350 to require enrollment in the Order, technical reports, management plans, monitoring, and corrective action from any Standalone Dryland Grazing Operation whose activities are determined to pose a threat to water quality.

29. Discharges from Irrigated Lands include those that can occur through the loss of riparian vegetation (a controllable factor) and through mechanisms such as ranch road, drainage structures, percolation, tile drain water, stormwater runoff flowing from irrigated lands, runoff resulting from excess flood irrigation (i.e. tailwater), thermal discharges, and runoff resulting from operational spills. These discharges can contain waste(s) that could affect the quality of waters of the state and impair beneficial uses.

30. This Order does not limit North Coast Water Board authority to inspect, and/or evaluate regulatory status, water quality impacts, or regulatory requirements of agricultural operations activities. If the North Coast Water Board determines that due to site-specific conditions an agricultural operation is not eligible for coverage under this General Order, or enrollment will not be protective of water quality, the North Coast Water Board may issue site-specific WDRs and/or other regulatory orders.

31. This Order applies to landowners and operators of Irrigated Lands and Associated Grazing Operations in addition to Standalone Dryland Grazing Operations, as identified by the Executive Officer, from which there could be discharges of waste or activities that could affect the quality of any surface water or groundwater or result in the impairment of beneficial uses.

32. The owners or operators that enroll parcels are considered Enrollees under this Order and are responsible for complying with the conditions of this Order. Either the owner or operator may enroll under this Order. The Enrollee is required to provide written notice to the non-Enrollee property owner or operator (if applicable) that the parcel has been enrolled under the Order.

33. The North Coast Water Board may hold both landowners and operators of Irrigated Lands and Associated Grazing Operations liable for noncompliance with this Order, regardless of whether the landowner or the operator is the party to enroll under this Order. Enforcement action by the Board for non-compliance related to an enrolled parcel may be taken against both the owner and operator.

34. This Order does not preclude the need for additional permits that may be required by the North Coast Water Board or other governmental agencies, nor does it supersede any requirements, ordinances, or regulations of any other regulatory agency. This Order does not authorize violations of any federal, state, or local law or regulation.

35. This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code §§2050 to 2097) or the Federal Endangered Species Act (16 US Code §§1531 to 1544). If a "take" will result from any action authorized under this Order, the Enrollee shall obtain authorization for an incidental take prior to construction or operation of the project. The Enrollee shall be responsible for meeting all requirements of the applicable Endangered Species Act.

36. This Order does not supersede the North Coast Water Board Basin Plan and policies, including prohibitions (e.g., pesticides) and implementation plans (e.g., TMDLs), or the State Water Board's plans and policies.

37. Enrollees are required to comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges to storm drain systems or other infrastructure under their jurisdiction.

38. The North Coast Water Board acknowledges that it will take time to: (1) develop meaningful and effective Coalitions that facilitate compliance with this Order; (2) develop online reporting tools and templates, and (3) conduct outreach and education to help Enrollees and service providers become familiar with Order requirements. This Order considers this by delaying the enrollment deadline in the Order for 18 months after Board adoption.

D. Monitoring and Reporting

39. This Order requires implementation of a monitoring and reporting program (MRP) pursuant to Water Code section 13267 that is intended to determine the effects of waste discharges on water quality, to verify the adequacy and effectiveness of the Order's conditions, to evaluate Enrollee compliance with the terms and conditions of the Order, to initiate adaptive management as needed, and to support an assessment of the long-term effectiveness of the Order.

40. An Enrollee covered under this Order must comply with Attachment A: Monitoring and Reporting.

41. Attachment A is a Monitoring and Reporting Program issued pursuant to Water Code section 13267 and is included as part of this Order. Consistent with Water Code section 13267 the Monitoring and Reporting program associated with this Order is subject to future revisions by the Executive Officer or North Coast Water Board.

42. For Individual Enrollees, water quality monitoring under this Order assesses the individual's compliance with this Order's requirements (see Attachment A for complete MRP requirements).

43. For Enrollees in a Coalition (see Attachment A for complete MRP requirements), there are Representative Groundwater Monitoring requirements under this Order. The benefits of representative monitoring include the ability to determine whether practices, at the basin level, are protective of water quality. However, there are limitations to representative monitoring effectiveness in determining possible sources of water quality standard[1] exceedances, the effectiveness of management practices, and individual Irrigated Lands compliance with Order requirements. This Order considers these limitations by requiring that individuals implement on-farm management practices to limit the impacts from nitrate.

Monitoring for Riparian Conditions

44. Where Enrollees elect to develop a Grazing and Riparian Management Plan in lieu of meeting certain requirements for livestock grazing in Streamside Areas, this Order requires Enrollees to conduct photopoint monitoring.

Groundwater Monitoring for Nutrients

45. Potential sources of applied nitrogen on Irrigated Lands include organic and inorganic fertilizers, slow-release products, compost, compost teas, manure, extracts, nitrogen present in the soil, nitrate in irrigation water, and nitrate in recycled water. Nitrogen efficiency management practices are a mechanism to control the discharge of nitrogen to surface and groundwater.

46. Elevated levels of nitrates in drinking water can have significant negative health effects on sensitive individuals. The nitrate water quality objective for groundwater is the maximum contaminant level (MCL) of 10 mg/L (milligrams per liter) for nitrate plus nitrite as nitrogen (or 45 mg/L of nitrate as nitrate) established by the California Department of Public Health (Cal. Code Regs. tit. 22, § 64431). The MCL was set to protect the most at-risk groups – infants under six months old and pregnant women. Sources of nitrate in groundwater include leaching of excess fertilizer, confined animal feeding operations, septic systems, and wastewater discharge to land (e.g., domestic, commercial, and industrial). Pathways of nitrate to groundwater include unprotected well heads, improperly abandoned wells, and lack of backflow prevention on wells.

47. This Order requires monitoring of nitrate in groundwater through: (1) individual and regional groundwater trend monitoring to evaluate broad impacts of agricultural

[1] USEPA defines water quality standards as consisting of three elements: designated beneficial uses for each waterbody, criteria to protect those uses, and consideration of antidegradation requirements.

practices on groundwater; and (2) drinking water well sampling to notify well users of exceedances of the nitrate MCL.

Tailwater Monitoring for Temperature

48. Tailwater is a major source of thermal pollution in the Shasta River watershed and affects the Scott River watershed in certain locations. This Order includes Tailwater Monitoring for temperature and nitrogen or phosphorus at the Point of Compliance during the Irrigation Season.

49. This Order provides two pathways for Enrollees to comply with tailwater requirements. The first pathway (Pathway 1) requires the development and implementation of a certified plan designed to eliminate all tailwater discharges hydrologically connected to perennial and intermittent streams either individually or as a group. This pathway does not include long-term monitoring because discharges will be eliminated. The second pathway (Pathway 2) provides Enrollees with a time schedule to achieve Water Quality Benchmarks for tailwater discharges. Monitoring of these discharges will occur when tailwater discharges hydrologically connected to perennial and intermittent streams occur and results will be reported annually to the North Coast Water Board.

E. Third-Party Programs

50. The State Water Board sets the fee schedule for agricultural and Irrigated Lands Regulatory Programs throughout the state, as specified in California Code of Regulations, title 23, section 2200.6. The fee schedule is based on whether an Enrollee is a member of a Coalition (e.g., a grower coalition, monitoring coalition, or other third-party effort) to collect and remit fees to the State Water Board. For the purposes of this Order, the term “Coalition” refers to the group collecting fees on behalf of Enrollees to qualify for the State Board’s Agricultural Activity Tier for Group Enrollment fee. Some entities in the North Coast Region may provide professional services to Enrollees for Order compliance but may not elect to collect State Water Board fees from Enrollees (e.g., sustainability certification programs). For purposes of this Order, the term ‘Voluntary Program’ shall refer to these entities.

51. The North Coast Water Board encourages Enrollees to participate in a Coalition to facilitate and document compliance with this Order. On behalf of its members, a Coalition may conduct outreach and education, perform monitoring and reporting, promote and track management practice implementation, and undertake water quality improvement projects. The Water Board generally prefers regional-scale Coalitions addressing multiple Order requirements, which reduce Enrollee costs, improve effectiveness, and streamline Water Board oversight. Watershed- or basin-scale Coalitions, and Coalitions of limited scope, may also be appropriate as determined by the Executive Officer.

52. Coalitions are discussed in Attachment C: Coalition Requirements. The North Coast Water Board will provide more detailed expectation documents as part of the Coalition Request for Proposals (RFP). The intention of the RFP is to announce the application process and solicit proposals for Executive Officer consideration.

53. This Order requires Enrollees to provide the Coalition with contact information of the person(s) authorized to provide access to the enrolled property for inspections. This requirement provides a procedure to enable Board staff to contact authorized persons so that it may more efficiently monitor compliance with the provisions of this Order.

F. Regulatory Framework

54. Water Code section 13260(a) requires any person discharging or proposing to discharge waste that could affect the quality of the waters of the state, other than to a community sewer system, to file a Report of Waste Discharge (ROWD) to obtain coverage under waste discharge requirements or a waiver.

55. Water Code section 13263(i) authorizes the North Coast Water Board to prescribe general WDRs for categories of discharges that share common characteristics. Irrigated Lands in the Scott River and Shasta River Watersheds involve similar land-disturbing activities, use of nutrients and pesticides, agricultural and irrigation practices, livestock grazing, and agricultural road networks are appropriately regulated under general WDRs. The Board may prescribe requirements although no report of waste discharge is filed. (Wat.Code § 13263 subd. (d).)

56. Water Code sections 13267 authorizes the North Coast Water Board to require technical or monitoring reports and section 13268 authorizes the imposition of administrative civil liability (penalties) for failure to furnish or falsification of such reports. Water Code section 13350 authorizes penalties for discharges in violation of WDRs. The requirements of this Order bear a reasonable relationship to the need for the reports and the benefits to be obtained. Any calculation of administrative civil penalties will be consistent with applicable laws and regulations, including the State Water Board Water Quality Enforcement Policy and the Porter-Cologne Act.

57. Pursuant to Water Code section 13263(g), no discharge of waste into waters of the state creates a vested right to continue the discharge. Regulatory coverage under this Order does not create a vested right.

58. The Board may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted. (Wat.Code § 13243.)

59. Title 27 Exemption. Discharges from Irrigated Lands eligible for coverage under this Order are exempt from Title 27 of the California Code of Regulations pursuant to section 20090, provided that discharges of wastewater to land continue to comply with applicable water quality control plans and are not required to be managed as hazardous waste, and that soil amendments continue to be nonhazardous

decomposable wastes managed under applicable best practicable treatment or controls.

60. Nonpoint Source Implementation Program. This Order constitutes a Nonpoint Source Implementation Program for the discharges it regulates and is consistent with all five key elements of the State Water Board's Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control Program (May 20, 2004). The ultimate purpose is stated in this Order; management practices, iterative implementation, and verification are addressed through Farm Evaluations, the Tailwater Adaptive Management Program, and the Monitoring and Reporting Program; time schedules are provided; feedback mechanisms include surface and groundwater monitoring; and consequences for failure to achieve program purposes are set forth in Section H. See Attachment B for detailed Key Element analysis.

61. Human Right to Water. On February 16, 2016, and April 23, 2019, the State Water Board and the North Coast Water Board adopted resolutions (Resolution No. 2016-0010 and R1-2019 0024, respectively) identifying the human right to water as a top priority and core value of the Water Boards in association with Water Code section 106.3. The resolutions stated the Water Boards will work “to preserve, enhance, and restore the quality of California’s water resources and drinking water for the protection of the environment, public health, and all beneficial uses, and to ensure proper water resource allocation and efficient use, for the benefit of present and future generations.” This Order promotes that policy by requiring the Enrollees to meet water quality objectives, as applicable, designed to protect human health and ensure that water is safe for domestic uses.

62. Sources of Drinking Water Policy. Consistent with State Water Board Resolution 88-63 (Sources of Drinking Water Policy), the surface waters and groundwaters regulated by this Order are considered suitable or potentially suitable for municipal and domestic supply (MUN) beneficial use, subject to the Policy's exceptions. See Attachment B for detailed discussion.

63. Antidegradation Policy. This Order is consistent with State Water Board Resolution 68-16 (Antidegradation Policy). The Order requires implementation of management practices, adaptive management, and monitoring designed to ensure that pollution or nuisance will not occur and that the highest water quality consistent with the maximum benefit to the people of the state is maintained. Any limited degradation that may occur following implementation of applicable management practices is to the maximum benefit of the people of the state. See Attachment B for detailed antidegradation analysis.

