



COLORADO

Department of Public
Health & Environment

NATURAL SWIMMING AREAS COMPLIANCE AND SAMPLING GUIDELINES

Water Quality Control Division

4300 Cherry Creek Drive South

Denver, Colorado 80246

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ATTACHMENT 1 Natural Swimming Area Regulations

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ATTACHMENT 3 Natural Swimming Area Monthly *E. coli* Reporting Form

ATTACHMENT 4 Natural Swimming Area Closure / Re-Opening Notification Form



1.0 Introduction

A natural swimming area is a designated portion of a natural or impounded body of water in which the designated portion is devoted to swimming, recreative bathing, or wading and for which an individual is charged a fee for the use of such area for such purposes. Appurtenances used in connection with the natural swimming area shall also be included.¹

This document provides information about natural swimming area regulations and includes guidance related to the collection of water quality samples and reporting of data. This document is intended to be used by natural swimming area owners/operators as a quick reference guide. **Please review the natural swimming area regulations in their entirety, included as Attachment 1 of this document.**

Read on to learn more about:

1. Natural swimming area compliance regulations.
2. Collecting water quality samples.
3. Important documents and forms to be used during the swimming season.

2.0 Overview of Compliance Regulations

The Water Quality Control Division performs the regulatory and compliance oversight of the natural swimming area regulations. The applicable regulations are located in §25-5-801 to §25-5-810 Colorado Revised Statutes and Article 4.6 of the State of Colorado Swimming Pool and Mineral Bath Regulations 5 CCR 1003-5 (collectively known as the Natural Swimming Area Regulations). The Natural Swimming Area Regulations are included as **Attachment 1** of this document.

Natural swimming areas are required to be monitored regularly for water quality to ensure public health and safety and to provide public health protection from gastroenteritis (gastrointestinal illness) caused by exposure to fecal contamination during water-contact recreation.²



Fecal matter can be a major source of pathogens in natural waters resulting from:

- Runoff from urban, suburban or rural areas.
- Malfunctioning septic systems.
- Waste from other swimmers, pets, and/or wildlife.
- Improperly disposed of dirty diapers.

The fecal indicator organism *E. coli* is a consistent indicator of illness; therefore, the Natural Swimming Area Regulations use *E. coli* density to determine the health risk posed swim beach users. Areas that meet the definition of a natural swimming area are required to sample for *E. coli* on a routine basis and report water quality results to the division.



2.1 Frequently Asked Questions

What should I sample for?

Escherichia coli or *E. coli*.²

What is the maximum contaminant level?

235 *E. coli* organisms per 100 milliliters (ml).²

How often should I sample?

At least once every seven (7) days and no less than five (5) times in a calendar month during use periods.²



At least once every calendar month, *E. coli* samples should be collected at least 24 hours prior to the beginning of a peak-use period and within 24 hours after the end of the same peak use period²; for example, before and after Memorial Day Weekend.

How quickly do I need the results?

Within 24 hours of sampling to allow for timely response to water quality issues.²

What do I do if the *E. coli* concentration is above the maximum contaminant level?

Close the swimming area immediately and post a public health notice warning swimmers of the presence of elevated levels of bacteria. The swimming area is to remain closed until sample results indicate that *E. coli* levels have returned below 235 organisms per 100 ml. Additional samples should be collected at the same location as the originals.²



The division recommends posting public health notices in both English and Spanish.



Remember:

- Swimming areas must be kept clean and free of all accumulation of trash, garbage, filth, and debris. Concentrations of any other matter in the water shall not be injurious to health.¹
- When night swimming is permitted in the natural swimming area, the beach must be fully illuminated.¹
- All swimming areas shall be open to inspection at any time they are in use and at any other reasonable time for agents of the Colorado Department of Public Health and Environment.¹
- Records of all sampling results must be maintained at the facility for a period of three (3) years.²

3.0 Collecting Water Quality Samples

3.1 Mandated Sampling Protocol

Specific water quality sampling protocols are established in Article 4.6 of the State of Colorado Swimming Pool and Mineral Bath Regulations 5 CCR 1003-5. The Swim Beach Regulations mandate that samples shall be taken:

- Approximately every 50 meters. The first sample should be collected near the middle of the beach and then the sampler should proceed 50 meters in each direction down the beach to collect each subsequent sample.
- In the area of the greatest bather load or activity.
- During regular business hours.
- Where the water depth is approximately 3 feet.
- From within approximately 12 inches of the water surface.
- By an individual trained in proper sampling techniques.

