

## **Attachment D: Methodologies and Procedures**

### **I. Guidance for Determining Major Storm Events**

Attachment A: Monitoring and Reporting Program requires two Surface Water Monitoring events per year during a Major Storm Event, and at least one within 7 days following a Major Storm Event. This section provides guidance on determining a Major Storm Event, measuring precipitation, obtaining official forecasts, and examples of forecasts.

A Major Storm Event is defined as a storm that is forecasted and produces at least one inch of precipitation within a 24-hour period and is preceded by a minimum of 48 hours producing less than 0.25 inches of precipitation. A Major Storm Event has ended when no more than 0.25 inches of precipitation has been produced within a 48-hour period.

Collection of samples during a Major Storm event shall occur within 24 hours following the first inch of precipitation.

Precipitation forecasts shall be obtained from the National Weather Service Forecast Office of the National Oceanic and Atmospheric Administration (NOAA) for the town of Smith River, CA (41.93°N 124.14°W). Regional Water Board staff recommend using the following link to obtain precipitation forecasts information.

<https://www.weather.gov/wrh/WxTable?LAT=41.9286&LNG=-124.1460&DAYS=7&INT=6>

Precipitation shall be recorded using a rain gauge located on land tributary to the specified monitoring stations (See Section IV of Attachment A: Monitoring and Reporting Program) and on the coastal side of Highway 101. The rain gauge shall be installed and maintained using guidance found at the following website.

[https://www.waterboards.ca.gov/water\\_issues/programs/swamp/docs/cwt/guidance/511\\_1.pdf](https://www.waterboards.ca.gov/water_issues/programs/swamp/docs/cwt/guidance/511_1.pdf)

## II. Sample Collection and Handling Instructions

Enrollees shall follow the below procedures to comply with water quality monitoring requirements in this Order:

- 1) Identify the sampling parameters required to be tested and the number of locations that will be sampled.
- 2) Request the laboratory provide the appropriate number of sample containers, types of containers, sample container labels, blank Chain of Custody forms, and sample preservation instructions.
- 3) Prior to sampling, record information about the planned sampling event into Field Sheets and Chain-of-Custody forms. This information should include the Enrollee name along with the sample location identifier and sample container types and number to be filled. Field measurement data and observations shall be recorded as they are collected.
- 4) Collect samples in accordance with the following instructions:
  - a) Sampling from an Edge-of-Field discharge point, drainage ditch, or swale: sample from a consistently flowing part of the concentrated flow. If the discharge point is too small or shallow, install a barrier device in the channel or deepen a small area so you are able to sample directly into the bottles. Allow sufficient time to pass after disturbing the bottom so that any solids stirred up do not contaminate your sample.
  - c) Sampling From a Stormwater Detention / Retention Basin or Other Treatment Device: sample at the outlet of the structure. Collecting samples from stagnant or slowly moving water inside a pond will not yield a representative sample as the pollutants might not be adequately mixed. Stormwater basins may hold stormwater for long periods of time.
  - d) Sampling From a Well: locate a valve or cold water tap as near to the well as possible, preferably prior to any storage/pressure tanks or physical/chemical treatment system that might be present. Open the valve (turn on pump if needed), monitor and record pH, specific conductance and temperature of the groundwater removed during purging at 5-minute intervals. Once these parameters have stabilized within 10 percent over 10 minutes, the well has been purged. Observe and record the rate and volume of water purged using a graduate bucket and stopwatch. Remove any hose that may be present before sample collection and reduce the flow to a low level to minimize sample disturbance. Collect samples directly into the laboratory supplied containers.
- 5) All monitoring instruments and equipment shall be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements.

- 6) Use only the sample containers provided/specified by the laboratory to collect and store samples. Use of any other type of containers could cause sample contamination.
- 7) Prevent sample contamination by not touching or putting anything into the sample containers before collecting samples.
- 8) Not overfill sample containers. Overfilling can change the analytical results. g. Secure each sample container cap without stripping the cap threads.
- 9) Label each sample container. The label shall identify the date and time of sample collection, the person taking the sample, and the sample collection location or discharge point. The label should also identify any sample containers that have been preserved.
- 10) Use the appropriate sample shipping method to the laboratory. The laboratory should receive samples within 48 hours of the physical sampling (unless otherwise required by the laboratory to meet all method hold times). The options are to either deliver the samples to the laboratory, arrange to have the laboratory pick them up, or ship them overnight to the laboratory.
- 11) Carefully pack the sample container into an ice chest or refrigerator to prevent breakage and maintain temperature during shipment; frozen ice packs or ice is placed into the shipping container to keep the sample close to 4° C (39° F) until arriving at the laboratory (do not freeze samples).
- 12) Complete a Chain of Custody form with each set of samples. The Chain of Custody form shall include the discharger's name, address, and phone number, identification of each sample container and sample collection point, person collecting the samples, the date and time each sample container was filled, the analysis that is required for each sample container, and both the signatures of the persons relinquishing and receiving the sample containers.
- 13) Designate and train personnel for the collection, maintenance, and shipment of samples in accordance with the above sample protocols and laboratory-specific practices.