64. East San Joaquin Precedential Order. This Order is consistent with the precedential requirements of State Water Board Order WQ 2018-0002 (East San Joaquin Precedential Order). The Order includes conditions related to Enrollee outreach and education, Farm Evaluations, Sediment and Erosion Control Practices, Irrigation

and Nitrogen Management Practices appropriate to the low-input operations regulated, record keeping, Drinking Water Supply Well monitoring, and Representative Groundwater Monitoring. See Attachment B for detailed analysis of compliance with precedential requirements.

65. Based on results of a 2021 North Coast Water Board project to characterize ambient groundwater conditions (salts and nutrients) in the Scott and Shasta Valley groundwater basin, the March 2026 Five-Year Update to Resolution R1-2021-0006 (Groundwater Basin Evaluation and Prioritization Results Supporting Salt and Nutrient Management Planning for Recycled Water Policy), and the low-nitrogen-input nature of the crops predominantly grown in the Scott and Shasta watersheds, the North Coast Water Board determines that the geographic area regulated by this Order does not meet the definition of a "high vulnerability area" under the East San Joaquin Precedential Order. Accordingly, this Order does not require (i) certification of Irrigation and Nutrient Management Plans, (ii) establishment of Groundwater Protection Formulas, Values, or Targets, or (iii) associated adaptive management actions triggered by groundwater vulnerability status. Enrollees shall report Nitrogen Applied in accordance with Attachment A: Monitoring and Reporting Program; Nitrogen Removed reporting is not required. The North Coast Water Board will re-evaluate this determination based on Representative Groundwater Monitoring and Drinking Water Supply Well monitoring data and any new information regarding nitrogen inputs from regulated operations. See Attachment B for the factual basis for this determination.

66. This Order also implements the East San Joaquin Precedential Order's other precedential requirements, including the requirement to implement Sediment and Erosion Control Practices on operations with the potential to cause erosion and discharge sediment, and the option for a Coalition to serve as a third-party intermediary consistent with the discretion the East San Joaquin Precedential Order affords Regional Water Boards to design appropriately scaled frameworks.

67. Basin Plan and Beneficial Uses. The Water Quality Control Plan for the North Coast Region (Basin Plan) designates existing and potential beneficial uses of waters in the Scott and Shasta River watersheds, including cold freshwater habitat (COLD); spawning, reproduction, and/or early development (SPWN); migration of aquatic organisms (MIGR); rare, threatened, or endangered species (RARE); municipal and domestic supply (MUN); agricultural supply; and others. The Basin Plan establishes narrative and numeric Water Quality Objectives, including the narrative temperature objective, protective of those uses. The Receiving Water Limitations in Section II.C implement these applicable water quality objectives and require that discharges regulated under this Order not cause or substantially contribute to a continuing or recurring exceedance of applicable water quality objectives or unreasonably affect beneficial uses.

68. Total Maximum Daily Loads. This Order implements the load allocations and implementation actions of Basin Plan Table 4-10 (Scott River Sediment and Temperature TMDLs, US EPA approved September 2006) and Basin Plan Table 4-14 (Shasta River Temperature and Dissolved Oxygen TMDLs, US EPA approved 2006). The TMDL load allocations and implementation requirements applicable to Irrigated Lands regulated by this Order are identified in Section II.D. This Order also serves as an alternative water quality improvement program pursuant to the State Water Board Listing Policy for the Scott River 303(d) biostimulatory conditions listing (2012 Integrated Report, Category 5R), for which no TMDL has been adopted. See Attachment B for additional TMDL findings, regulatory history, and technical basis.

69. Regional Temperature Policy. This Order implements the North Coast Water Board's Policy for the Implementation of the Water Quality Objectives for Temperature (adopted March 2014) with respect to controllable thermal inputs from Irrigated Lands, including tailwater. See (Attachment B) for detailed discussion.

70. Shasta River Watershed Tailwater Temperature Water Quality Benchmarks Translation of the TMDL Tailwater Load Allocation and Temperature Water Quality Objective into Numeric Temperature Benchmarks.

    Mainstem Shasta River. The Basin Plan narrative temperature objective requires that the natural receiving water temperature not be altered in a manner that adversely affects beneficial uses. The Shasta River Temperature TMDL implements this objective by assigning a tailwater load allocation of "no net increase in receiving water temperature". The TMDL modeled what the Shasta River mainstem temperature would be when that allocation is met. The Master 1 Table 6.6 Maximum Modeled Temperature Values scenario represents maximum temperature conditions with restored shade and properly managed tailwater, without the 45 cfs flow increase. The flow increase is a water rights matter outside this Order's regulatory scope. This Order does not administer water rights.

    Because the TMDL load allocation prohibits any net increase, tailwater cannot be warmer than the receiving water temperature that should exist when tailwater is properly managed. Master 1 Table 6.6 Maximum Modeled Temperature at each location is that receiving water temperature. The reach-specific benchmarks in Table 1 are therefore set at the Master 1 Table 6.6 Maximum Modeled Temperature for each reach:

    a. The objective requires no adverse temperature alteration;

    b. The TMDL allocates to tailwater a requirement of no net increase;

    c. The TMDL modeled what the receiving water temperature would be when that allocation is met (Master 1);

    d. The benchmark at each reach equals the Master 1 temperature at that reach;

    e. Tailwater meeting the benchmark satisfies the TMDL load allocation.

The Master 1-based benchmarks implement the Shasta River TMDL tailwater temperature load allocation, but do not, by themselves, represent attainment of the full Basin Plan temperature objective in the receiving water. The full Water Quality Compliance Scenario includes an additional cold-water flow component; because this Order regulates the land-management and discharge-related temperature controls within its scope, including riparian shade and tailwater, and does not administer water rights, the Master 1 scenario provides the appropriate basis for the tailwater temperature benchmarks established by this Order.

Table I.1 Tailwater Temperature Water Quality Benchmarks Shasta River Mainstem – Reach Specific

Reach	RM	Description	Early (Apr 1–Jun 15)	Mid (Jun 16–Aug 31)	Late (Sep 1–Oct 1)
A	42–39	Below Dwinnell	66°F (18.9°C)	70°F (21.1°C)	60°F (15.6°C)
B	38–34	Above Parks Ck	65°F (18.3°C)	69°F (20.6°C)	59°F (15.0°C)
C	34-32	Below Parks Ck	61°F (16.1°C)	65°F (18.3°C)	55°F (12.8°C)
D	32-26	Big Springs Area	58°F (14.4°C)	62°F (16.7°C)	52°F (11.1°C)
E	26-24	Above Hwy A-12	61°F (16.1°C)	65°F (18.3°C)	55°F (12.8°C)
F	24-11	A-12 to Hwy 3	63°F (17.2°C)	67°F (19.4°C)	57°F (13.9°C)
G	10-8	Yreka-Ager Road	65°F (18.3°C)	69°F (20.6°C)	59°F (15.0°C)

Notes to Table I.1: Tailwaters hydrologically connected to Big Springs Creek and spring-fed tributaries within Reaches C and D (RM 34 to 26) are respectively subject to the Reach C and D benchmarks.

Perennial Tributaries. The Master 1 model produced reach-specific temperatures for the Shasta River mainstem but did not model compliance temperatures for individual perennial tributaries other than the modifications to Big Springs Creek (4°C reduction) and Parks Creek (2°C reduction) incorporated as model inputs. In the absence of tributary-specific modeled temperatures, tailwater discharged to perennial tributaries of the Shasta River is subject to the watershed-wide seasonal benchmarks in Table 2 which translate the Basin Plan narrative objective through the thermal requirements of the beneficial uses present:

a. The objective requires no adverse temperature alteration to beneficial uses;

b. Perennial tributaries of the Shasta River support the same temperature-sensitive beneficial uses as the mainstem — COLD, SPWN, MIGR, and RARE — and provide critical functions including cold water refugia at tributary confluences, spawning and rearing habitat, and cold water contributions that moderate mainstem temperatures;

c. The thermal requirements of the salmonid life stages dependent on these tributaries are the same as those in the mainstem and vary by season;

d. The watershed-wide seasonal benchmarks (Early Season 61°F, Mid-Season 64°F, Late Season 56°F) are set at the temperatures above which the dominant salmonid life stage present during each period experiences adverse effects;

e. Tailwater meeting the seasonal benchmark does not alter the tributary temperature in a manner that adversely affects the beneficial uses present, and therefore satisfies the Basin Plan temperature objective as applied to tailwater discharge at the Point of Compliance.

Exception: Big Springs Creek and spring-fed tributaries within Reaches C and D (RM ~34 to ~26) are respectively subject to the Reach C and D benchmarks in Table 1 because the spring-fed thermal regime in these watercourses produces receiving water temperatures substantially below the watershed-wide benchmarks, and tailwater at the watershed-wide benchmark temperature would cause a net increase in receiving water temperature in violation of the TMDL allocation.

Table I.2 Tailwater Temperature Water Quality Benchmarks for Perennial and Intermittent tributaries to the mainstem Shasta River

Season	Period	Benchmark
Early Season	Apr 1 – Jun 15	61°F (16.1°C)
Mid-Season	Jun 16 – Aug 31	64°F (17.8°C)
Late Season	Sep 1 – Oct 1	56°F (13.3°C)

Notes to Table 2: Seasonal benchmarks (Early, Mid, Late) apply to tailwaters hydrologically connected to perennial streams. The Early Season benchmark applies to tailwaters hydrologically connected to intermittent streams during the Early Season.

Intermittent Tributaries. Many tributaries of the Shasta River are intermittent — they flow seasonally and cease flowing or go dry during the summer months. Intermittent tributaries may support COLD and SPWN beneficial uses during the portion of the year when they are flowing and temperatures are within the range suitable for salmonid use. As flows diminish and temperatures rise, fish emigrate from these tributaries to the mainstem or to perennial refugia. Intermittent tributaries in the Shasta River watershed generally cease flowing or exceed temperatures suitable for cold water beneficial uses by mid-June.

Tailwater discharged to intermittent tributaries is subject to the watershed-wide seasonal benchmarks in Table 2 during the period when the tributary is flowing and supporting cold water beneficial uses. The benchmarks apply through April 1-June 15 of each year, after which the seasonal temperature benchmarks no longer apply to that tributary for the remainder of the Irrigation Season. The applicability date is fixed in this Order based on the observed hydrology of intermittent tributaries in the watershed rather than requiring annual on-the-ground determination of flow status. This approach recognizes that:

a. While the tributary is flowing and supporting cold water uses, tailwater must not alter the temperature in a manner that adversely affects those uses — the same logic underlying the perennial stream benchmarks;

b. Once the tributary has naturally ceased flowing or warmed beyond the range suitable for cold water uses, the beneficial use is no longer present and the temperature benchmark designed to protect that use no longer has a regulatory basis;

c. Fish emigrate from intermittent tributaries as conditions deteriorate, removing the sensitive receptor from the watercourse before the benchmark applicability period ends;

d. A fixed date provides regulatory certainty for Enrollees rather than requiring them to determine on an annual basis when the tributary has ceased supporting cold water uses;

The benchmarks — whether reach-specific (mainstem), watershed-wide (perennial tributaries), or seasonally limited (intermittent tributaries) — are the numeric expression of the TMDL load allocation and the Basin Plan temperature objective as applied to tailwater at the Point of Compliance. They are not interim measures. Continued exceedance after the compliance schedule may constitute a violation of this Order. See Attachment B: Supplemental Findings for the complete technical, scientific, and legal justification.

71. Scott River Watershed Tailwater Temperature Water Quality Benchmarks. Translation of the Basin Plan Narrative Temperature Objective into Numeric Temperature Benchmarks.

Scott River Mainstem and Perennial Tributaries. In the absence of a TMDL-derived tailwater allocation or modeled temperatures, the benchmarks are translated directly from the narrative objective through the beneficial uses it protects:

a. The objective requires no adverse temperature alteration to beneficial uses;

b. The beneficial uses present are defined by the thermal requirements of anadromous salmonids;

c. Those thermal requirements vary by life stage and therefore by season;

d. The benchmarks are set at the temperatures above which the dominant salmonid life stage present during each period of the Irrigation Season experiences adverse effects;

e. Tailwater meeting the seasonal benchmark does not alter the tributary temperature in a manner that adversely affects the beneficial uses present, and therefore satisfies the Basin Plan temperature objective as translated and applied to tailwater discharge at the Point of Compliance.