3.2 Sampling Equipment

The division recommends using a pole sampler to enable personnel to collect a sample away from his/her body. This method reduces the likelihood that the sample could be affected by contaminants on the sampler's skin or clothing or by lake-bottom sediment disturbed by the person collecting the sample. Contaminants introduced by the sampler could result in inaccurate sample results.



The pole sampler used by the division is simple to assemble with inexpensive parts sourced from any hardware store. You will need:

1. A 10-foot length of 1-inch PVC pipe
2. A 2-inch x 1-inch PVC bushing
3. A 2-inch PVC 90-degree elbow
4. A 1-inch PVC cap, if desired
5. PVC cement

Assemble the pole sampler in the following method:

1. Using the PVC cement, glue the 2-inch x 1-inch PVC bushing to an open end of the PVC pipe.
2. Glue the 2-inch 90-degree elbow to the bushing.
3. If desired, glue the 1-inch PVC cap to the other end of the PVC pipe.



3.3 Collecting a Water Quality Sample

Always wear a clean pair of new, non-powdered disposable gloves each time a water quality sample is collected - they protect you from the sample and protect the sample from you. Don the gloves immediately prior to sampling and change gloves between sample locations.

1. Using a permanent marker, label the sample container with appropriate date, time, and location information.
2. With gloves on, break the seal on the *E. coli* sample container and remove the cap.
 - ⚠ Do not place the cap in your pocket or face down.
 - ⚠ Do not allow the inside of the cap to be touched by any object.
3. Insert the sample container into the open end of the pole sampler so that it fits snugly.
4. In accordance with the mandated sampling protocol established in the Natural Swimming Area Regulations, it may be necessary to wade into the water far enough so that the sample can be collected from where the water is approximately three (3) feet deep.
Disturb the lake-bottom sediment as little as possible.
5. Extend the pole sampler away from your body and plunge the container into the water so that the container is filled with water from within the top 12 inches of the water column.
 - ⚠ Collect the sample facing into the wind or current. Make every effort to collect as little disturbed sediment as possible, since high levels of turbidity will interfere with the analytical method.

6. Retrieve the sample container and pour out some of the sample so that the water level is just above the 100 ml fill line marked on the container.
7. Collect one sample for approximately every 50 meters of beach. Take the first sample near the middle of the beach, and then proceed 50 meters in each direction down the beach to collect additional samples.



Target areas near the beach where swimmers could be exposed to contaminated water entering the lake/reservoir; for example, near stormwater drains or along natural contours that drain restrooms or areas where a septic system is located.



3.4 Preserving a Water Quality Sample for Analysis

1. With gloves still on, replace the cap and tighten.
2. Place the sample container(s) into a Ziploc® bag and seal.
3. Store the sample(s) in a clean cooler chilled with ice or icepacks to 10° Celsius, but do not freeze the sample(s).



It is necessary to begin cooling the sample(s) after collection and during transport.

4. Complete the Chain of Custody form.



The Chain of Custody form is a record of the sampling event and sample handlers.
The Chain of Custody form shall remain with the sample(s) until custody is relinquished to the laboratory.

5. Deliver the sample(s) to the lab as quickly as possible so that analysis can be initiated the same day samples are collected.



Holding time for *E. coli* samples is eight (8) hours.

6. All samples should be analyzed in accordance with the 19th edition of Standard Methods for the Examination of Water and Wastewater (1995), Parts 9221 A, C, E; 9222 A, D, E; 9211 B; 9212 B; 9213 D; 9221 F; 9223 A, B; and 9020; or, by other method accepted by the division.
7. Sample results must be received by the natural swimming area the following day.

