

## STREAM BUFFERS AND SETBACKS



Source: Billy Hathorn

### HAZARDS ADDRESSED:

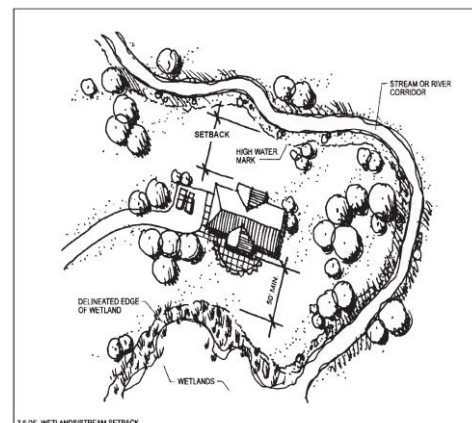


### HOW IT WORKS

A **stream buffer or setback** is a defined area along a watercourse that is to be protected from development for the purpose of preserving the natural benefits and reducing hazards risks of such areas. They are implemented in a similar manner and often in concert with buffers for wetlands and other sensitive areas such as tundra, steep slopes, and wildlife habitat. They are intended to protect the many functions (hydrologic, biological, ecological, aesthetic, recreational, and educational) that riparian areas provide to communities. They help preserve stream banks and natural vegetation. Buffers and setbacks are enforced through local ordinances and codes and are used to limit or prohibit certain types of (or all) development within them. They help reduce or eliminate the adverse effects of land development on the natural and beneficial functions of the water course and provide many other benefits as discussed further below.

### IMPLEMENTATION

Stream buffers and setbacks are implemented and enforced through local ordinance or codes. Generally, local requirements may be adopted either as part of a land use or zoning code, as stand-alone ordinances, or as part of other regulations (such as stormwater management regulations). Local governments take many different approaches to implementing stream buffers and setbacks. Some communities have fixed-width, non-varying setbacks



**Setback schematic from Estes Park.**

Source: *Best Practices – Promoting Successful Mitigation in Colorado*  
[dhsem.state.co.us/sites/default/attachments/WRP%20Appendix%20F%20-%20Mitigation%20Best%20Practices%20Guide.pdf](https://dhsem.state.co.us/sites/default/attachments/WRP%20Appendix%20F%20-%20Mitigation%20Best%20Practices%20Guide.pdf)

for a variety of riparian areas (e.g., a 100-foot setback applies to all waterways). Other communities may adopt sliding-scale approaches with variable standards, based on different stream sizes and classifications and different types of land uses (e.g., certain intensive uses must be set back 100 feet, while less-intensive use must be set back 20 feet).

In addition, communities are authorized by statute to include provisions “establishing, regulating, and limiting such uses on or along any storm or floodwater runoff channel or basin as such storm or floodwater runoff channel or basin has been designated and approved by the Colorado Water Conservation Board (CWCB) in order to lessen or avoid the hazards to persons and damage to property resulting from the accumulation of storm or floodwaters.” (C.R.S. § 30-28-111(1) and §31-23-301(1))

## WHERE IT'S BEEN DONE

**Aspen/Pitkin County** enforces fixed-width buffers (100 ft. standard may be modified to a minimum of 50 ft./25 ft. minimum for isolated wetlands). Buffers may be reduced to a minimum of 50 ft. under certain conditions (*Wetland and Stream Buffers, 2007, p. 22*).

**Estes Park** requires new construction of all buildings and accessory structures be set back at least 30 feet from the annual high-water mark of stream corridors, and if that mark is not readily discernible, from the defined bank of the stream. Additionally, all buildings must be set back at least 50 feet from the annual high-water mark of river corridors, which are a different designation than stream corridors (*Estes Valley, 2013*). In most cases these requirements result in new construction being located outside of special flood hazard areas, and are credited with saving numerous structures from damage during the September 2013 flood event.

**Fort Collins** has fixed-width buffers based on specific stream corridors or the size of wetland (50 - 300 ft.). No development is allowed in the buffer zones which are determined through the site development plan (*Wetland and Stream Buffers, 2007, p.21*).

**San Miguel County** has fixed-width buffers of 100 ft. Permits are offered with discretionary review standards (*Wetland and Stream Buffers, 2007, p. 23*).

## ADVANTAGES AND KEY TALKING POINTS

Benefits of implementing stream buffers and setbacks include:

- Helps to preserve natural and beneficial functions of the floodplain.
- Protects the water course from the impacts of neighboring and upstream land uses.
- Helps reduce flood vulnerability both at the site as well as the surrounding area and downstream.
- Promotes habitat preservation of aquatic and adjacent riparian environments.
- Helps preserve water quality by limiting proximity of potential pollutants.
- Facilitates stream bank stability and reduces erosion potential.

## CHALLENGES

Some of the challenges associated with stream buffer and setback regulations include:

- Political will and community support is required to implement limitations on development location.
- Inability to implement along corridors where properties are already developed unless the property is destroyed or redeveloped.