The Scott River benchmarks apply watershed-wide to tailwater discharges to perennial streams — both the mainstem and perennial tributaries — because no model basis exists for reach-specific or tributary-specific differentiation. Perennial tributaries of the Scott River, including the South Fork, East Fork, French Creek, Sugar Creek, and others, support the same temperature-sensitive beneficial uses as the mainstem and provide critical cold water refugia, spawning habitat, and juvenile rearing habitat. Monitoring data from 2017–2018 confirms that west-side perennial tributaries (South Fork, French Creek, Mill Creek) maintain temperatures

at or below the proposed benchmarks where natural thermal controls are intact, validating the achievability of the benchmarks in portions of the watershed with adequate shade and flow.

Intermittent Tributaries. Many tributaries of the Scott River are intermittent — they flow seasonally and cease flowing or go dry during the summer months, particularly in dry water years. Intermittent tributaries may support COLD and SPWN beneficial uses during the portion of the year when they are flowing and temperatures are within the range suitable for salmonid use. As flows diminish and temperatures rise, fish emigrate from these tributaries to the mainstem or to perennial refugia. Based on observations by California Department of Fish and Wildlife staff, intermittent tributaries in the Scott River watershed generally cease flowing by mid-June.

Tailwater discharged to intermittent tributaries is subject to the watershed-wide seasonal benchmarks in Table 3 during the period when the tributary is flowing and supporting cold water beneficial uses. The benchmarks apply through April 1-June 15 each year, after which the seasonal temperature benchmarks no longer apply to that tributary for the remainder of the Irrigation Season. The applicability date is fixed in this Order based on the observed hydrology of intermittent tributaries in the watershed rather than requiring annual on-the-ground determination of flow status. This approach recognizes that:

a. While the tributary is flowing and supporting cold water uses, tailwater must not alter the temperature in a manner that adversely affects those uses;

b. Once the tributary has naturally ceased flowing or warmed beyond the range suitable for cold water uses, the beneficial use is no longer present and the temperature benchmark designed to protect that use no longer has a regulatory basis;

c. Fish emigrate from intermittent tributaries as conditions deteriorate, removing the sensitive receptor before the benchmark applicability period ends;

d. A fixed date provides regulatory certainty for Enrollees rather than requiring annual determination of when the tributary has ceased supporting cold water uses;

The benchmarks — whether applied to the mainstem, perennial tributaries, or intermittent tributaries — are the numeric expression of the Basin Plan temperature objective as applied to tailwater at the Point of Compliance. They are not interim measures. Continued exceedance after the compliance schedule may constitute a violation of this Order. See Attachment B for the complete technical, scientific, and legal justification.

Table I.3 Tailwater Temperature Water Quality Benchmarks for Perennial and Intermittent Streams in the Scott River Watershed

Season	Period	Benchmark

Early Season	Apr 1 – Jun 15	61°F (16.1°C)
Mid-Season	Jun 16 – Aug 31	64°F (17.8°C)
Late Season	Sep 1 – Oct 1	56°F (13.3°C)

Notes to Table 3: Seasonal benchmarks (Early, Mid, Late) apply to tailwaters hydrologically connected to perennial streams. The Early Season benchmark applies to tailwaters hydrologically connected to intermittent streams during the Early Season.

72. Shasta River Watershed Tailwater Biostimulatory Water Quality Benchmark. Translation of the TMDL Tailwater Load Allocation and Biostimulatory Water Quality Objective into a Numeric Water Quality Benchmark. The Shasta River Temperature and Dissolved Oxygen TMDL establishes a numeric load allocation of 0.85 mg/L Nitrogenous Biochemical Oxygen Demand (NBOD) for tailwater return flows. NBOD is the oxygen consumed during nitrification — the bacterial oxidation of reduced nitrogen compounds (organic nitrogen and ammonium) to nitrite and nitrate. NBOD from tailwater is a significant contributor to dissolved oxygen depression in the Shasta River during the critical summer low-flow period, when elevated water temperatures reduce dissolved oxygen saturation, reduced flows concentrate nutrient loads, and accelerated nitrification rates increase oxygen consumption.

    This Order translates the Shasta River TMDL NBOD allocation into a Total Kjeldahl Nitrogen (TKN) Water Quality Benchmark of 0.20 mg/L for tailwater discharges hydrologically connected to perennial, intermittent, and ephemeral streams. TKN is the appropriate regulatory metric for implementing the NBOD allocation for the following reasons:

    a. TKN measures the nitrogen pool that exerts NBOD. TKN is the sum of organic nitrogen and ammonium nitrogen — the two reduced nitrogen forms that are converted to nitrate through nitrification, consuming oxygen in the process. TKN captures 100 percent of the nitrogen that will contribute to NBOD in the receiving water. Oxidized forms of nitrogen (nitrate and nitrite), which do not exert NBOD, are excluded from the TKN measurement;

    b. The conversion is stoichiometric. The oxygen demand of nitrification is determined by the balanced chemical equation for the oxidation of ammonium to nitrate ($NH_4^+ + 2O_2 \rightarrow NO_3^- + 2H^+ + H_2O$), which yields a stoichiometric oxygen demand of 4.57 mg O_2 per mg of nitrogen oxidized (Sawyer et al. 2003; Tchobanoglous et al. 2003)2. This is a fixed chemical relationship, not an empirical estimate. Applying this factor to the TMDL's NBOD allocation:

        TKN = NBOD / 4.57 = 0.85 / 4.57 = 0.186 mg/L

[2] Tchobanoglous, G., F.L. Burton, and H.D. Stensel. 2003**.** *Wastewater Engineering: Treatment and Reuse.* 4th Edition (Metcalf & Eddy). McGraw-Hill, New York
Sawyer, C.N., P.L. McCarty, and G.F. Parkin. 2003**.** *Chemistry for Environmental Engineering and Science.* 5th Edition. McGraw-Hill, New York

c. The benchmark is set at 0.20 mg/L, rounded up from 0.186 mg/L. This rounding provides a small practical margin that accounts for: (i) analytical variability inherent in the TKN laboratory method (EPA Method 351.2); (ii) the fact that not all TKN is fully nitrified within the travel time of the receiving water — some organic nitrogen may not be mineralized to ammonium before the water passes downstream of the impact zone, meaning the actual NBOD exerted is typically less than the theoretical maximum; and (iii) minor variability in the ratio of organic nitrogen to ammonium nitrogen across different agricultural source types;

d. NBOD cannot be directly measured as a practical regulatory metric. Direct measurement of NBOD requires a modified biochemical oxygen demand test with extended incubation periods (20–30 days) and nitrification inhibitor controls. This test is time-consuming, expensive, subject to significant analytical variability depending on sample microbial community and incubation conditions, and impractical for routine agricultural tailwater monitoring. TKN is analyzed by standard EPA Method 351.2, which is widely available at commercial laboratories, produces results within 1–3 days, and has well-established precision and accuracy specifications suitable for regulatory compliance monitoring;

e. TKN is conservative. The 4.57 stoichiometric conversion produces the theoretical maximum NBOD — the oxygen demand that would result if all TKN were fully mineralized to ammonium and completely nitrified to nitrate. In practice, the realized NBOD is typically less than this theoretical maximum. A tailwater discharge meeting the 0.20 mg/L TKN benchmark will therefore exert an actual NBOD at or below the 0.85 mg/L TMDL allocation, with the margin of conservatism increasing as the fraction of organic nitrogen that is not mineralized within the receiving water travel time increases;

f. Consistency with the dissolved oxygen impairment framework. The TKN benchmark operates in conjunction with the temperature benchmarks established in this Order to address the synergistic temperature-dissolved oxygen impairment identified in the Shasta River TMDL. Elevated tailwater temperatures reduce dissolved oxygen saturation while the nitrogen load in tailwater increases NBOD — both mechanisms depress dissolved oxygen simultaneously. Controlling both temperature and TKN in tailwater addresses the two primary controllable factors driving dissolved oxygen impairment from agricultural return flows.

The benchmark is the numeric expression of the TMDL load allocation and Basin Plan biostimulatory substances objective. It is not an interim measure. There is no additional biostimulatory standard after the compliance schedule. Continued exceedance after the compliance schedule may constitute a violation of this Order. See Attachment B for additional justification.

73. Scott River Watershed Tailwater Biostimulatory Water Quality Benchmark. Translation of the Biostimulatory Substances Water Quality Objective into a Numeric Water Quality Benchmark.

The Basin Plan narrative water quality objective for biostimulatory substances requires that waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses. The Scott River is listed as impaired for biostimulatory conditions under Section 303(d) of the Clean Water Act, from Young's Dam to Boulder Creek in the Scott River Canyon. No TMDL has been adopted for this impairment. This Order serves as an alternative water quality improvement program (Category 5R) for the Scott River biostimulatory listing.

This Order translates the Basin Plan biostimulatory substances narrative Water Quality Objective into a Total Phosphorus (TP) Water Quality Benchmark, as set forth in Table 4.

Table I.4 Tailwater Biostimulatory Substances Water Quality Benchmarks for Perennial, Intermittent, and Ephemeral Streams in the Scott River Watershed

Seasonal period	Ambient P75	Benchmark (mg/L)	Derivation
Early (Apr 1 – Jun 15)	0.015	0.014	Ambient P75 lies within 0.001 mg/L of the Klamath River TMDL minor-tributary allocation of 0.014 mg/L; set at the reference value.
Mid (Jun 16 – Aug 31)	0.010	0.010	Ambient P75 equals the U.S. EPA Aggregate Nutrient Ecoregion II reference condition of 0.010 mg/L. Directly corroborated; no adjustment required.
Late (Sep 1 – Oct 1)	0.0077	0.008	Ambient P75 rounded to the nearest 0.001 mg/L. The observed period maximum of 0.010 mg/L lies more than one increment above; no adjustment applied.

TP is the appropriate regulatory metric for implementing the biostimulatory substances narrative Water Quality Objective for the following reasons. Phosphorus from irrigated agricultural lands — delivered to the Scott River through tailwater

return flows, animal waste, and fertilizer runoff — is a primary driver of the biostimulatory impairment. Excess phosphorus promotes aquatic plant and algal growth that produces severe dissolved oxygen fluctuations and seasonal oxygen demand from decomposition, adversely affecting the COLD and SPWN beneficial uses. The Water Quality Benchmark translates the narrative objective into a measurable tailwater benchmark through the following logic:

a. The objective prohibits biostimulatory substances at concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses;

b. Phosphorus is the biostimulatory substance of regulatory concern. Paired total nitrogen and total phosphorus measurements establish that algal production in the Scott River is limited by phosphorus. Molar total nitrogen to total phosphorus ratios exceed the Redfield ratio of 16:1 in 93 percent of paired irrigation-season samples, with seasonal median ratios of 45:1 in the Early Season, 44:1 in the Mid Season, and 33:1 in the Late Season. The samples falling below the Redfield ratio are the highest total phosphorus results in the record and reflect discrete phosphorus pulses rather than a change in nitrogen supply. Because nitrogen is present in the receiving water in excess of algal demand relative to available phosphorus, control of phosphorus — and not nitrogen — constrains the aquatic growths causing the impairment.

c. Total phosphorus is the appropriate metric because it measures both the dissolved and the particulate phosphorus delivered by tailwater, including phosphorus sorbed to suspended sediment, which becomes biologically available following deposition and subsequent desorption and mineralization within the channel. Tailwater from flood-irrigated fields carries a substantial particulate fraction, and measurement of the dissolved fraction alone would understate the phosphorus load delivered to the receiving water. Total phosphorus is also the metric used in the reference conditions and allocations against which the benchmark is corroborated, permitting direct comparison;

d. Karuk Tribal staff characterized ambient total phosphorus in the Scott River by seasonal period across eight water years, at a monitoring location downstream of all irrigated agriculture in the watershed, and corroborated the results against the U.S. EPA section 304(a) ecoregional reference condition for rivers and streams in Aggregate Nutrient Ecoregion II and against tributary load allocations assigned under the Klamath River TMDL. The benchmark for each seasonal period is the 75th percentile of ambient total phosphorus within that period, set at an independent reference value where the percentile falls within one reporting-limit increment of that value; and

e. The benchmark is set at the concentration that does not exceed the ambient condition of the receiving water in each seasonal period. The receiving water is impaired for biostimulatory conditions and has no demonstrated assimilative capacity for additional phosphorus. Tailwater discharged above

the ambient condition of the receiving water adds phosphorus to a phosphorus-limited, impaired system and thereby contributes to the aquatic growths causing the impairment. A discharge at or below the Water Quality Benchmark therefore does not promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses, and satisfies the narrative objective. Where tailwater is discharged to an ephemeral stream, or to an intermittent stream that is not flowing at the time of discharge, phosphorus delivered to the channel is not thereby removed from the system. Dissolved phosphorus is conveyed downstream when the channel flows, and particulate phosphorus deposited in the channel bed is stored and mobilized to downstream perennial waters during subsequent flow events. The Water Quality Benchmark applies in those channels on that basis.