4.0 Important Documents and Forms

You will need the following forms for the upcoming season:

1. **ATTACHMENT 2 - Natural Swimming Area Management Plan Update form** - This form should be used to communicate important dates to the division such as Opening and Closing Day and assigned monthly peak-use days, and to notify the division of any changes to the Swimming Area Management Plan for your facility since the previous season. You may also use this form to notify the division of your reporting preference - electronic or mail-in. This form is due to the division by the date noted in the opening letter issued to you.
2. **ATTACHMENT 3 - Natural Swimming Area Monthly *E. coli* Reporting form** - This form should be used to report monthly bacteriological sample results to the division. Please note, the form has changed slightly from previous years to accommodate reporting sample results for multiple locations on the same form. This form is due to the division by the 15th of the month following the monitoring period.
3. **ATTACHMENT 4 - Natural Swimming Area Closure / Re-Opening Notification form** - This form should be used in the event sample data indicates unhealthy levels of *E. coli*. Please note, Article 4.6 states that beach closure notifications may be faxed to the division; however, due to the acute health risks associated with a public swimming area closure, direct telephone or email notification of swimming area closure is preferred.

For your convenience, the above forms are available as fillable PDF documents on the division's website. To access the electronic forms, please visit www.colorado.gov/cdphe/swim-beach-monitoring.

Completed forms should be sent to Mandy Mercer at mandy.mercer@state.co.us.



Remember, records of all sampling results must be maintained at the facility for a period of three (3) years.²

5.0 Suggested Reading Materials

¹ §25-5-801 to §25-5-810 C.R.S.

² "Water Quality Standards for Natural Swimming Areas", Article 4.6, State of Colorado Swimming Pool and Mineral Bath Regulations, 5 CCR 1003-5.

"SESD Operating Procedure, Surface Water Sampling", U.S. Environmental Protection Agency, Region 4, Science and Ecosystem Support Division, Athens, Georgia, Effective Date February 28, 2013.

ATTACHMENT 1

Natural Swimming Area Regulations

C.R.S. 25-5-801

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TITLE 25. HEALTH
PRODUCTS CONTROL AND SAFETY
ARTICLE 5. PRODUCTS CONTROL AND SAFETY
PART 8. SWIMMING AREAS

C.R.S. 25-5-801 (2013)

25-5-801. Definitions

As used in this part 8, unless the context otherwise requires:

(1) "Natural swimming area" means a designated portion of a natural or impounded body of water in which the designated portion is devoted to swimming, recreative bathing, or wading and for which an individual is charged a fee for the use of such area for such purposes. Appurtenances used in connection with the natural swimming area shall also be included.

(2) "Swimming area" means a designated body of water of such volume and depth that one or more persons can swim in it and which is used for the purpose of swimming, recreative bathing, or wading and includes natural swimming areas and swimming pools.

(3) "Swimming pool" means a body of water, other than a natural swimming area, maintained exclusively for swimming, recreative bathing, or wading and includes appurtenances used in connection with the swimming pool.

HISTORY: Source: L. 63: p. 541, § 1. C.R.S. 1963: § 66-22-1.

Cross references: For agricultural and animal products standards, see title 35; for automotive products standards, see parts 8 and 9 of article 20 of title 8.

ANNOTATION

Public bath comes within the definition of "swimming area". People ex rel. Dunbar v. Giordano, 173 Colo. 567, 481 P.2d 415 (1971).



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C.R.S. 25-5-802

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C.R.S. 25-5-802 (2013)

25-5-802. Submission of plans and specifications

Prior to the construction, extension, enlarging, remodeling, or modification of a swimming area, the plans and specifications for the work to be done shall be submitted for review and recommendation to the department of public health and environment by the owner of the swimming area. The department of public health and environment may direct that such plans and specifications be submitted to the municipality or other political subdivision in which the swimming area is or may be located rather than to the department of public health and environment. This section does not prohibit any municipality from requiring that the plans also be submitted to the proper authority of the municipality.

HISTORY: Source: L. 63: p. 541, § 2. C.R.S. 1963: § 66-22-2.L. 94: Entire section amended, p. 2778, § 485, effective July 1.