## MODEL CODE LANGUAGE AND COMMENTARY

In drafting and adopting riparian buffer and setback requirements, four issues should be considered:

- Purpose and intent
- Applicability and exemptions
- Development standards
- Procedures

Each of these is described in further detail below, including model language in blue shading for consideration. Commentary is located in *italics* in the column at the right. The model language used in this document is based on several existing ordinances from varying communities around the state, including municipalities and counties. The language is illustrative only; consult local counsel to tailor language for your jurisdiction.

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### Purpose and Intent

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This section should describe the jurisdiction’s intent in adopting buffers, setbacks, and/or other riparian protection standards. Common purposes include:

- A.** To promote, preserve, and enhance the hydrologic, biological, ecological, aesthetic, recreational, and educational functions that stream and river corridors, associated riparian areas, and wetlands provide;
- B.** To identify flood hazards and avoid development within those flood hazards to the extent practicable;
- C.** To establish regulations seeking maximum protection of all waters of [name of jurisdiction];
- D.** To avoid development activity within [buffer zones];
- E.** To minimize the adverse impacts of development activity within [buffer zones];
- F.** To mitigate the impacts of development within [buffer zones];
- G.** To subject development within [buffer zones] to heightened review;
- H.** To prevent property loss and loss of life while ensuring the natural and unimpeded flow of watercourses; and

### Commentary

**Location of Riparian Buffer and Setback Regulations:** Floodplain regulations are often included in zoning ordinances as a standalone chapter or article. They tend to be based largely on CWCB model regulations. Due to their length, specificity, and unique applications, they typically remain separate from other standards rather than being woven into other setbacks, use-specific standards, or permitting procedures.

**Purpose and Intent:** The purpose and intent statement will vary depending on the types of watercourses and riparian areas the community is trying to protect. Communities should try to integrate established policies from the local hazard mitigation plan, the comprehensive plan, and other adopted policies and regulations where possible.

- I. To encourage development and land uses that preserve existing watercourses as important natural features.

### Applicability and Exemptions

Applicability standards describe when the riparian buffers and setback standards apply, and if there are any types of development activities or land uses that are exempt from the standards. The applicability section should include the following provisions:

- A. The provisions of this [chapter/article/section] apply to all development within [100 feet] from the high-water line of the [name of watercourse(s)] and to all development within the 100-year floodplain.
- B. This section shall apply to all new development, except for the following:
  - 1. Maintenance and repair of existing public roads and utilities within easements or public rights-of-way;
  - 2. Maintenance and repair of flood control structures;
  - 3. Emergency response activities following a flooding event;
  - 4. The expansion, remodeling, or reconstruction of an existing development provided the following standards are met:
    - a. The development does not add more than [ten percent, or desired percentage] to the floor area;
    - b. No portion of the expansion, remodeling, or reconstruction will be closer to the high water line than the current development; and
    - c. The expansion, remodeling, or reconstruction shall not constitute a substantial improvement in terms of floodplain regulation, and shall not increase the amount of ground coverage of structures within the 100-year floodplain.

**Expansion, Remodeling, or Reconstruction:** Expansions of current structures or uses within designated floodplains or stream buffers require consideration of appropriate thresholds. For example, what if a roof needs replacement? What if a deck is proposed? What if the expansion is upward and does not expand the footprint?

### Development Standards

Standards for riparian buffers and setbacks vary widely; however, general approaches to managing development within stream buffers include the following:

- A. Development within the required buffer zone shall not be permitted unless the proposed development:
  - 1. Is required to provide protection against property loss and/or damage;

**Development Standards:** Depending on the chosen standards, communities can apply them so that all standards have to be met or that a defined number of standards have to be met. For example, the community could state that “development shall not be approved in the buffer zone unless at least two of the following standards are met.”

2. Will improve the quality of the [name or type of watercourse, or buffer zone] and enhance the ecosystem by improving water quality, wildlife habitat, or biodiversity;
  3. Will not increase the base flood elevation on the parcel; and
  4. Will not pollute or interfere with the natural changes of the river, stream, or other tributary, including erosion and sedimentation during construction.
- B. There shall be no development below the top of slope or within [15 feet] of the top of slope or the high waterline, whichever is more restrictive;
  - C. No development or use shall be permitted that will disturb, remove, fill, drain, dredge, clear, destroy, or alter any area, including vegetation, within stream or river corridors, wetlands, or their associated [buffer/setback areas] unless expressly allowed by this [code/ordinance].
  - D. No fill material or debris shall be placed on the face of the slope in a stream buffer, and historic drainage patterns and rates shall be maintained;
  - E. Parking lots shall be setback a minimum of [15 feet] from the top of slope;
  - F. All buildings, accessory structures, and parking lots shall be setback a minimum of [50 feet] from the delineated edge of any wetland; and
  - G. If development in a [buffer zone/setback area] causes any disturbance within the [buffer zone/setback area], the applicant shall undertake restoration and mitigation measures such as regarding and revegetation to restore any damaged or lost natural resource.

**Top of Slope Limitation:** This standard is developed to protect bank stability and riparian vegetation.

## Procedures

When development is proposed in areas where riparian buffers and setbacks apply, additional procedural requirements often apply. For example, a special use review application might not ordinarily require a grading plan; however, if the property contains a designated watercourse, then the community may require delineation of grades at two-foot contours. The specific procedural adjustments vary depending on the type of development and the type of approval being sought.