The TP benchmark applies to tailwater discharges to perennial, intermittent, and ephemeral streams in the Scott River watershed throughout the Irrigation Season (April 1 – October 1), at the Point of Compliance, without dilution credit and without a mixing zone. Exceedance of the Water Quality Benchmark is determined in accordance with Section II.D.

The translation of the narrative Water Quality Objective into the benchmark values in Table 4 is described in Attachment B, Finding 58 and in a technical memorandum prepared by North Coast Water Board staff, which is incorporated by reference into this Order. The benchmark is the numeric expression of the Basin Plan biostimulatory substances objective. It is not an interim measure. There is no additional biostimulatory standard after the compliance schedule.

74. Lead Agency. For purposes of adoption of this Order, the North Coast Water Board is the lead agency pursuant to the CEQA (Pub. Resources Code section 21000 et seq.).

75. Environmental Review Process. On January 31, 2025, the North Coast Water Board published an Initial Study for a 30-day public comment period and submitted a Notice of Preparation of a Draft EIR to the State Clearinghouse (SCH Number 2025020048). On February 26, 2025, staff held in-person and virtual CEQA scoping meetings. On September 17, 2026 the Board released a Draft EIR for a 60-day comment period. Responses to comments on the Draft EIR are provided in Attachment B of the Final EIR.

76. Certified EIR and Mitigation. Prior to adoption of this Order, and after considering public comments, the North Coast Water Board certified a Final EIR identifying the potential environmental impacts of this Order and mitigation measures. This Order relies on the environmental impact analysis in the Final EIR to satisfy CEQA requirements. Where potentially significant environmental impacts may occur, this Order requires Enrollees to avoid impacts where feasible or implement mitigation measures identified in Attachment F: CEQA Mitigation Measures. The Order and MRP require tracking and reporting of mitigation implementation.

77. Statement of Overriding Considerations. The Final EIR identified potentially significant and unavoidable impacts to Agriculture Resources associated with the Riparian Zone tillage prohibition. Through Resolution No. R1-2026-00XX certifying the Final EIR, the North Coast Water Board adopted CEQA Findings of Fact and a Statement of Overriding Considerations addressing those impacts consistent with section 15091 of the CEQA Guidelines.

G. Cost Considerations

78. Water Code sections 13241 and 13263 require the North Coast Water Board to consider economic considerations, among other factors, in adopting waste discharge requirements. The North Coast Water Board has considered the costs of compliance with this Order, including administrative fees, planning and reporting costs, monitoring costs, and management practice implementation costs. See Attachment B: Supplemental Findings for detailed cost analysis by activity and management practice category.

79. The North Coast Water Board finds that the anticipated benefits of this Order — including protection of listed anadromous salmonid populations, restoration of temperature and dissolved oxygen regimes necessary to support cold freshwater habitat, and reduction of sediment and nutrient loading to designated beneficial uses in the Scott and Shasta River watersheds — bear a reasonable relationship to the anticipated costs of compliance and burden of compliance with the Order.

H. Enforcement for Noncompliance

80. The State Water Board Water Quality Enforcement Policy (Enforcement Policy) describes progressive enforcement action for violations of WDRs when appropriate. However, the Enforcement Policy recommends formal enforcement as a first response to more significant violations. Progressive enforcement is an escalating series of actions that allows for the efficient and effective use of enforcement resources to: (1) assist cooperative Enrollees in achieving compliance; (2) compel compliance for repeat violations and recalcitrant violators; and (3) provide a disincentive for noncompliance. Progressive enforcement actions may begin with informal enforcement actions such as a verbal, written, or electronic communication between the North Coast Water Board and an Enrollee. The purpose of an informal enforcement action is to quickly bring the violation to the Enrollee's attention and to give the Enrollee an opportunity to return to compliance as soon as possible. The highest level of informal enforcement is a Notice of Violation.

81. It is the policy of the State Water Board that every violation results in the appropriate enforcement response consistent with the priority of the violation established in accordance with the Enforcement Policy. This Policy acknowledges that enforcement prioritization enhances the Water Boards' ability to leverage their scarce enforcement resources and to achieve the general deterrence needed to encourage the regulated community to anticipate, identify, and correct violations. To

that end, the Water Boards shall rank violations, then prioritize cases for formal discretionary enforcement action to ensure the most efficient and effective use of available resources. The North Coast Water Board Enforcement Coordinator assists with prioritizing cases and implementing this Policy.

82. Any instance of noncompliance with this Order constitutes a violation of the Water Code. Such noncompliance is grounds for enforcement action, and/or termination of coverage for waste discharges under this Order, subjecting the Enrollee to enforcement under the Water Code for further discharges of waste to surface or groundwater.

I. General Findings

83. Pursuant to Water Code section 13263 subdivision (g), the discharge of waste into waters of the state is a privilege, not a right, and regulatory coverage under this Order does not create a vested right to continue the discharge of waste. Failure to prevent conditions that create or threaten to create pollution or nuisance will be sufficient reason to modify, revoke, or enforce this Order, as well as prohibit further discharge.

84. The fact that it would have been necessary to halt or reduce the discharge in order to maintain compliance with this Order shall not be a defense for violations of the Order by the Enrollee.

85. Water Code section 13260 subdivision (d) requires persons subject to waste discharge requirements to pay any annual fee established by the State Water Board.

86. The electronic Notice of Intent (eNOI) serves as a report of waste discharge (ROWD) for the purposes of this Order.

87. The Executive Officer may make non-substantive changes to this Order to correct typographical errors or to maintain consistency within this Order or between the Order and its Attachments, e.g., to conform changes made during this Order development process that were inadvertently not carried through this entire Order. If non-substantive changes are made, the North Coast Water Board will post the corrected Order.

88. The Findings of this Order and the administrative record of the North Coast Water Board relevant to the General Waste Discharge Requirements for Irrigated Lands in the Scott River and Shasta River Watersheds, were considered in establishing these waste discharge requirements.

89. The North Coast Water Board, in a public hearing held on **MONTH DAY, YEAR**, has heard and considered all comments pertaining to the discharge and proposed Order. After considering all comments pertaining to this General Order during the

DATE YEAR public hearing, this Order was found consistent with the Findings of this Order.

II. It Is Hereby Ordered

IT IS HERBY ORDERED that pursuant to Water Code sections 13260, 13263, and 13267, the Enrollee, Landowner, and Operator, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted hereunder, shall comply with the following:

All prohibitions, specifications, provisions, and other requirements are described below unless otherwise noted.

A. Coverage Requirements

1. Any owner or operator of Irrigated Lands described in Finding 26 that meets the minimum irrigated acreage threshold in Section II.A.2 below, that is located in whole or in part within the Scott River or Shasta River watersheds shall enroll under this Order. All owners or operators shall enroll parcels in this Order no later than **#DATE** (18 months from Order adoption.)

2. Minimum Irrigated Acreage Threshold

    a) All Irrigated Lands of twenty-five (25) or more acres under common ownership or operational control within the Scott River or Shasta River watersheds shall enroll in this Order.

    b) Irrigated Lands of fewer than twenty-five (25) acres under common ownership or operational control within the Scott River or Shasta River watersheds are not required to enroll unless the Executive Officer determines, based on site-specific evidence, that the operation is causing or contributing to an exceedance of Water Quality Objectives and notifies the operator in writing that enrollment is required pursuant to Water Code section 13260; or

3. Operations Excluded from Enrollment

    a) Standalone Dryland Grazing Operations. Such operations are not required to enroll, but remain subject to the Executive Officer's authority under this Order and the Water Code;

    b) Operations covered under the General Waste Discharge Requirements for Dairies (or successor order) adopted by the North Coast Regional Water Quality Control Board. Where any portion of an agricultural property is regulated under the Dairy GWDR, the entire operation — including all associated irrigated and grazing lands — shall be regulated exclusively under the Dairy GWDR;

    c) Operations individually regulated under site-specific Waste Discharge Requirements issued by the North Coast Water Board;

    d) Irrigated Lands determined by the Executive Officer to comply with requirements of the Stewardship Category described in Section XII of Attachment B.

4. An Enrollee may obtain coverage under this Order either individually or by enrolling in an approved Coalition. By joining a Coalition, the Enrollee agrees to be represented by the Coalition. Any Order requirements not fulfilled by the Coalition are the responsibility of the Enrollee. Consistent with the Water Board's Policy for Implementation and Enforcement of the NPS Policy, the ineffectiveness of a Coalition through which an Enrollee participates in nonpoint source control efforts cannot be used as a justification for lack of individual Enrollee compliance. Enrollees are ultimately responsible for Order compliance.

5. Stewardship Category (refer to Attachment D: Stewardship Category Requirement)

   Finding 18 of the 2018 Conditional Waivers for both the Scott River (Order No. R1-2018-0018) and the Shasta River (Order No. R1-2018-0019) established the North Coast Water Board intention that the future order replacing the waivers would be more consistent with agricultural permitting approaches implemented in other parts of the state, with multiple levels of permitting rigor commensurate with the level of discharge or threat of discharge. Finding 18 anticipated that properties already assessed by North Coast Water Board staff that have successfully implemented practices to minimize, control, and prevent discharges would be subject to a lower level of regulatory oversight, while properties that have not developed plans or taken actions to comply would face increased monitoring and reporting requirements.

   This Order fulfills that intent. Rather than a fixed tiered structure, this Order scales its requirements based on the types of discharges present and the beneficial uses at risk — Enrollees with tailwater discharges to perennial streams supporting cold water beneficial uses have monitoring, benchmark compliance, and adaptive management requirements, while Enrollees without tailwater discharge have correspondingly fewer requirements. The Stewardship Category represents the lowest level of permitting rigor within this scaled framework — recognizing that operations which have already eliminated tailwater discharges to perennial and intermittent streams, restored riparian zones, improved soil health, and reduced sediment delivery pose the least threat to water quality and do not require the same level of ongoing oversight.

   Owners and operators of Irrigated Lands whose properties have been assessed by North Coast Water Board staff and who can document that their operation has achieved a level of environmental performance that meets or exceeds the water quality protection outcomes this Order is designed to produce may be eligible for the Stewardship Category. Eligibility requires documentation of sustained performance across all applicable criteria, confirmation through a Threat-to-Water-Quality Assessment conducted by North Coast Water Board staff consistent with the on-site assessments described in Finding 18, and ongoing compliance with abbreviated reporting and periodic reassessment requirements. Irrigated Lands that do not maintain the conditions supporting their Stewardship Category designation are subject to revocation and enrollment under the standard requirements of this Order. See Attachment B Section XII for the complete eligibility criteria, application

process, threat assessment methodology, conditions, revocation provisions, and group stewardship project alternative.

The Stewardship Category applies at the operation level. Irrigated Lands qualify for the Stewardship Category only if the owner or operator demonstrates to the satisfaction of the North Coast Water Board or its delegated officer that Section IV, Stewardship Category criteria in Attachment D: Stewardship Category Requirements are satisfied across all Irrigated Lands subject to their ownership or operational control. An owner or operator may not obtain Stewardship Category status for select Irrigated Lands while leaving other Irrigated Lands of the same operation unenrolled.

6. Obtaining Coverage and Electronic Notice of Intent

   a) Owners or Operators meeting the Coverage Requirements above are required to submit an electronic Notice of Intent (eNOI) (see Attachment G: Templates) pursuant to Water Code section 13260 to enroll in this Order. Enrollment in this Order requires the submittal of the electronic Notice of Intent (eNOI) (see Attachment G) pursuant to Water Code section 13260. Submittal of all other technical reports pursuant to this Order is required pursuant to Water Code section 13267. Failure to submit technical reports or the attachments in accordance with the time frames established by this Order, applicable Monitoring and Reporting Program (MRP) documents, or failure to submit a complete technical report (i.e., of sufficient technical quality to be acceptable to the Executive Officer); may subject the Enrollee to enforcement action pursuant to Water Code sections 13261, 13268, or 13350. Enrollees and Coalitions must submit technical reports in the format specified by the Executive Officer.

   b) To obtain coverage under these General WDRs, Enrollees must submit an eNOI form with all required information including but not limited to: Assessor Parcel Numbers (APNs) covered by enrollment; Landowner(s); Operator(s); Contact information; and Coalition membership, if applicable.

   c) eNOIs shall be updated within 30 days of a change in property ownership, Enrollee contact information, email contact information, or change in the parcels farmed by an Enrollee.

   d) Property owners or operators shall complete an eNOI and enroll in the Order either individually or through an approved Coalition before **DATE** (18 months from Order adoption). If the North Coast Water Board determines that coverage under this Order is not appropriate for any property owner or operator, the Executive Officer will inform the party in writing and may request that the party submit a Report of Waste Discharge (ROWD) to obtain an individual permit for the discharge of waste.

e) Coverage under this Order is not transferable to any person except after the completion of a new eNOI and submittal to the North Coast Water Board, and written approval by the North Coast Water Board's Executive Officer.