Cross references: For the legislative declaration contained in the 1994 act amending this section, see section 1 of chapter 345, Session Laws of Colorado 1994.



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C.R.S. 25-5-803

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C.R.S. 25-5-803 (2013)

25-5-803. Sanitation of swimming areas

(1) A swimming area shall be kept clean and free of all accumulations of trash, garbage, filth, and debris. Concentrations of any other matter in the water shall not be injurious to health.

(2) All swimming areas shall provide separate toilet facilities for both males and females, and swimming pools shall also provide separate shower and locker room facilities; except that swimming pools used in connection with hotels, motels, apartment houses, and private clubs shall not be required to furnish separate shower, toilet, and locker room facilities. All such facilities shall be kept clean and free from dirt, refuse, soiled toweling, or other noxious material.

(3) A swimming pool shall have an apparatus for the continuous removal from the water of suspended, floating, and settleable substances. Equipment for the disinfection of water shall be provided that shall be capable of either maintaining a minimum concentration of not less than twenty-five hundredths part per million of free chlorine residual or maintaining the minimum standards for drinking water in effect on January 1, 1969, as specified by the public health service of the United States department of health, education, and welfare. The water shall be kept clear enough to permit the bottom of the pool to be visible from the surface.

HISTORY: Source: L. 63: p. 542, § 3. C.R.S. 1963: § 66-22-3.L. 69: p. 470, § 1.

ANNOTATION

Applied in *People ex rel. Dunbar v. Giordano*, 173 Colo. 567, 481 P.2d 415 (1971).



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C.R.S. 25-5-804

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C.R.S. 25-5-804 (2013)

25-5-804. Safety standards for swimming areas

(1) All natural swimming areas shall have a sanded beach the slope of which shall not be steeper than one foot of fall to ten feet of horizontal distance and shall be posted with warning signs, buoys, or other markers located not more than one hundred feet apart and visible to a person of ordinary visual acuity at a distance of not less than one hundred feet to mark water over three feet in depth and to mark the exterior limits of the designated swimming area. There shall also be provided not less than one life ring fifteen inches in diameter with seventy-five feet of three-sixteenths inch manila line attached which shall be hung in a conspicuous place on the beach where it shall be kept readily available for use. Each natural swimming area shall also have not less than one square-sterned boat with oars and oarlocks which shall be used only for lifesaving purposes. All other floating craft shall be excluded from the swimming areas except for enforcement craft when necessary to provide adequate supervision. When night swimming is permitted in the natural swimming area, the beach shall be fully illuminated.

(2) The diving tower or springboard, when provided, shall be rigidly constructed and securely anchored.

(3) Swimming pools shall be equipped with not less than one lightweight reaching pole of not less than twelve feet in length and not less than one life ring fifteen inches in diameter with seventy-five feet of three-sixteenths inch manila line attached, both of which shall be kept in a conspicuous place readily available to persons in the pool. When night swimming is permitted, the pool, adjacent area, and all appurtenances shall be fully illuminated.

HISTORY: Source: L. 63: p. 542, § 4. C.R.S. 1963: § 66-22-4.



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C.R.S. 25-5-805

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C.R.S. 25-5-805 (2013)

25-5-805. Connection with potable water

All potable water supply sources connected to the swimming pool or pool appurtenances shall be protected against contamination by means of an air gap or equivalent device, and such device shall be placed between the source of the potable water supply and the pool or pool appurtenance.

HISTORY: Source: L. 63: p. 543, § 5. C.R.S. 1963: § 66-22-5.



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C.R.S. 25-5-806

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C.R.S. 25-5-806 (2013)

25-5-806. Inspection

All swimming areas shall be open to inspection at any time they are in use and at any other reasonable time by agents of the department of public health and environment.

HISTORY: Source: L. 63: p. 543, § 6. C.R.S. 1963: § 66-22-6. L. 94: Entire section amended, p. 2779, § 486, effective July 1.

