

## **City of Roseville Beaver Management Policy**

### **1.0 Purpose**

Beaver dams become problematic when they create the potential for health and safety issues, interfere with utility operations, cause property damage, or impact certain natural resources subject to permit regulation. The purpose of this policy is to establish a City policy and procedure for addressing beaver management issues in a consistent and cost effective manner.

### **2.0 Definitions**

The following definitions shall apply to implementation of this policy.

*Backwater.* The area of added ponding behind a beaver dam above the creek's ordinary hydraulic grade line where no ponding would occur absent a beaver dam.

*Beaver Impacts.* Beaver impacts occur when any of the criteria for beaver dam or population management are triggered as described in sections 3 and 5 respectively.

*"Breach" or "Breaching" of a beaver dam.* To remove a portion of a beaver dam to sufficiently relieve backwater ponding behind the dam so as to alleviate the initial issue of concern (per criteria listed in Section 3).

*Depredation Permit.* A required permit issued by the California Department of Fish and Game for beaver extermination.

*Lead Department.* The City department responsible for the utility, facility, or resource area affected by beaver activities as described in Section 3. For example, the Environmental Utilities Department would serve as Lead Department for implementation of this policy should backwater caused by a beaver dam inundate a sewer manhole.

*Mitigation Monitoring Program or Plan.* The approved method by which CEQA required mitigation measures will be monitored for implementation in accordance with an adopted or certified CEQA document. Such plans or programs may address habitat restoration success criteria or other performance standards.

*Progressive Management.* A management methodology that gradually progresses by first exhausting all known reasonable alternatives to remedy the problem before concluding that permanent take (extermination) of the beaver is the most prudent action.

*Preserve and Mitigation Area.* An area established by state or federal permit, or mitigation area required pursuant to CEQA. Preserve areas are managed, maintained and monitored in accordance with approved Operation and Management Plans.

*"Removal" of a beaver dam.* The complete removal of a beaver dam, including all related woody and vegetative debris.

### **3.0 Criteria for Beaver Dam Management**

Beaver impacts may be mitigated by City action when they present a potential threat to public health, safety or property; City utility or facility damage; impacts to preserve and mitigation areas, or riparian and oak woodland resources; or, where dams increase city maintenance or operational costs. Progressive Management actions are warranted under any of the following circumstances.

#### **3.1 Health and Safety/City Utilities and Facilities**

The City has a responsibility for maintaining creeks and assuring drainage flow capacity to protect public health and safety. The City is also responsible for maintaining many public utilities and facilities (e.g. water and sewer lines, bike trails, fire access roads) that run through or are adjacent to areas that may become inundated or damaged as a result of beaver dams. Breaching and/or removal of a beaver dam, as the first step in Progressive Management, is warranted under any of the following circumstances.

- 3.1.1 The dam creates potential for flood damage of City utilities and facilities, including: structures, roadways, bike trails, utility manholes, or other city infrastructure where it is determined by the director of the Lead Department for the infrastructure in question, that damage or increased maintenance and/or operational costs could result from backwater caused by a beaver dam.
- 3.1.2 Backwater from a beaver dam reduces the City standard of 2 feet above the 100-year flood plain (to the foundation of buildings) as determined by the Public Works Director.
- 3.1.3 The dam location reduces the effectiveness of a flood control facility's operational design, potentially causing an increase in downstream flood threat as determined by the Public Works Director.
- 3.1.4 Water levels in channels must be reduced to facilitate maintenance activities, or project construction as determined by the Director of the Lead Department.
- 3.1.5 If washed out, the debris from a beaver dam could block downstream drainage facilities or flood control structures, resulting in a potential flood threat as determined by the Public Works Director.

#### **3.2 Preserve and Mitigation Areas and Natural Resources**

To protect preserve and mitigation areas, breaching and/or removal of a beaver dam, as the first step in Progressive Management, may be warranted under any of the following circumstances.

- 3.2.1 Related flooding conflicts with a Preserve Area Operation and Management Plan objective, as determined by the Community Development Director.

- 3.2.2 Beaver dam backwater negatively impacts mitigation sites (including trees planted pursuant to the City Tree Preservation Ordinance) and/or restoration plantings that may be required by permit and for which the City or a private applicant is obligated to meet certain pre-determined vegetative success criteria.
- 3.2.3 Beaver dam backwater negatively impacts riparian or oak woodland vegetation, results in conflict with riparian management recommendations, or negatively impacts restoration projects consistent with the City's adopted Creek and Riparian Management and Restoration Plan.