B. Prohibitions

1. Discharges of tailwaters to perennial and intermittent streams is prohibited unless in compliance with an authorized Compliance Pathway and time schedule in Section II.E this Order.

2. Discharges of waste from Irrigated Lands and Associated Grazing Lands regulated by this Order shall not cause or substantially contribute to a continuing or recurring exceedance of applicable water quality objectives, or to a continuing or recurring condition of pollution or nuisance.

3. Tillage is prohibited within Riparian Vegetation Areas. This prohibition is applied as an average width of 35 feet across the total linear stream frontage within or abutting parcels subject to this Order. Individual portions of the Riparian Vegetation Area may be less than or greater than 35 feet in width, provided that the average width across the total linear stream frontage is at least 35 feet.

4. Compliance with these Prohibitions shall be achieved through timely implementation of the requirements of this Order, including implementing Management Practices, following the applicable Compliance Pathway, and meeting the Water Quality Benchmarks where established .

5. During the authorized time schedule, an Enrollee that has elected a Compliance Pathway and is implementing it in accordance with that time schedule is in compliance with Prohibitions and the corresponding TMDL tailwater load allocation in Section II.C.7. Following expiration of the authorized time schedule, an Enrollee that has eliminated tailwater discharge under Pathway 1, or that is meeting the applicable Water Quality Benchmarks at the Point of Compliance under Pathway 2 in compliance with the Prohibitions and, where applicable, the corresponding TMDL tailwater load allocations for the tailwater discharge. The North Coast Water Board may require additional monitoring or information where available data are insufficient, unreliable, or not representative to demonstrate attainment of the applicable Water Quality Benchmark.

6. For pollutants, parameters, or conditions for which this Order does not establish an applicable Water Quality Benchmark, compliance with the Prohibitions and, where applicable, the corresponding TMDL tailwater load allocation shall be evaluated based on monitoring data, source determination, or other evidence that demonstrates the Enrollee's discharge is a substantial contributor to a continuing or recurring exceedance.

C. TMDL Requirements

1. Wastes discharged from Irrigated Lands and Associated Grazing Lands covered by this Order must meet the following load allocations in the Scott River Sediment and Temperature TMDLs and the Shasta River Temperature and Dissolved Oxygen TMDLs:

    a) Shasta River tailwater NBOD: 0.85 mg/L NBOD for tailwater return flows.

    b) Shasta River tailwater temperature: no net increase in receiving-water temperature from irrigation tailwater return flows.

    c) Shasta River riparian temperature allocations: applicable effective-shade and solar-radiation load allocations, as implemented through the Riparian Zone and related requirements of this Order.

    d) Scott River temperature: applicable adjusted-potential-effective-shade load allocations, as implemented through the Riparian Zone and related requirements of this Order.

    e) Scott River sediment: applicable sediment load allocations and implementation requirements, as implemented through the erosion-control, road, stream-crossing, riparian, grazing, and related requirements of this Order.

D. Water Quality Benchmarks

1. Where a technically supported numeric interpretation can be established, Water Quality Benchmarks provide numeric translations of applicable narrative Water Quality Objectives and TMDL load allocations as applied to tailwater at the Point of Compliance. Attainment of a Water Quality Benchmark demonstrates compliance with Prohibition B.1 and B.2 and where applicable, the corresponding TMDL tailwater load allocation identified in this Order.; it does not by itself establish attainment of the applicable Water Quality Objective in the receiving water, which may depend on factors outside the scope of this Order.

2. Tailwater discharges hydrologically connected to perennial, intermittent, and ephemeral streams in the Shasta River watershed must attain the Total Kjeldahl Nitrogen (TKN) Water Quality Benchmark of **0.20 mg/L** and the applicable Water Quality Benchmarks for temperature in Tables 1-2 (repeated below) at the Point of Compliance in accordance with the authorized time schedule of this Order.

3. Tailwater discharges hydrologically connected to perennial and intermittent streams in the Scott River watershed must attain the applicable Water Quality Benchmarks for temperature in Table 3 at the Point of Compliance in accordance with the authorized time schedule of this Order.

4. Tailwater discharges hydrologically connected to perennial, intermittent, and ephemeral streams in the Scott River watershed must attain the applicable Water

Quality Benchmarks for Total Phosphorus (TP) in Table 4 in accordance with the authorized time schedule of this Order.

Table II.1: Tailwater Temperature Water Quality Benchmarks Shasta River Mainstem – Reach Specific

Reach	RM	Description	Early (Apr 1–Jun 15)	Mid (Jun 16–Aug 31)	Late (Sep 1–Oct 1)
A	42–39	Below Dwinnell	66°F (18.9°C)	70°F (21.1°C)	60°F (15.6°C)
B	38–34	Above Parks Ck	65°F (18.3°C)	69°F (20.6°C)	59°F (15.0°C)
C	34-32	Below Parks Ck	61°F (16.1°C)	65°F (18.3°C)	55°F (12.8°C)
D	32-26	Big Springs Area	58°F (14.4°C)	62°F (16.7°C)	52°F (11.1°C)
E	26-24	Above Hwy A-12	61°F (16.1°C)	65°F (18.3°C)	55°F (12.8°C)
F	24-11	A-12 to Hwy 3	63°F (17.2°C)	67°F (19.4°C)	57°F (13.9°C)
G	10-8	Yreka-Ager Road	65°F (18.3°C)	69°F (20.6°C)	59°F (15.0°C)

Notes to Table 1: Tailwaters hydrologically connected to Big Springs Creek and spring-fed tributaries within Reaches C and D (RM 34 to 26) are respectively subject to the Reach C and D benchmarks.

Table II.2: Tailwater Temperature Water Quality Benchmarks for Perennial and Intermittent Tributaries to the mainstem Shasta River

Season	Period	Benchmark
Early Season	Apr 1 – Jun 15	61°F (16.1°C)
Mid-Season	Jun 16 – Aug 31	64°F (17.8°C)
Late Season	Sep 1 – Oct 1	56°F (13.3°C)

Notes to Table 2: Seasonal benchmarks (Early, Mid, Late) apply to tailwaters hydrologically connected to perennial streams. The Early Season benchmark applies to tailwater hydrologically connected to intermittent streams during the Early Season.

Table II.3: Tailwater Temperature Water Quality Benchmarks for Perennial and Intermittent Streams in the Scott River Watershed

Season	Period	Benchmark
Early Season	Apr 1 – Jun 15	61°F (16.1°C)
Mid-Season	Jun 16 – Aug 31	64°F (17.8°C)
Late Season	Sep 1 – Oct 1	56°F (13.3°C)

Notes to Table 3: Seasonal benchmarks (Early, Mid, Late) apply to tailwaters hydrologically connected to perennial streams. The Early Season benchmark applies to tailwater hydrologically connected to intermittent streams during the Early Season.

Table II.4: Tailwater Temperature Biostimulatory Substances Water Quality Benchmarks for Perennial, Intermittent, and Ephemeral Streams in the Scott River Watershed

Seasonal period	Ambient P75 (mg/L)	Benchmark (mg/L)	Derivation
Early (Apr 1 – Jun 15)	0.014	0.014	Ambient P75. No adjustment required.
Mid (Jun 16 – Aug 31)	0.009	0.010	Ambient P75 within 0.001 mg/L of the EPA Aggregate Ecoregion II reference condition of 0.010 mg/L; set at the reference value.
Late (Sep 1 – Oct 1)	0.007	0.008	Ambient P75 within 0.001 mg/L of the observed period maximum of 0.008 mg/L; set at the observed maximum.

4. Following expiration of the applicable authorized time schedule, continued exceedance of a Water Quality Benchmark may be used, together with monitoring, source determination, management practice effectiveness information, and other relevant evidence, to determine whether the Enrollee's discharge is causing or substantially contributing to a continuing or recurring exceedance of applicable Water Quality Objectives, or to a continuing or recurring condition of pollution or nuisance or to an exceedance of TMDL load allocations.

E. General Requirements

Streamside Areas

1. For purpose of this Order, a Streamside Area is comprised of two contiguous components: a Riparian Vegetation Area and a Vegetated Buffer in which different requirements are applied. A Streamside Area is defined as the area between the waterside edge of vegetation at ground level extending from the waterbody for the horizontal distances listed below.

    a) Perennial Streams and the mainstem of the Scott and Shasta Rivers: 100 feet

    b) Intermittent Streams: 60 feet

    c) Ephemeral Streams: 35 feet

2. The Riparian Vegetation Area extends from the waterside edge of vegetation at ground level for an average width of 35 feet, with the balance of the Streamside Area consisting of a Vegetated Buffer. Tillage is prohibited within the Riparian Vegetation Area. The average width of the Riparian Vegetation Area shall be determined across the total linear stream frontage within each enrolled parcel.

Where an Enrollee owns or operates multiple enrolled parcels that are contiguous along a stream frontage, the average width of the Riparian Vegetation Area may be calculated across those contiguous parcels.

3. Owner and operators shall implement the following management practices within the Riparian Vegetation Area:

    a) Allow the natural establishment and abundance of native riparian vegetation to minimize or prevent discharge of sediment, nutrients, excess temperature, and pesticides to surface water.

    b) Allow essential functions supporting beneficial uses such as sediment filtering, woody debris recruitment, streambank stabilization, nutrient cycling, pollutant filtering, and shading (e.g., to achieve site potential effective shade).

4. Within Streamside Areas, existing riparian vegetation may not be removed for activities appurtenant to the agricultural operation except for: (1) restoration and planting of vegetation which is native to California and naturally occurs in the local HUC-8 watershed; (2) work necessary for protection of public health or safety, including fire fuel management as required by California Fire Code section 304.1.2. and/or local ordinances; (3) restoration activities outside of jurisdictional waters of the United States or waters of the State, (4) removal of riparian vegetation as part of necessary maintenance of existing watercourse crossings and linear utilities, control of invasive species, and permitted surface water diversions, or (5) other restoration and/or maintenance projects subject to the prior approval of the Executive Officer.

5. Compliance with the Riparian Vegetation Area prohibition on tillage is required at the date of Order adoption except for Irrigated Lands with Riparian Vegetation Areas planted to a crop at the time of Order adoption in which case the compliance date is within three years of the date of Order adoption.

6. Vegetated Buffers shall be installed and maintained to minimize or prevent discharges of sediment, nutrients, and pesticides to surface waters. Vegetated Buffers are a permanent strip of dense perennial vegetation (including riparian vegetation and perennial crops) which is established for the purposes of slowing water runoff, enhancing water infiltration, trapping pollutants bound to sediment and minimizing the risk of any potential nutrients or pollutants from reaching surface waters. The following activities are not allowed within a Vegetated Buffer:

    a) Construction and/or installation of new permanent structures appurtenant to agricultural operations. (e.g., agricultural roads, water storage, and buildings). Maintenance and/or reconstruction of existing permanent structures within the existing footprint is allowed.

    b) Storage of chemicals, oil, or petroleum products.

c) Placement of construction materials, trash rubbish, refuse, plant waste, or other organic or earthen material or solid waste.

7. This Order allows All-Season Roads and Seasonal Roads existing at the time of Order adoption within the Vegetated Buffer to retain their original footprint provided the following management practices are implemented:

   a) Seasonal Roads within the Vegetated Buffer are to be considered part of the vegetated buffer between December 15-April 1 of each year. Owners and operators shall install ground cover on these Seasonal Roads to achieve a minimum of 90 percent ground cover between December 15-April 1 of each year and shall manage and maintain them to minimize, control, or prevent discharges of sediment, nutrients, and pesticides to surface waters.

   b) All-Season Roads shall be improved and maintained in a manner that minimizes or prevents the discharge of sediment to surface waters through implementation of road management practices as described in the section on Appurtenant Agricultural Roads.