Cross references: For the legislative declaration contained in the 1994 act amending this section, see section 1 of chapter 345, Session Laws of Colorado 1994.

C.R.S. 25-5-807

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C.R.S. 25-5-807 (2013)

25-5-807. Injunctive relief

The operation of a swimming area in violation of any provision of this part 8 may be restrained by the executive director of the department of public health and environment; by any city, county, city and county, or district health officer; or by any of their authorized agents in an action brought in a court of competent jurisdiction pursuant to the Colorado rules of civil procedure.

HISTORY: Source: L. 63: p. 543, § 7. C.R.S. 1963: § 66-22-7.L. 94: Entire section amended, p. 2779, § 487, effective July 1.

Cross references: For the legislative declaration contained in the 1994 act amending this section, see section 1 of chapter 345, Session Laws of Colorado 1994.

C.R.S. 25-5-808

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C.R.S. 25-5-808 (2013)

25-5-808. Municipalities may regulate

Any city, town, or city and county may by ordinance regulate swimming areas. Any such ordinance may include standards which are the same or more restrictive than the standards set forth in this part 8 but shall not supersede the state law except insofar as they are more restrictive than the state standards.

HISTORY: Source: L. 63: p. 543, § 8. C.R.S. 1963: § 66-22-8.L. 69: p. 471, § 1.



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C.R.S. 25-5-809

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C.R.S. 25-5-809 (2013)

25-5-809. Applicability of part 8

This part 8 shall not apply to any swimming pool constructed in connection with or appurtenant to a single-family dwelling, condominium, or apartment house, which pool is used solely by the persons living within such dwelling, condominium, or apartment house and the guests of such persons.

HISTORY: Source: L. 63: p. 543, § 9. C.R.S. 1963: § 66-22-9.

C.R.S. 25-5-810

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C.R.S. 25-5-810 (2013)

25-5-810. Rules and regulations

The department of public health and environment may adopt any rules and regulations necessary for the proper administration and enforcement of this part 8.

HISTORY: Source: L. 63: p. 543, § 10. C.R.S. 1963: § 66-22-10. L. 94: Entire section amended, p. 2779, § 488, effective July 1.

Cross references: (1) For rule-making procedures, see article 4 of title 24.

(2) For the legislative declaration contained in the 1994 act amending this section, see section 1 of chapter 345, Session Laws of Colorado 1994.

ANNOTATION

Applied in *People ex rel. Dunbar v. Giordano*, 173 Colo. 567, 481 P.2d 415 (1971).



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Colorado Department
of Public Health
and Environment

DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

Water Quality Control Division

5 CCR 1003-5

STATE BOARD OF HEALTH

REGULATIONS PERTAINING TO SWIMMING POOLS AND MINERAL BATHS

Adopted 8/15/93, effective 9/30/93

Last amended 3/18/98, effective 4/30/98

4.6 WATER QUALITY STANDARDS FOR NATURAL SWIMMING AREAS:

- 1) Natural swimming areas are required to meet the following bacteriological quality:
 - A. Maximum contaminant level is:
 - 1) 235 Escherichia coli per 100 ml sample (see appendix B).
 - B. Natural swimming areas shall take bacteriological samples at a minimum of once every seven (7) days and no less than five (5) times in a calendar month during use periods. At least one time per calendar month, natural swim areas shall take bacteriological samples at least 24 hours prior to the beginning of a peak-use period and within 24 hours after the end of the same peak use period. Timely response to water quality problems require that the results of this sampling must be known within 3 days of the sampling.
 - C. If several bacteriological samples are taken in one day, those parts of the natural swimming area with results exceeding the maximum contaminant levels listed in (A) above must be closed to the public.
 - D. Except as provided in subsection E, a natural swimming area shall be closed immediately upon receipt of any sampling result which indicates that the E. coli density exceeds 235 organisms per 100 ml.
 - E. Owners/operators of natural swimming areas that have entered into a memorandum of agreement with the Colorado Department of Public Health and Environment pursuant to this subsection, and that are operating in full compliance with such agreement, shall close all natural swimming areas immediately up on receipt of sampling information which indicates that the results of a second sample for E. coli density exceed 235 organisms per 100 ml. Where the second sample is taken from the same location and within 2 hours of receiving an initial sampling result for E. coli density exceed 235 organisms per 100 ml, and shall close all natural swimming areas where the result of any single sample for E. coli density exceeds 576 organisms per 100 ml. When the E. coli level in the initial sample exceeds 235 organisms per 100 ml, a notice must be posted at the natural swimming area warning swimmers of the presence of elevated levels of bacteria (see appendix C). Entering the Memorandum of Agreement is voluntary, however, such memorandums of agreement shall contain provisions that require the following:
 1. Daily completion of a Data Log Form that records all observable information relevant to potential E. coli impacts to the specific swimming area
 2. Personnel on site, during all times the natural swimming area is open to the public responsible for observing and recording such relevant information.