The following are examples of the types of supplemental procedures that may apply to development subject to riparian buffers and setbacks:

- A. The development application shall include the following:

**Procedures:** Approval procedures in a zoning code will likely already be defined in a separate administration and procedures chapter or section. These additional procedures would apply above and beyond those required for a development that is not subject to riparian buffers and setbacks. Additional procedures that apply in hazard-prone areas often build on and cross-reference the common review procedures that apply to all development applications.

1. Existing and proposed grades at two-foot contours;
  2. Proposed elevations of the development;
  3. Delineation of the high water line and the 100-year floodplain; and
  4. A description of the proposed construction techniques, including for grading, erosion, and sediment control.
- B.** The [Director/Administrator] may recommend and the [Planning Commission/City Council/Board of County Commissioners, or equivalent] may impose conditions to approval of an application with stream buffers and setbacks that include:
1. Minimizing adverse impacts of the proposed development including the operation, type, and intensity of land uses;
  2. Controlling the timing of the proposed development;
  3. Controlling the duration of use of the development and the time in which structures must be removed; and
  4. Assuring that development is maintained properly over time.

## KEY FACTS

<b>Administrative capacity</b>	Experienced planners with city or county attorney to write regulations and normal capability to administer the standards once adopted
<b>Mapping</b>	Mapping is strongly recommended. Can be coupled with open space, FEMA or floodplain overlay, or regular land use mapping
<b>Regulatory requirements</b>	Local regulations are generally adopted as part of land use or zoning codes or as part of other regulations (such as stormwater management regulations)
<b>Maintenance</b>	Minimal. Generally part of development review once regulations are adopted
<b>Adoption required</b>	Yes
<b>Statutory reference</b>	General land use authority is found in C.R.S. § 29-20-101. Colorado’s “1041 Regulations” further describe the administration of natural hazard areas as they pertain to floodplains. 1041 Regulations are addressed in a separate model
<b>Associated costs</b>	Ordinance development or amendment costs and staff time to review development for compliance with regulations and monitor for enforcement

## EXAMPLES

<b>City of Aspen</b> Environmentally Sensitive Areas and Stream Margin Review	<a href="https://aspenpitkin.com/Portals/0/docs/City/clerk/municode/coaspent26-400.pdf">aspenpitkin.com/Portals/0/docs/City/clerk/municode/coaspent26-400.pdf</a> Land Use Code, Part 400, and Section 26.435.040
<b>City of Boulder</b> Stream, Wetland, and Water Body Regulations	<a href="https://bouldercolorado.gov/plan-develop/stream-wetland-water-body-protection">bouldercolorado.gov/plan-develop/stream-wetland-water-body-protection</a>
<b>Town of Estes Park</b> Wetlands and Stream Corridor Protection	<a href="https://municode.com/library/co/estes_valley/codes/development_code?nodeId=CH7_GENERAL_DEVELOPMENT_STANDARDS_S7.6WESTCOPR">municode.com/library/co/estes_valley/codes/development_code?nodeId=CH7_GENERAL_DEVELOPMENT_STANDARDS_S7.6WESTCOPR</a> Estes Valley Development Code, Section 7.6
<b>City of Fort Collins</b> Natural Habits and Features and Establishment of Buffer Zones	<a href="https://municode.com/library/co/fort_collins/codes/land_use?nodeId=ART3GE_DEST_DIV3.4ENNAARREUREPRST_3.4.1NAHAPE">municode.com/library/co/fort_collins/codes/land_use?nodeId=ART3GE_DEST_DIV3.4ENNAARREUREPRST_3.4.1NAHAPE</a> Land Use Code, Division 3.4, and Section 3.4.1.E
<b>San Miguel County</b> Wetland Areas	<a href="https://sanmiguelcounty.org/DocumentCenter/Home/View/214">sanmiguelcounty.org/DocumentCenter/Home/View/214</a> Land Use Code, Section 5-22

## FOR MORE INFORMATION

### **Colorado Water Conservation Board: Watershed Protection and Restoration**

[cwb.state.co.us/environment/watershed-protection-restoration/Pages/main.aspx](https://cwb.state.co.us/environment/watershed-protection-restoration/Pages/main.aspx)

### **Conservation Tools.org**

[conservationtools.org/guides/119-riparian-buffer-protection-via-local-government-regulation](https://conservationtools.org/guides/119-riparian-buffer-protection-via-local-government-regulation)

### **National Handbook of Conservation Practices: Conservation Practice Standard, Riparian Forest Buffer**

[nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs143\\_026098.pdf](https://nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs143_026098.pdf)

### **Protecting Stream and River Corridors: Creating Effective Local Riparian Buffer Ordinances**

[rivercenter.uga.edu/wp-content/uploads/sites/17/2015/03/Guidebook-for-Developing-Local-Riparian-Buffer-Ordinances.pdf](https://rivercenter.uga.edu/wp-content/uploads/sites/17/2015/03/Guidebook-for-Developing-Local-Riparian-Buffer-Ordinances.pdf)