8. Livestock grazing in Streamside Areas shall comply with all of the following requirements at Order enrollment unless implementing a Grazing and Riparian Management Plan:

   a) Riparian vegetation shall not show signs of excessive livestock browsing that impacts young shoot growth.

   b) Woody riparian vegetation shall not show signs of stress from livestock trampling or loafing, including but not limited to impaired canopy health, dead and dying limbs, trampling to bare mineral soil around the root mass, damage to surface roots.

   c) Livestock grazing shall not occur when non-woody vegetation stubble height is below 6 inches.

   d) Deposition of manure in the wetted area shall be confined to no more than 1 percent of total area to minimize the risk of nutrient and pathogen loading to surface waters.

   e) Livestock crossings shall be maintained to minimize cattle loafing and erosion.

   f) Livestock trampling of banks shall not result in discharges of sediment to surface waters or bank failure.

   g) Grazing shall not occur when salmonid redds are present in the stream channel to minimize impact of fine sediments from bank trampling on redds.

   h) Grazing shall occur only between June and August when vegetation regrowth is at its most vigorous.

9. Grazing and Riparian Management Plan. In lieu of complying with livestock grazing requirements specified in paragraph 8, an Enrollee whose enrolled parcels includes livestock grazing within a Streamside Area may develop and implement a Grazing and Riparian Management Plan (GRMP) meeting the requirements listed. A GRMP shall be prepared or certified by a Qualified Professional and submitted to the Executive Officer within one (1) year of enrollment or one (1) year of the date livestock are first introduced to the Riparian Zone, whichever is later.

    a) General Information. The GRMP shall identify the Enrollee's name and contact information, property address(es), assessor's parcel number(s), and the name and credentials of the Qualified Professional who prepared or certified the GRMP.

    b) Maps. The GRMP shall include a map showing property boundaries and one or more maps depicting all streams, watercourses, springs, seeps, and wetland areas on or adjacent to the property, together with the locations of existing riparian vegetation, areas of bare soils or visible erosion, interior fencing, water troughs, off-stream watering facilities, and stream crossings.

    c) Existing Conditions. The GRMP shall describe existing riparian area conditions along each watercourse, including vegetation type and health, canopy cover, presence of native and invasive species, bank stability, visible erosion, and coverage by woody debris. The GRMP shall describe livestock use of the Riparian Zone, including frequency, timing, duration, and observed impacts on riparian vegetation and streambanks.

    d) Objectives and Performance Standards. The GRMP shall establish measurable objectives and performance standards for riparian management tied to water quality and ecological functions, including: (i) allowing the natural establishment and growth of native vegetation and shade sufficient to maintain cool stream temperatures; (ii) maintaining vegetation sufficient to prevent, minimize, and control surface erosion; (iii) protecting riparian functions including sediment filtering, woody debris recruitment, streambank stabilization, nutrient cycling, pollutant filtering, and shading; (iv) limiting grazing duration such that non-woody vegetation stubble height is not reduced below the standard in paragraph 8.c and browsing of woody species is avoided; and (v) preventing livestock access to unstable areas and sediment discharge sites and prohibiting discharges of animal waste to surface waters, particularly at confined areas and stream crossings.

    e) Management Practices. The GRMP shall describe practices in place or planned to meet the objectives and performance standards in subparagraph (d), including but not limited to livestock exclusion fencing, off-stream watering facilities, rotational grazing systems, grazing timing and duration controls, stream crossing designs (bridges, culverts, rocked crossings) that minimize

animal waste and sediment delivery, revegetation and shade tree planting, and control of invasive species.

f) Monitoring and Photo Points. The GRMP shall establish permanent photo monitoring locations in each managed riparian reach. The Enrollee shall photograph each location annually at approximately the same date and vantage point and shall record the date, location, and observed conditions (vegetation, bank stability, livestock impacts, presence of waste, and stubble height).

g) Annual Reporting. The Enrollee shall submit an annual GRMP progress summary and photo record to the North Coast Water Board in accordance with Attachment A: MRP. The annual report shall document implementation and maintenance of management practices, progress toward performance standards, and any needed corrective actions with a schedule for completion.

h) Certification. The GRMP shall be certified by a Qualified Professional meeting the qualifications in paragraph 10 below. The certification shall include the following signed statement: “I, [Name], [Title/Credential(s)], [License/Certification Number], certify under penalty of perjury under the laws of the State of California that I have personally examined and am familiar with the property and conditions addressed in this Grazing and Riparian Management Plan, and that, based on my professional judgment, the management practices described herein, when properly implemented and maintained, will: (i) protect and maintain riparian functions, including but not limited to shade provision, bank stabilization, sediment filtration, nutrient cycling, large woody debris recruitment, and aquatic and wildlife habitat; (ii) achieve protection of water quality and beneficial uses equivalent to or exceeding that provided by paragraph 6 of this Order; (iii) be consistent with applicable water quality objectives, waste discharge requirements, and TMDLs; and (iv) include an adequate monitoring and adaptive management framework to verify effectiveness and allow for corrective actions if performance objectives are not met. I further certify that I meet the qualifications specified in paragraph 8 of this Order for Qualified Professionals authorized to certify a Grazing and Riparian Management Plan.” The certification shall include signature, printed name, credential(s) and license or certification number, and date.

10. Qualified Professional Qualifications for GRMP Certification. A Qualified Professional authorized to certify a Grazing and Riparian Management Plan under paragraph 9 shall meet one or more of the credential requirements in subparagraphs (a) through (c):

a) Registered Professional Forester (RPF) currently registered in good standing with the California Board of Forestry and Fire Protection pursuant to the Professional Foresters Law (Public Resources Code sections 750 through 783). An RPF is particularly appropriate to certify a GRMP addressing forested or

woodland riparian corridors, conifer or mixed-hardwood riparian systems, or woody vegetation management along waterways in the Scott and Shasta River watersheds.

b) Certified Rangeland Manager (CRM) currently certified in good standing by the California Board of Forestry and Fire Protection pursuant to Public Resources Code sections 750 through 783. A CRM is particularly appropriate to certify a GRMP addressing livestock grazing management in and adjacent to riparian areas, consistent with the approach in the Tomales Bay Watershed Grazing Waiver (Order No. R2-2018-0030) and the Bridgeport Valley Grazing Waiver (Order No. R6T-2023-0006).

c) Qualified Biologist, Ecologist, or Wetland Scientist holding, at a minimum, a bachelor's degree or higher in biology, ecology, fisheries biology, wildlife biology, botany, conservation biology, environmental science, or a closely related biological science from an accredited institution, and demonstrated competence in riparian ecology, aquatic habitat assessment, or wetland delineation. Preferred additional qualifications include certification by the Society for Ecological Restoration as a Certified Ecological Restoration Practitioner (CERP), certification by the Ecological Society of America as a Certified Ecologist, certification by the Society of Wetland Scientists as a Professional Wetland Scientist (PWS), and documented experience applying protocols such as the California Rapid Assessment Method (CRAM), the California Salmonid Stream Habitat Restoration Manual, or similar standardized riparian and stream assessment methodologies.

11. Ongoing GRMP Obligations. The Enrollee shall ensure that the Qualified Professional who certified the GRMP, or a successor meeting the qualifications in paragraph 10, conducts periodic site evaluations at a frequency specified in the approved GRMP, but not less than once every three (3) years, to assess GRMP implementation and effectiveness. Evaluation reports shall be submitted to the Executive Officer as part of the Annual Report specified in Attachment A: MRP and shall include updated photo documentation, monitoring data analysis, and any recommended adaptive management changes. If the Qualified Professional determines that the GRMP is not achieving protection of water quality and beneficial uses equivalent to or exceeding that provided by paragraph 6, the Enrollee shall either (i) revise the GRMP, subject to re-certification and Executive Officer approval, or (ii) revert to compliance with paragraph 8 of this section.

<u>Riparian Vegetation Area Restoration Alternative</u>

12. In lieu of meeting the Riparian Vegetation Area minimum widths an Enrollee may mitigate the difference in area available for natural succession of riparian vegetation between riparian vegetation existing at the date of Order adoption and Riparian Vegetation Area widths. Mitigation must be accomplished through restoration and protection of native riparian vegetation at another location within

the same sub-watershed (HUC-12) with similar or greater ecological value and function.

13. The proposed Restoration Area (length and width) shall be no less than 200 percent of the difference between existing Riparian Vegetation Area and the required Riparian Vegetation Area width requirements. The proposed Restoration Area shall be placed into a conservation easement with sufficient financial resources to fund 20 years of riparian vegetation maintenance and replacement of vegetation that does not survive.

14. Enrollees choosing this option shall implement restoration and protection within the Restoration Area(s) and have the Restoration Area(s) placed within a conservation easement within five years of the date of Order adoption.

15. Enrollees selecting a Riparian Vegetation Area Restoration Alternative must submit a proposal to the Executive Officer for review and approval by **#DATE** (6 months from enrollment deadline). The proposal must include all information necessary to indicate that the proposed Restoration Alternative will satisfy the above requirements. Restoration projects that discharge materials or pollutants into waters of the state must be authorized by the North Coast Water Board prior to implementation through an applicable permitting program (e.g., 401 Water Quality Certification).

Stream Crossings

1. New culverted stream crossing shall meet the following specifications upon construction. Culverted stream crossings existing at the date of Order adoption shall meet the following specifications within 10 years from the enrollment deadliner:

   a) Critical dips shall be installed at the approaches to culverted crossings that have a diversion potential.

   b) Culvert inlets with high plug potential shall have trash barriers or deflection structures installed.

2. New and replaced stream crossings shall meet the following specifications[3], after receiving separate approval from the North Coast Water Board[4]:

[3] Enrollees shall refer to *Handbook for Forest, Ranch, and Rural Roads: A Guide for Planning, Designing, Constructing, Reconstructing, Upgrading, Maintaining and Closing Wildland Roads* for design specifications of the management practices required in this section. See RoadsEnglishBOOKapril2015b.pdf

[4] Applicable coverage for new and replaced stream crossings could include a 401 certification or coverage under the Rural Roads General Order (R1-2024-0002)

a) Drainage structure is designed for the 100-year flood flow including woody debris and sediment[5].

b) Do not have potential to divert the stream out of its channel and cause the stream to flow down the road rather than flow directly over the road fill and back into its natural channel.

c) Culvert inlets have a low plug potential (trash barriers or deflectors are installed where needed).

d) Culverts are installed at the base of the fill and in line and at grade with the natural channel.

e) Bridges have stable, non-eroding abutments and do not significantly restrict 100-year flood flow.

f) Stream crossing fills are stable.

g) Approaching road surfaces and ditches are hydrologically disconnected from streams and stream crossing culverts to the maximum extent feasible using road shaping and road drainage structures.

h) Class I (fish-bearing) stream crossings meet California Department of Fish and Wildlife and National Marine Fisheries Service fish passage criteria.

Appurtenant Agricultural Roads

1. Enrollees shall implement and maintain the following minimum management practices on all Hydrologically Connected Appurtenant Agricultural Roads. Existing road segments shall meet the following specifications within 10 years from the enrollment deadline. New road segments shall meet the following specifications at completion of construction:

    a) Ditches are drained frequently by functional ditch relief culverts and/or rolling dips.

    b) Outflow from ditch relief culverts does not directly discharge to streams.

    c) Ditches and road surfaces drainage do not discharge (through culverts and/or rolling dips) onto active or potential landslides and/or into gullies.

    d) Fine sediment contributions from roads, cutbanks, and ditches are minimized by utilizing road surface shaping (outsloping, insloping, or crowning), rolling dips, ditch relief culverts, water bars, and other measures to disperse road surface runoff and reduce or eliminate sediment delivery to the surface waters.

[5] Cafferata, P., T. Spittler, M. Wopat, G. Bundros, and S. Flanagan, 2004. Designing Watercourse Crossings for Passage of 100-Year Flood Flows, Wood, and Sediment. California Department of Forestry and Fire Protection: Sacramento, CA.

2. Road segments shall be prioritized for implementation of minimum management practices based on visual observations of quantity of sediment being delivered to surface waters from each road segment.

Agricultural Infrastructure

1. All chemicals, including but not limited to fertilizers, pesticides, and petroleum products shall be stored in a manner that minimizes threats of discharge and eliminates discharges to surface water and groundwater, including sufficient secondary containment in the event of a catastrophic failure of primary containment methods. No chemicals shall be stored within the Riparian Zone.
2. All chemicals, including but not limited to fertilizers, pesticides, and petroleum products shall be stored in a manner that shelters them from rain to ensure secondary containment does not be inundated, overwhelmed, and to avoid mixing of pollutants with storm water.
3. Heavy equipment, both functional and non-functional, shall be stored away from riparian zones, wetlands, and surface waters. This includes all watercourse types regardless of time of year.
4. Ground surfaces on enrolled pacels shall be maintained in such a way that minimizes the mobilization of sediment to surface water via surface runoff.