3. E. coli sampling at the natural swimming identified occurrences that are likely to increase the E. coli level above the 235 organisms per 100 ml. Such occurrences shall be defined in the MOA.
 4. Delivery of all samples to a Department approved laboratory within six hours of taking the sample, for initiation of analysis the same day as delivery. Results must be received the following day;
 5. Protocols for control samples;
 6. Such other provisions as the parties of the MOA determine to be necessary to predict, to prevent, and to control levels of E. coli in excess of 235 organisms per 100 ml.;
 7. The parties of the MOA may revise or eliminate terms and conditions required by this subsection to be included in any MOA, where the parties of the agreement determine that the required term or condition is not providing relevant or necessary information for the protection of public health. Either party to the MOA may cancel the MOA by providing written notification 30 days in advance.
- F. The first sample of the swimming season shall be taken at least 5 days prior to opening the area.

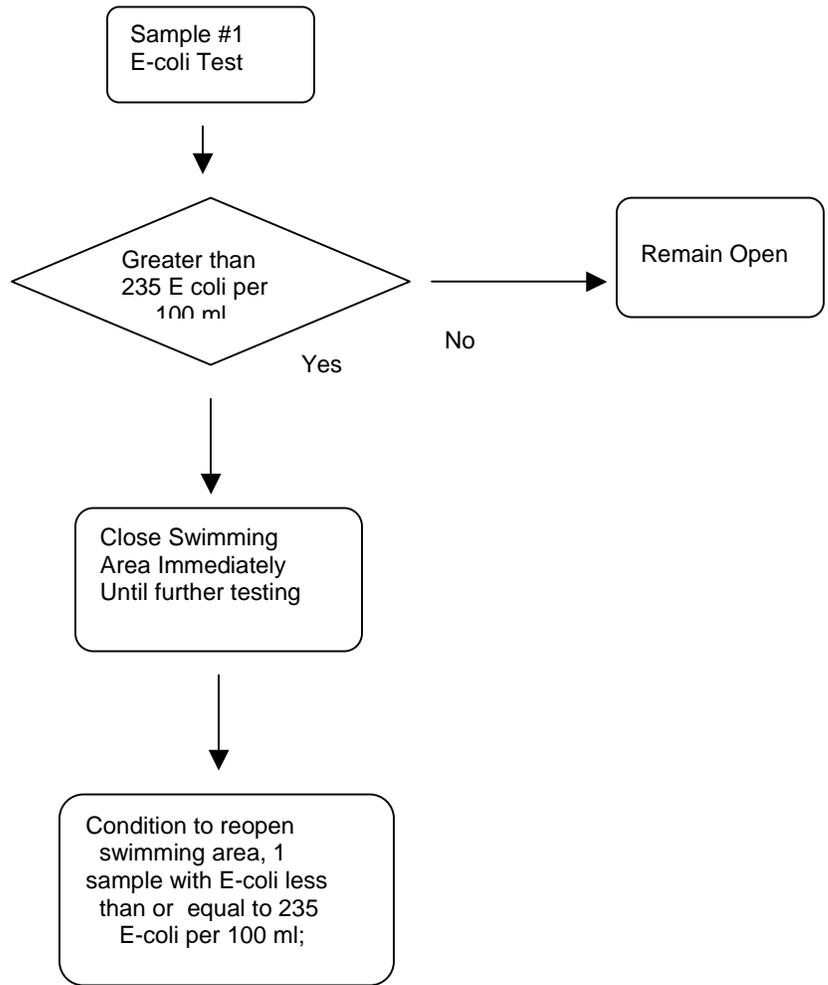
Failure to meet any of these requirements shall constitute grounds for closure of the natural swimming area and must be reported to this department or its designated agent by telephone call or FAX, as soon as possible but no later than 24 hours after determination. Signs must be posted to inform the public of such closure at the access to the area.