### **III. Streamside Area Examples**

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 and where the field side edge of the Vegetated Buffer meets the Farm Area. The Riparian Vegetation Area extends from the waterside edge of vegetation to the Vegetated Buffer in Perennial and Ephemeral/Intermittent Streams. The Vegetated Buffer is measured from the Riparian Vegetation Area to the Farm Area along Perennial and Ephemeral/Intermittent Streams, and from the waterside edge of vegetation in Hydrologically Connected Undesignated Channels, Unfarmed Wetlands, and Hydrologically Connected Lakes, Ponds, or On-Stream Reservoirs. See also Appendix I: Acronyms, Definitions, and Endnotes for definitions of terms related to the Streamside Area.

For the purposes of this Order, the waterside edge of vegetation is the line on the bank established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas. The purpose of establishing the Streamside Area at the waterside edge of vegetation is to identify where riparian vegetation that provides shade begins.

Figure D.1 is an example of a Streamside Area on a Perennial Stream. The Riparian Vegetation Area extends 25 ft. from the waterside edge of vegetation in the Perennial Stream. The requirements specific to the Riparian Vegetation Area are given in the Streamside Area Section of the Order. Contiguous to the Riparian Vegetation Area is a Vegetated Buffer, which must extend at least 25 ft. until it hits the Farm Area. Headlands and equipment turn-around areas are allowed within the Vegetated Buffer provided the applicable requirements given in the Streamside Area section of the Order are followed.

Figure D.2 shows an example of a Streamside Area on an Ephemeral/Intermittent Stream. Figure D.3 shows an example of a Streamside Area on a Hydrologically-Connected Undesignated Channel.