Tailwater

1. The discharge of tailwater from Irrigated Lands that is hydrologically connected to perennial streams (from April 1 to October 1) and intermittent streams (From April 1 to June 15) which exceeds the Water Quality Benchmarks is prohibited.
2. Compliance with Water Quality Benchmarks is subject to the time schedule as described in the Tailwater Adaptive Management Program and Table II.5 below.

Tailwater Adaptive Management Program

1. This Order establishes an eight-year time schedule, beginning at the enrollment deadline, for Enrollees with tailwater discharges to achieve compliance with Water Quality Benchmarks. Each Enrollee complies through one of two pathways:

   Pathway 1 —Tailwater Discharge Elimination, which results in all tailwater discharge being eliminated from an Enrollee's parcel(s).

   Pathway 2 —Tailwater Discharge Treatment and Control, which results in tailwater that meets all Water Quality Benchmarks at the Point of Compliance.

   Each pathway is implemented in two stages. In **Stage 1**, the Enrollee proceeds by self-certification and iterative adaptive management. In **Stage 2**, the Enrollee implements a certified Plan. Requirements of the two pathways at each stage are summarized in Table II.5 below:

Table II.5: Compliance Pathway Summary

	Pathway 1: Discharge Elimination	**Pathway 2: Discharge Treatment and Control**
Objective	Eliminate tailwater discharge	Meet Water Quality Benchmarks at Point of Compliance
Pathway Description	Self-certified tailwater elimination or Certified Tailwater Elimination Plan to eliminate thermal load entirely; no tailwater monitoring	Iterative management practices, monitoring, and adaptive management to achieve seasonal Benchmarks and, on the Shasta mainstem, reach-specific Benchmarks
Stage 1 Requirements	Self-certified tailwater elimination by **#DATE** (2 years after enrollment deadline). If tailwater not eliminated, move to Stage 2	Iterative management practices to meet Water Quality Benchmarks. If Water Quality Benchmarks not attained by **#DATE** (2 years after enrollment deadline), move to Stage 2.
Stage 2 Requirements	Submit a Certified Tailwater Elimination Plan by **#DATE** (6 months after Stage 1 deadline) that will result in tailwater discharge elimination by **#DATE** (8 years after enrollment deadline).	Submit a Certified Tailwater Treatment and Control Plan by **#DATE** (6 months after Stage 1 deadline) that will result in Water Quality Benchmarks being met at the Point(s) of Compliance by **#DATE** (8 years after enrollment deadline).
Compliance Demonstration	Self-certified elimination by **#DATE** (2 years after enrollment deadline). or certification by Qualified Professional by **#DATE** (8 years after enrollment deadline).that tailwater discharge has been eliminated.	Tailwater monitoring per Attachment A: MRP demonstrates compliance with Water Quality Benchmarks by **#DATE** (8 years after enrollment deadline).

2. Each Enrollee with tailwater discharges shall report their selected pathway in their initial Farm Evaluation submission as specified in Section IV of Attachment A: MRP.

3. Enrollees without tailwater discharge at the time of enrollment shall document that operational status in their initial Farm Evaluation. If subsequent evidence indicates discharge is occurring, the Enrollee shall elect a pathway within 60 days of

notification by the Executive Officer and update their Farm Evaluation to reflect a selected compliance pathway.

4. The Executive Officer may require any Enrollee to elect or modify a pathway where evidence indicates tailwater discharge may cause or contribute to a Water Quality Benchmark exceedance.

Pathway 1: Tailwater Discharge Elimination

5. An Enrollee selecting Pathway 1 shall eliminate all tailwater discharges hydrologically connected to perennial and intermittent streams no later than **#DATE** (eight years following the enrollment deadline). This is a final compliance date and applies regardless of the Stage under which the Enrollee is operating.

6. Pathway 1 may be implemented in two Stages. All Enrollees selecting Pathway 1 may begin in Stage 1, in which the Enrollee would self-certify that tailwater is eliminated by **#DATE** (2 years after enrollment deadline). An Enrollee that does not achieve and self-certify tailwater elimination shall proceed to Stage 2.

7. Stage 1 — Self-Certified Tailwater Discharge Elimination. In lieu of immediately developing a Certified Tailwater Discharge Elimination Plan, the Enrollee may elect to implement self-directed measures to eliminate tailwater discharge at the Point of Compliance by **#DATE** (2 years after enrollment deadline). The Enrollee shall:

   a) Report annual progress toward elimination in the Farm Evaluation; and

   b) Self-certify in the Farm Evaluation that all tailwater discharges from the enrolled parcels have been eliminated.

8. Stage 2 — Certified Tailwater Discharge Elimination Plan. An Enrollee that has not eliminated tailwater discharge by **#DATE** (2 years after enrollment deadline) shall develop and implement a Certified Tailwater Discharge Elimination Plan, prepared and certified by a Qualified Professional, that eliminates tailwater discharge at the Point of Compliance. The Plan shall be submitted no later than **#DATE** (6 months after Stage 1 deadline) and fully implemented, with tailwater discharge eliminated, no later than **#DATE** (6 years after enrollment deadline).

9. The Certified Tailwater Discharge Elimination Plan shall include:

   a) Field Map identifying irrigation infrastructure, tailwater generation points, discharge pathways, Points of Compliance, and all perennial, intermittent, and ephemeral streams.

   b) Site Analysis describing current irrigation practices, including but not limited to:

      (i) tailwater generation volumes by Irrigation Season period (Early: Apr 1–Jun 15; Mid: Jun 16–Aug 31; Late: Sep 1–Oct 1);

      (ii) existing tailwater controls; and

(iii) tailwater temperature characterization. The characterization shall be based on available monitoring data or, where such data are unavailable, on estimates prepared using site-specific values, including atmospheric temperature, applied irrigation water volume, soil infiltration estimates derived from technical reports such as NRCS soil surveys, and crop evapotranspiration.

c) Tailwater Discharge Elimination Design describing engineered practices or system modifications to prevent discharge, including but not limited to capture-and-reuse systems, conversion to zero-discharge irrigation, or infiltration-based systems.

d) Quantitative Demonstration by the Qualified Professional that the designed practices and modifications prevent discharge under normal and peak-demand conditions.

e) Verification Monitoring, consisting of:

i) Annual reporting of implementation progress, which may include photographs, a narrative description, engineering documents, permits, or visual observation records; and

ii) Upon implementation, a signed certification from the Enrollee that no tailwater discharge is occurring.

f) Implementation Schedule with intermediate milestones, achieving full implementation no later than **#DATE**.

g) Certification. The Certified Tailwater Discharge Elimination Plan must be prepared and certified in one of the following ways:

i) The Plan is developed and certified by a Qualified Professional; or

ii) The Plan is prepared and certified in an alternative manner to a Qualified Professional and approved by the Executive Officer. Such approval will be provided based on the Executive Officer's determination that the alternative method for preparing the Element meets the objectives and requirements of this Order.

11. Compliance Demonstration. An Enrollee demonstrates compliance under Pathway 1 by either (a) self-certification of tailwater elimination in the Farm Evaluation by **#DATE** (2 years after enrollment deadline); or (b) certification by a Qualified Professional, no later than **#DATE** (8 years after enrollment deadline), that the Certified Tailwater Elimination Plan has been fully implemented and no tailwater is being discharged. Certification under (b) shall be based on a site visit conducted by the Qualified Professional during an Irrigation Cycle.

12. Monitoring. Enrollees under Pathway 1 are not subject to Pathway 2 Tailwater Monitoring. However, the Executive Officer may require monitoring where evidence

indicates that elimination has not been achieved or that tailwater discharge is occurring; and if discharge is observed, the Executive Officer may require Plan updates or other corrective action.

Pathway 2: Tailwater Discharge Treatment and Control

13. An Enrollee selecting Pathway 2 shall implement Management Practices such that tailwater meet all Water Quality Benchmarks as specified in Section II.E, Water Quality Benchmarks at the Point(s) of Compliance no later than **#DATE** (eight years following the enrollment deadline). This is a final compliance date and applies regardless of the Stage under which the Enrollee is operating.

14. An Enrollee selecting Pathway 2 must confirm that tailwater discharges are meeting all Water Quality Benchmarks through Tailwater Monitoring as described in Section III.B of Attachment A: Monitoring and Reporting Program. Water Quality Benchmarks are met when there are no exceedances in any one Irrigation Season (April 1-October 1). A Water Quality Benchmark has been exceeded when the following conditions occur:

    a) For temperature: a Water Quality Benchmark has been exceeded if 20 percent of temperature measurements made in a single Irrigation Cycle at the same Point of Compliance exceed the relevant Water Quality Benchmark in Tables II.1-II.3.

    b) For biostimulatory substances (Total Kjeldahl Nitrogen (TKN) in the Shasta River Watershed and Total Phosphorus (TP) in the Scott River Watershed): a Water Quality Benchmark has been exceeded when any sample exceeds the applicable Water Quality Benchmark (0.20 mg/L for TKN and see Table II.4 for TP) at a Point of Compliance when tailwater discharge is present.

15. Pathway 2 may be implemented in two Stages. All Enrollees selecting Pathway 2 may begin in Stage 1, in which the Enrollee would iteratively implement their practices to attain Water Quality Benchmarks by **#DATE** (2 years after enrollment deadline). An Enrollee that has not attained all applicable Water Quality Benchmarks at the Point of Compliance by **#DATE** (2 years after enrollment deadline) shall proceed to Stage 2.

16. Stage 1 — Iterative Management Practices. In lieu of immediately developing a Certified Tailwater Discharge Treatment and Control Plan, the Enrollee may elect to implement self-directed measures to attain all applicable Water Quality Benchmarks at the Point of Compliance no later than **#DATE** (2 years after enrollment deadline) through iterative implementation, monitoring, and adaptive management. If selected, the Enrollee shall:

    a) Implement Management Practices from Attachment E: Tailwater Practice Menu, or alternatives approved by the Executive Officer. For temperature, practices may include irrigation efficiency improvements, tailwater recovery and reuse,

thermal attenuation systems, conveyance shading, irrigation timing adjustments, discharge timing management, or cold water blending. For NBOD, practices may include tailwater recovery and reuse, infiltration ponds, cattle exclusion from tailwater ditches and ponds, or manure scraping in areas of livestock concentration. See Supplemental Finding 56 of Attachment B for practice descriptions; and

b) Conduct Tailwater Monitoring in accordance with Section IV of Attachment A: MRP at the Point of Compliance.

17. Stage 2 — Certified Tailwater Discharge Treatment and Control Plan. An Enrollee that has not attained all applicable Water Quality Benchmarks at the Point of Compliance by **#DATE** (2 years after enrollment deadline) shall develop and implement a Certified Tailwater Discharge Treatment and Control Plan, prepared and certified by a Qualified Professional, that results in tailwater meeting all applicable Water Quality Benchmarks at the Point of Compliance. The Plan shall be submitted no later than **#DATE** (6 months after Stage 1 deadline) and fully implemented no later than **#DATE** (8 years after enrollment deadline). The Enrollee shall continue Tailwater Monitoring as directed in Attachment A: MRP.

18. The Certified Tailwater Discharge Treatment and Control Plan includes engineered or otherwise certified Management Practices designed to comply with Water Quality Benchmarks in a manner that accounts for the characteristics and conditions of the individual Enrollee's Field(s) or Operation(s), and provides a quantitative demonstration that the practices implemented will result in compliance with applicable Water Quality Benchmarks at the point of compliance within the eight year time schedule provided in the Order.