- 2) The natural swimming area may re-open when (see appendix B or C):
 - A. The sample result shows that the level of Escherichia coli is less than 235 per 100 ml sample.
 - B. Samples must be taken at the same location as the original(s), if more than one sample is taken on any day, the highest result must be used for compliance purposes.
- 3) The samples shall be taken (see appendix D):
 - A. In the area of the greatest bather load or activity,
 - B. During regular business hours,
 - C. Where the water depth is approximately 3 feet,
 - D. From within approximately 12 inches of the surface,
 - E. By an individual trained in proper sampling techniques.

All samples taken shall be examined in accordance with the 19th edition of Standard Methods for The Examination of Water and Wastewater (1995), Parts 9221 A, C, E; 9222 A, D, E; 9211B; 9212 B; 9213 D; 9221 F; 9223 A, B: and 9020 or by other method accepted by the Colorado Dept. of Public and Environment. Records of all sampling results must be maintained at the facility for a period of three (3) years. All bacteriological sampling results taken in any month must be submitted to this department or its designated agent by the 15th of the following month.

- 4) Each natural swimming area shall have an approved management plan at each facility, which must be submitted to this department or its designated agent by May 15, 1998. The sanitary issues contained in this plan shall be approved by the Colorado Department of Public Health and Environment or its designated agent. The plan shall be based on, but not limited to, the following criteria:
 - A. Person(s) responsible for and procedures for notification of the state or local health dept. and the public through the news media, as appropriate, when the water quality is out of compliance with section 1 above,
 - B. Number and location of additional bacteriological samples due to size of area.
 - C. Public information on water quality and associated risks, proper hygiene, steps the swimmers can take to reduce their risk, and the steps' swimmers should take to report any illness they believe that they had contracted from the swimming area,
 - D. Minimum number and location of toilet facilities (see appendix E).
 - E. Control of diaper wearing individuals and changing stations.
 - F. Control of pets,
 - G. Voluntary closure when water quality may exceed the standards,
 - H. Maximum bather loads,
 - I. Lifeguards and other personnel,
 - J. Personnel qualifications and training.
 - K. Control of inlet water or other practices to affect water quality,
 - L. Use of sanitary surveys for closing portions of the area due to presence of bacteria,
 - M. Maintenance of reports of health complaints.
 - N. Maintenance of analytical costs.

Appendix B: Biological Standard for Natural Swimming Areas
(Escherichia Coliform as Initial Test)



Appendix D
SAMPLING PROTOCOL
FOR
NATURAL BATHING BEACHES

I. PERSONAL SAFETY AND CLEANLINESS

Good personal safety and cleanliness goes a long way for promoting aseptic sampling. The following measures help to prevent the sampler from becoming part of the sample.

1. Wash hands with a bactericidal soap and water BEFORE and AFTER sampling.
2. Keep all food and drink away from sampling sites, sampling equipment and sample containers.