#### **4.0 Progressive Management Methodology**

##### **4.1 Determining Lead Department and Cost Allocation for Services**

Generally, the determination regarding a threat to infrastructure, and the costs associated with assessing and addressing beaver dam impacts, will be borne by the Lead Department. There may be instances when department interests overlap, for example when beaver dam backwater inundates both a bike trail and a manhole. In those situations, a Lead Department will be designated by the Community Development Director, and the affected City departments will coordinate fieldwork and cost-share expenses incurred to implement beaver management policy.

##### **4.2 Beaver Dam Breaching or Removal Protocol**

If backwater caused by a beaver dam results in any of the conditions listed in Section 3, the Lead Department shall take steps to breach or remove the dam sufficiently to relieve backwater ponding behind the dam and alleviate the initial concern. The Parks Maintenance, and Public Works (Streets Division) Departments typically conduct work of this nature, and have the appropriate equipment; therefore the lead departments (if not Parks or Public Works) will coordinate with these divisions for dam removal, and reimburse the expense. Vegetation and woody materials removed from the dam shall be properly disposed of so as not to allow materials to be easily reused by beavers to rebuild the dam and to ensure that these materials don't cause down stream constrictions.

Frequently, dams are quickly re-constructed following breaching or removal. In such instances, should circumstances and site conditions allow, the methods listed below to deter dam rebuilding should be implemented in combination with breaching and/or dam removal activities. The Lead Department should document all Progressive Management actions in the event a depredation permit is ultimately necessary.

- 4.2.1 Repeat breaching and/or removing the dam and related building materials.
- 4.2.2 Install a pond-leveler device (pvc pipe) if conditions are appropriate. This method has been largely ineffective in Roseville. It is most effective if the bottom of the pond is hardpan or gravel, which is generally not the case locally.

- 4.2.3 Wrap or paint trees in the vicinity to limit and discourage available dam building materials.
- 4.2.4 Employ other practicable deterrent methods (e.g., use eucalyptus [or other] scent deterrent on at-risk trees; screen culverts [during low-water season] to prevent direct access for beaver).

The sequence of progressive management actions (i.e., breaching and other dam building deterrent methods) leading to beaver dam removal may be bypassed and the beaver dam removed if circumstances warrant (including but not limited to a threat to safety or property) as determined by the Director of the Lead Department.

## **5.0 Beaver Population Management Protocol**

### **5.1 Determining the Need for Beaver Population Management**

If a dam has been repeatedly removed and/or breached in accordance with the management criteria and deterrent methods described in Section 4.2, and dam reconstruction persists and continues to trigger criteria for dam removal as described in Section 3, then beaver extermination may be warranted and the following protocol shall be followed.

- 5.1.1 Trapping and Removal. To trap and exterminate beaver(s), the Lead Department shall obtain a Beaver Depredation Permit from the California Department of Fish and Game (CDFG). The CDFG only issues Depredation Permits if all reasonable efforts have been made to otherwise remedy the problem. Consequently, CDFG may ask that the Lead Department demonstrate that all reasonable efforts to remedy the situation have been attempted prior to issuing a permit. After receiving the permit, the Lead Department would then contact the Placer County Department of Agriculture to request dispatch of a professional trapper to eliminate the beaver(s). The method of trapping and extermination would be determined by the trapper based on site conditions and surrounding uses.
- 5.1.2 Coordination and Outreach. Prior to implementing a Depredation Permit, the Lead Department shall inform the Public Information Officer (PIO) of the steps taken to discourage beaver damming, or why immediate action is warranted, in accordance with this beaver management policy. The PIO will consult with the Director of the Lead Department to determine the need for and appropriate degree and methods of public outreach. The Community Development Department Environmental Coordinator, and Parks Department, shall also be notified of the need for a Beaver Depredation Permit prior to application to CDFG and after permit issuance but prior to implementation.

The sequence of progressive management actions (i.e., dam breaching, dam removal and/or other dam building deterrent methods) leading to the need for beaver population management may be bypassed and a beaver Depredation Permit may be obtained and implemented if circumstances warrant as determined by the Director of the Lead Department.