19. The Certified Tailwater Discharge Treatment and Control Plan must be developed and certified by a Qualified Professional. At a minimum, the Certified Tailwater Discharge Treatment and Control Plan shall include the following:

    a) Field Map. A map of the Enrollee's Field(s) or parcel(s) identifying irrigation infrastructure, tailwater generation points, discharge pathways, Points of Compliance, and all perennial, intermittent, and ephemeral streams. The Certified Tailwater Discharge Treatment and Control Plan may cover individual or multiple Fields or parcels, as applicable.

    b) Site Analysis. A description of the current irrigation practices, tailwater generation and management, including tailwater generation volumes by Irrigation Season period (Early: Apr 1–Jun 15; Mid: Jun 16–Aug 31; Late: Sep 1–Oct 1), existing controls, and tailwater temperature, TKN (Shasta River Watershed) and TP (Scott River Watershed) characterization based on Stage 1 monitoring data.

    c) Exceedance Analysis. An analysis evaluating the Stage 1 monitoring record, if applicable, identifying the magnitude, timing, and seasonal pattern of each

Water Quality Benchmark exceedance, and identifying why the Management Practices implemented during Stage 1 did not attain the applicable Benchmarks.

c) Management Practices. A description of the specific engineered or certified Management Practices to be implemented beyond the baseline Management Practices described in the Site Analysis to comply with this Order. Management Practices may include but are not limited to: engineered capture-and-reuse facilities; engineered cooling systems (e.g., capture ponds with delayed release during cooler ambient conditions); engineered treatment systems; conversion of Field(s) or Operation(s) to zero-discharge irrigation configurations; or a combination of the above. Management Practices may be implemented at the individual Enrollee scale or collectively, for example, a shared capture-and-reuse facility serving multiple Enrollees whose Field(s) or parcel(s) drain to the same point of compliance. A non-exhaustive list of Management Practices known to be effective at managing tailwater and related discharges is included in Attachment E.

d) Quantitative Demonstration. The Qualified Professional shall demonstrate, in a manner supported by field-collected data, that the Management Practices will achieve Water Quality Benchmarks at the Point of Compliance under peak conditions. For temperature, the analysis shall evaluate whether the Management Practices will achieve the applicable temperature Water Quality Benchmark under conditions representative of peak thermal conditions. When necessary to make this demonstration, a thermal analysis shall account for relevant sources of heat gain which may include source water temperature, field heat gain, conveyance heat gain, and treatment system performance. A detailed accounting of individual sources of heat gain is not required where field-collected data or other technically defensible information directly demonstrates achievement of the applicable temperature Water Quality Benchmark at the Point of Compliance. Data shall not rely solely on literature reviews or modeling.

e) Effectiveness Monitoring. An effectiveness monitoring plan to ensure the proper maintenance and continued performance of all existing and future Management Practices implemented under the Certified Tailwater Discharge Treatment and Control Plan.

f) Schedule of Implementation. A schedule of Management Practice implementation in no less than two year increments with defined intermediate milestones not to exceed **#DATE**.

20. The Certified Tailwater Discharge Treatment and Control Plan must be prepared and certified in one of the following ways:

    a) The Tailwater Management Element is developed and certified by a Qualified Professional; or

b) The Tailwater Management Element is prepared and certified in an alternative manner to a Qualified Professional and approved by the Executive Officer. Such approval will be provided based on the Executive Officer's determination that the alternative method for preparing the Element meets the objectives and requirements of this Order.

21. The Executive Officer may require updates to the Certified Tailwater Discharge Treatment and Control Plan. Any required update shall be certified by a Qualified Professional and shall describe all additional Management Practices implemented to comply with Water Quality Benchmarks.

22. Continued exceedance of a Water Quality Benchmark after **#DATE** may constitute a violation of Section II.D of this Order.

F. Monitoring and Reporting

1. Enrollees shall comply with all monitoring requirements specified in Attachment A: Monitoring and Reporting Program (MRP). Monitoring may be conducted at the Individual or Coalition level as applicable and as specified in the MRP. All monitoring shall be conducted in accordance with the methods, frequencies, and locations specified in the MRP. Required monitoring includes:

   b) Representative Groundwater Monitoring — Annual monitoring of representative groundwater wells to characterize current groundwater quality conditions relevant to irrigated agriculture within the Scott River and Shasta River Valleys. Coalitions and Enrollees may leverage existing groundwater trend monitoring programs as part of their compliance under the Order.

   b) Drinking Water Supply Well Monitoring — Annual monitoring of Drinking Water Supply wells on enrolled parcels for three years with notification of affected drinking water users if nitrate concentrations exceed the Maximum Contaminant Level (MCL) of 10 milligrams per liter (mg/L) nitrate+nitrite as N. Monitoring may be reduced to once every five years in accordance with Section II of Attachment A: MRP.

2. Enrollees electing certain compliance pathways must comply with the following conditional monitoring as specified in Attachment A: MRP:

   a) Riparian Photo-Point Monitoring — required of Enrollees who elect to submit a Riparian Grazing Management Plan instead of meeting the Streamside Area livestock grazing requirements in Section II.E, Streamside Areas.

   b) Tailwater Monitoring — required of Enrollees with tailwater discharges who elect Pathway 2 (Treat and Control) under Section II.E, Tailwater. Consists of continuous monitoring of temperature and nutrient grab sampling at the Point of Compliance during the Irrigation Season.

3. Enrollees shall comply with all reporting requirements specified in Attachment A: MRP. Enrollees participating in an approved Coalition may satisfy reporting obligations through the Coalition, which shall submit required reports on behalf of its members. Required reporting includes:

   a) Annual Farm Evaluation — inventories the management practices currently implemented on the Agricultural Operation, documents compliance with this Order, and identifies changes in operations or management from prior years.

   b) Annual Monitoring Report — presents monitoring data collected pursuant to this Order during the prior calendar year, including associated analyses and any Source Determination Reports required under the MRP.

4. The North Coast Water Board may request certain Enrollee information that Coalitions are required to maintain including, but not limited to: (1) Enrollee contact information; (2) Enrollee reports (e.g., Farm Evaluation information), (3) outreach and education attendance lists, and (4) water quality monitoring locations. Upon a request for information from the North Coast Water Board, the Coalition will respond within 2 business days with an date of production of the information. This date of production must be reasonable given the scale and scope of the request.

G. Outreach and Education

1. Enrollees shall participate in outreach and education[6] annually that focuses on: (1) actions necessary to attain compliance with water quality standards; and (2) practices to prevent or minimize the discharge of sediment, pesticides, and nutrients to receiving waters.

2. Enrollees shall document annual outreach and education in the Annual Farm Evaluation as specified in Attachment A: Monitoring and Reporting Program.

H. Provisions

1. Enrollees shall comply with all conditions of this Order. Noncompliance is a violation of the Porter-Cologne Water Quality Control Act (Water Code, § 13000 et seq.) and grounds for: (1) an enforcement action; (2) termination, revocation and reissuance, or modification of these waste discharge requirements; or a combination thereof. Coalition(s) shall also comply with all relevant conditions of this Order on behalf of the Enrollees enrolled through their program(s).

[6] Outreach and education sources include formal classroom training, individual meetings with a qualified trainer, printed materials, and/or internet-based training with an approved Coalition, University of California Cooperative Extension (UCCE), Natural Resources Conservation Service (NRCS), Resource Conservation Districts (RCDs), Regional or State Water Boards, Department of Pesticide Regulation, California Department of Fish and Wildlife, California Department of Food and Agriculture, or other comparable organizations.

2. Enrollees shall report any noncompliance that may endanger human health or the environment. Information shall be provided orally to the North Coast Water Board office and the Office of Emergency Services within twenty-four (24) hours of when the Enrollee becomes aware of the incident. If noncompliance occurs outside of business hours, the Enrollee shall leave a message on the North Coast Water Board's office voicemail. A written report shall also be provided within five (5) business days of the time that the Enrollee becomes aware of the incident. The written report shall contain a description of the noncompliance and its cause, the period of noncompliance, the anticipated time to achieve full compliance, and the steps taken or planned, to reduce, eliminate, and prevent recurrence of the noncompliance.

3. Enrollees or a Coalition may request an extension of a deadline in this Order by submitting a Request for Extension to the Executive Officer 60 days prior to the deadline. The request shall include an explanation of the anticipated inability to meet the deadline and a proposed time schedule to come into compliance with this Order.

4. Enrollees, regardless of enrollment pathway, and any non-Enrollee owner or operator, bears ultimate responsibility for complying with this Order. The North Coast Water Board reserves the right to take any enforcement action authorized by law. Accordingly, failure to comply with any provisions of this Order may subject Enrollees to enforcement action. Such actions include, but are not limited to, the assessment of administrative civil liability pursuant to Water Code sections 13323, 13268, and 13350, a Time Schedule Order issued pursuant to Water Code section 13300 or 13308, issuance of a Cease-and-Desist Order pursuant to Water Code section 13301, Cleanup and Abatement Order pursuant to Water Code section 13304 or referral to the California Attorney General for recovery of judicial civil liability or injunctive relief. Enrollees shall take all reasonable steps to minimize or prevent any discharge in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment.

5. For Coalition(s), failure to comply with the applicable terms and conditions of this Order or the Third-Party Program requirements in Attachment C may result in revocation of approval to act as a Coalition or any other remedy provided by law. Affected Enrollees would be required to join an approved Coalition, meet requirements for Enrollees not represented by a Coalition, or obtain coverage under other applicable general or individual WDRs.

6. Pursuant to Water Code section 13267, the North Coast Water Board staff or its authorized representatives may investigate the property of persons subject to this Order to ascertain whether the purposes of the Porter-Cologne Act are being met and whether the Enrollee is complying with the conditions of this Order. This inspection shall be made with the consent of the landowner, or if consent is withheld, with a duly issued warrant pursuant to the procedure set forth in Title 13

Code of Civil Procedure Part 3 (commencing with section 1822.50). However, in the event of an emergency affecting the public health or safety, an inspection may be performed without consent or the issuance of a warrant.

7. Enrollees and Coalitions, as appropriate, shall retain copies of all reports required by this Order and the associated MRP. Records shall be maintained for a minimum of ten (10) years from the date of the sample, measurement, report, or application. Records may be maintained electronically, and the Coalition must store backup files in a secure, offsite location managed by an independent third-party entity. This period may be extended during the course of any unresolved litigation or when requested by the North Coast Water Board's Executive Officer.

8. Enrollees and Coalition(s), as appropriate, shall submit reports and information required for North Coast Water Board Executive Officer approval under this Order in an electronic format[7] via email to northcoast@waterboards.ca.gov.

9. If the Coalition and/or an Enrollee asserts that all or a portion of a report submitted pursuant to this Order is subject to an exemption from public disclosure (e.g., due to proprietary or trade secret information), the Coalition and/or Enrollee must provide an explanation of how those portions of the reports are exempt from public disclosure. The Coalition and/or Enrollee must clearly indicate on the cover of the report (typically an electronic submittal) that all or a portion of the report is exempt from public disclosure, submit a complete report with those portions that are asserted to be exempt in redacted form, submit separately (in a separate electronic file) unredacted pages (to be maintained separately by staff). North Coast Water Board staff will determine whether any such report or portion of a report qualifies for an exemption from public disclosure. If staff disagrees with the asserted exemption from public disclosure, staff will notify the Enrollee prior to making such report or portions of such report available for public inspection.

10. All documents and reports requested herein shall be signed and dated by a duly authorized representative and shall contain a statement by the Enrollee, or as appropriate by an authorized representative of the Enrollee (e.g., Third-Party representative), certifying under penalty of perjury under the laws of the State of California, that the report is true, complete, and accurate. The document and/or report shall be submitted under the title: "General Waste Discharge Requirements for Irrigated Lands in the Scott River and Shasta River Watersheds."

11. This Order does not authorize violation of any federal, state, or local laws or regulations.

[7] Guidance for electronic submittal (https://www.waterboards.ca.gov/northcoast/publications_and_forms/available_documents/pdf/2014/ECM_Letter-Guidelines.pdf).

12. This Order may be modified, revoked and reissued, or terminated as appropriate. The filing of a request by an Enrollee for an Order modification, rescission, or reissuance, or a Enrollee's notification of planned changes or anticipated noncompliance, does not stay any Order condition.

13. Any person aggrieved by this North Coast Water Board action may petition the State Water Board for review in accordance with Water Code section 13320 and California Code of Regulations, title 23, section 2050 et seq. The State Water Board must receive the petition by 5:00 p.m. on the 30th day after the date of this Order; if the 30th day falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the statutes and regulations applicable to filing petitions are available on the State Water Board's website and can be provided upon request.

    State Water Resources Control Board
    Office of Chief Counsel
    P.O. Box 100, 1001 I Street
    Sacramento, CA 95812-0100
    Or by email at waterqualitypetitions@waterboards.ca.gov

    Instructions to file a petition:
    (http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml)

III. Certification

I, Valerie M. Quinto, Executive Officer do, hereby, certify that the foregoing is a full, true, and correct copy of an Order adopted by the California North Coast Regional Water Quality Control Board, on **MONTH DAY, YEAR.**

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Valerie M. Quinto
Executive Officer

Attachments:

A. Monitoring and Reporting Program
B. Supplemental Findings
C. Coalition Requirements
D. Stewardship Category Requirements
E. Tailwater Practice Menu for Compliance Pathway II
F. CEQA Mitigation Measures
G. Templates
H. Acronyms and Definitions