II. SAMPLING METHOD

1. Determine where the samples are to be collected.
 - Collect one sample for approximately every 50 meters of beach. Take the first sample near the middle of the beach and then proceed 50 meters in each direction down the beach to collect each subsequent sample.
 - Collect samples(s) near the beach where swimmers could be exposed to contaminated water entering the lake/reservoir (e.g., storm water drains, natural contours which drain rest room or septic system areas, etc).
2. Collect samples during greatest bather load (i.e., peak usage time). Allow enough time to collect the sample and have it properly shipped or delivered to a lab for analysis. Please be aware that the sample **MUST** be received by a lab and the analysis begun within 30 hours of collection.
3. Obtain one PRE-STERILIZED sample container for each sample site. Do Not open the container until you are ready to collect the sample. The sample may either be hand collected or a sampling device may be used.
4. Label each container with a water proof marker with the following information: date and clock time of collection, sample location (could be a predetermined ID number specific for each sampling site), and sample number (typically provided by the lab). Complete a Sample Collection Form For Multiple Sampling Sites (again, provided by the lab).
5. Follow the Personal Safety and Cleanliness instructions above. If a sampling device is used, wipe the entire surface of the device with a fresh alcohol swab – allow device to dry before sampling.
6. At each sampling site, wade out into the water far enough so the sample can be collected from where the water is approximately 3 feet deep. Disturb the bottom sediment as little as possible.
7. Open sample container. Be careful not to touch the inside of the container (or lid if present). **DO NOT RINSE** the container.

8. Collect the sample facing into the wind or current. Make every effort to collect as little disturbed sediment as possible (high levels of turbidity will interfere with the test method).
- 9a. Hand Sampling – Grasp sample container near the base, invert, and plunge into the water to a depth of approximately 12 inches. Slightly tilt the container into the wind or current and push forward horizontally away from your hand and body to fill. Avoid contact with the bank or bed. Remove container upright and vertically from the water.
- 9b. Sampling Device – Follow the directions for collection with a sampling device specific for the device.
10. The sample container should be nearly full when it is removed from the water. Pour out some of the sample so the water level is just ABOVE the 100 ml line on the container (about ½ inch of head space in the container is necessary mixing the sample in the lab).
11. Without touching the inside of the container or lid, secure the container shut. Check the container for leakage.
12. When hand sampling, change gloves before collecting another sample. When using a sampling device, wipe the entire surface with a new alcohol swab before collecting another sample.
13. Pack the sample(s) for shipment or delivery to the lab. Ideally, the sample(s) should be shipped with ice (or a frozen gel ice pack) to keep the sample(s) cool during shipment. Be sure to include the sample collection form.

ATTACHMENT 2

Natural Swimming Area Management Plan Update Form



Natural Swimming Area Management Plan Update Form

ALL COLORADO NATURAL SWIMMING AREAS MUST SUBMIT THIS FORM FOR THE UPCOMING SEASON

PLEASE FILL OUT ALL REQUESTED INFORMATION

If there have been changes to the Natural Swimming Area Management Plan for your facility since last season, please attach a copy of the updated and current management plan to this form.

Natural swimming area name: _____

Primary contact name and title: _____

Office phone number: _____ Mobile phone number: _____

Email address: _____

Secondary contact name and title: _____

Office phone number: _____ Mobile phone number: _____

Email address: _____

Year: _____ Opening Day: _____ Closing Day: _____

Assigned Monthly Peak-Use Day(s):

May _____

June _____

July _____

August _____

September _____

Electronic submission of monthly *E. coli* results (check one)? Yes No

Please email this form to: mandy.mercer@state.co.us

If you are unable to submit your data electronically, please mail this form to:

Colorado Department of Public Health and Environment

WQCD-CWE-B2, Attn: Mandy Mercer

4300 Cherry Creek Drive South, Denver, CO 80246-1530

ATTACHMENT 3

Natural Swimming Area Monthly *E. coli* Reporting Form

ATTACHMENT 4

Natural Swimming Area Closure / Re-Opening Notification Form



Natural Swimming Area Closure Notification

Today's date: _____

Name of swimming area: _____

Name and title of reporting party: _____

Phone number of reporting party: _____

E. coli sample test results: _____ Sample date: _____

Has the local or county health department been contacted? _____

Known or suspected cause of elevated *E. coli* levels: _____

Additional comments: _____

Natural Swimming Area Re-Opening Notification

Today's date: _____

Name of swimming area: _____

Name and title of reporting party: _____

Phone number of reporting party: _____

E. coli sample test results: _____ Sample date: _____

Additional comments: _____

Please email this form to: mandy.mercer@state.co.us