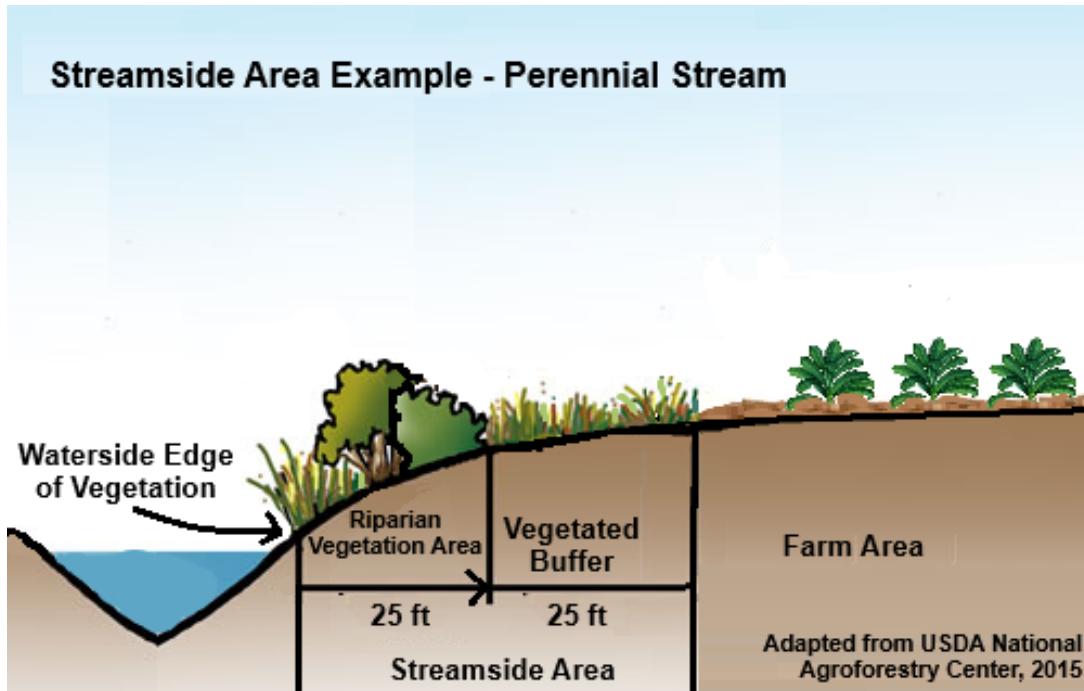


Figure D.1: Streamside Area on a Perennial Stream

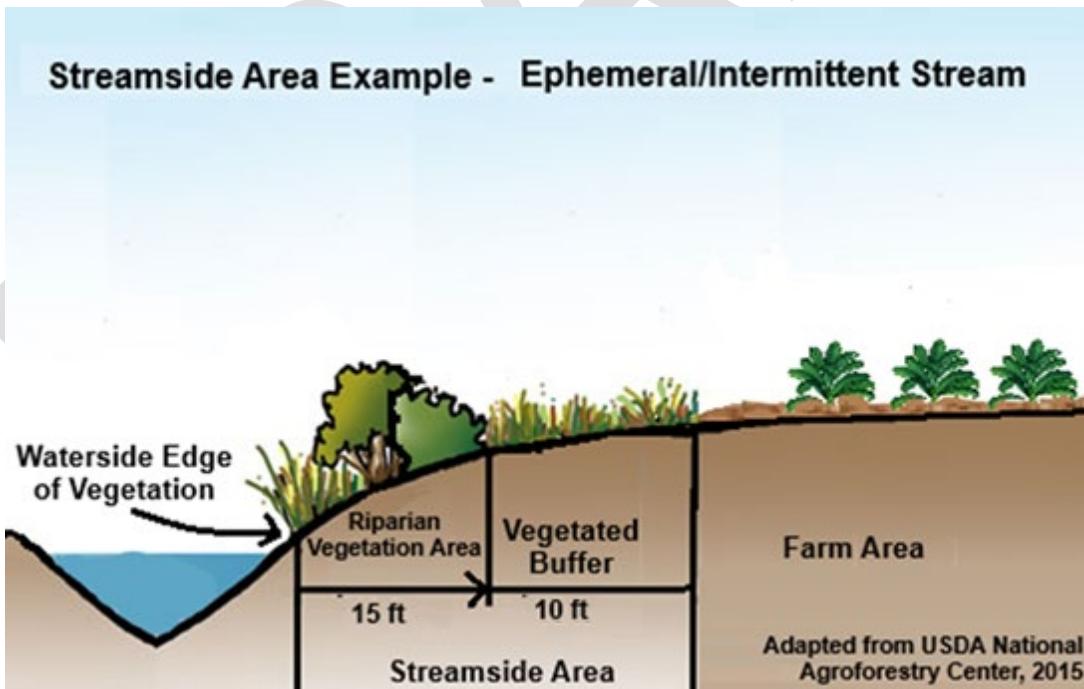


Figure D.2: Streamside Area on Ephemeral/Intermittent Stream

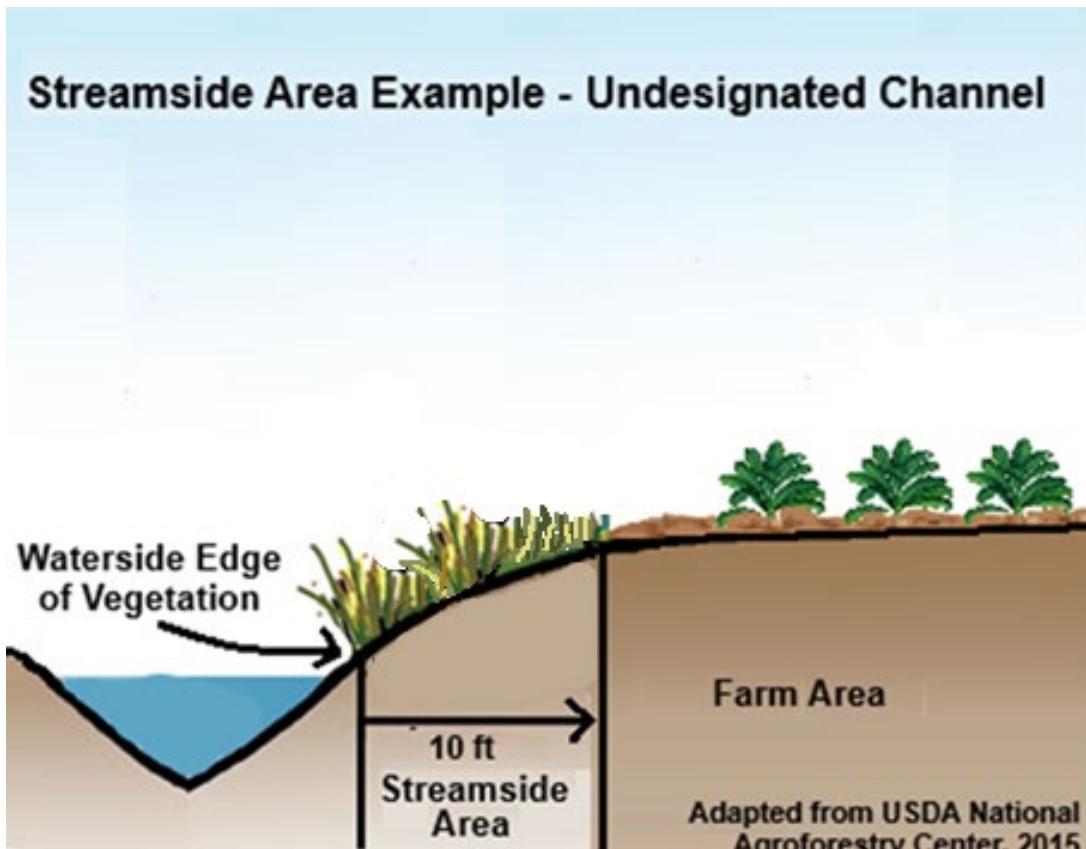


Figure D.3: Streamside Area Example, Undesignated Channel

#### IV. Adaptive Management Flowchart for Surface Water

