

***DOCUMENT SOURCE:*** *The text below describes the measures in the current City of Austin Habitat Conservation Plan for the Barton Springs Salamander (Eurycea sosorum) developed in 1998 and expiring in 2013. The full text of the Habitat Conservation Plan is available here: [http://www.ci.austin.tx.us/watershed/downloads/existing\\_ea\\_and\\_hcp.pdf](http://www.ci.austin.tx.us/watershed/downloads/existing_ea_and_hcp.pdf)*

*For more information on the City of Austin's Endangered Species Act Section 10(a)(1)(B) permit renewal from the U.S. Fish and Wildlife Service, visit our webpage: [http://www.ci.austin.tx.us/watershed/salamander\\_guidelines.htm](http://www.ci.austin.tx.us/watershed/salamander_guidelines.htm)*

1. The City of Austin will coordinate the management of salamander habitat areas and be responsible for maintaining information and scientific data on the Barton Springs salamander. The City of Austin will also be responsible for the timely transmittal of information and data to the Service. The City of Austin will submit an annual report to the US Fish and Wildlife Service Austin Ecological Field Services Office, 10711 Burnet Road, Suite 200, Austin, Texas 78758. The annual report will address the status of the salamander, analysis of biological data, and a review of pool maintenance and management activities during the year. The City of Austin will be responsible for all measures in the HCP. In the annual report, each point of the HCP will be addressed. The permit and HCP will be for a period of 15 years. Copies of the annual report will also be submitted to the City Manager and City Council.
2. The City of Austin will make daily visual inspections of all habitat areas (spring sites) and note any problem conditions such as vandalism, trash and debris, introduction of exotic fish or animals, or disturbance of habitat.
3. When the pool is lowered for cleaning and maintenance, trained City staff will visually inspect all of the exposed areas of the pool for stranded salamanders before cleaning and maintenance activities begin. This visual inspection will also include Eliza Spring, Old Mill Spring, (Sunken Garden), and Upper Barton Spring. Any stranded salamanders will be moved to permanent water. This measure will be in place upon the issuance of this permit. Until the dam or comparable water control device is installed in the shallow end of the pool, a minimum of four biologists will be present at drawdown to search for stranded salamanders. After installation of the water control device, a minimum of two biologists will be present when the pool is lowered.
4. The City of Austin will modify the existing gate system for the drawdown of the pool. The new gate system will be designed to control the rate of drawdown and the level of water in the pool. The current system is an all or nothing approach that does not allow control or manipulation of the drawdown process, which is most critical during low aquifer conditions. The new gate system will be in place within six months of the issuance of this permit. If low aquifer conditions (flows less than 54 cubic feet per second) occur during this one-year period, the City of Austin will modify or suspend pool maintenance procedures (in consultation with the Service), to minimize and mitigate incidental take of salamanders.
5. The City of Austin will install a pump system to provide spring water for pool maintenance. The pump system will also provide spring water for the fissures areas during pool drawdown. This pump would use spring water from the main pool. This measure will be in place within six months of permit issuance.
6. The City of Austin will clean the shallow end of Barton Springs Pool without drawdown of the entire pool. One option is to install a water control structure between the shallow and deep ends of the pool to create a permanent barrier between the cleaning operations and the main

salamander habitat. The purpose of this water control structure is to eliminate the drawdown of the deep end during routine cleaning of the shallow end. This measure will be in place within six months of permit issuance. If the installation of the water control structure is not completed within the six month deadline due to construction delays or adverse weather conditions, the City of Austin will modify or suspend pool maintenance procedures (in consultation with the Service), to minimize and mitigate incidental take of salamanders.

7. The City of Austin will modify the beach area in Barton Springs Pool. Portions of the beach area will be replaced with walkways and wading areas made of exposed aggregate concrete, limestone or other hardened surface. The remaining beach area will be lowered to a minimum depth of 2 meters (6 1/2 feet) and additional salamander habitat will be created to mitigate for the loss of habitat. This measure will be in place within six months of permit issuance.

a) The City of Austin may clean the walkway on an as needed basis (approx. 1 cleaning per week) using pressure washers (underwater) or other agreed to means.

b) The salamander habitat would be cleaned using low-pressure hoses or other agreed to means. This cleaning would be done quarterly or as needed to keep the upper 2-3 inches of habitat from becoming embedded with sediment.

c) The City of Austin will maintain 11,000 square feet of “beach habitat” for the salamander. Gravel or cobble of appropriate size will be used to replace sections of the habitat that may be washed out.

d) The City of Austin will clean non-salamander habitat areas in the deep end of the pool quarterly or as needed using a combination of high-pressure hoses and a vacuum system.

8. The City of Austin will not drawdown the deep end of the pool if flow in the aquifer is lower than 54 cfs. This measure will minimize the impact of low aquifer levels at the adjacent springs sites, as well as conserve water in the aquifer during low flow conditions.

9. The City of Austin will place thin limestone slabs over fissures in the shallow section of the fissures area to minimize impacts from recreational use.

10. The City of Austin will lower the water in the deep end of the pool, if necessary, for cleaning only with Service concurrence. The water in the deep end of the pool will not be lowered when the lowering would cause Eliza Spring to go dry. This measure will be in place after the water control structure is installed or an alternative is implemented.

11. The City of Austin will maintain water over the fissure area during pool drawdown in order to eliminate the stranding of salamanders. The ability to retain water over the fissures will be in place at the time of permit issuance. The City of Austin will clean the fissure area quarterly or as needed, using a combination of low-pressure hoses and wire hand brushes or other agreed to means. In addition, until the water control structure is in place or the beach area is lowered, the City of Austin will use a spring water sprinkler system to keep the beach area wet during drawdown.

12. The City of Austin will control surface water runoff around Barton Springs Pool, Eliza Spring, Old Mill Spring (Sunken Garden), and Upper Barton Spring. During heavy rains, stormwater runoff can carry sediment and potential pollutants directly into Barton Springs, Eliza Spring, Sunken Garden, and Upper Barton Springs. Plans and schedules for the improvements,

approved by the Service, will be complete within one year of the issuance of this permit. All of this work will be completed within two years of permit issuance. The City will also install temporary silt and erosion control measures in order to minimize adverse impacts due to surface water runoff. These measures will be in place upon issuance of the permit.

13. The City of Austin will modify Old Mill Spring (Sunken Garden) to restore the natural surface spring flow into Barton Creek. The pipe that currently drains the spring will be capped. This improvement will be in place within one year of the issue of this permit.

14. The City of Austin, with technical assistance from the Service, will improve the efficiency of the Barton Creek bypass. As currently designed, the cleaning grate at the upstream end of the bypass quickly becomes clogged during storms. The clogging of the grate decreases the efficiency of the bypass and increases the frequency of floods that affect Barton Springs Pool. A more efficient system will be in place within one year of the issuance of this permit.

15. The City of Austin will implement a program to increase public awareness and community support for the salamander and the Barton Springs portion of the Edwards Aquifer. The SPLASH! Into the Edwards Aquifer exhibit at Barton Springs Pool will be a major focus of this effort.

16. Access to Eliza Spring and Old Mill Spring (Sunken Garden) will be restricted to ensure no disturbance of salamander habitat at these spring areas. These sites will be used as outdoor educational facilities for the study of the biology and ecology of Central Texas springs. These measures will be in place within one year of permit issuance.

17. Educational signs (kiosks) will be installed to enhance public awareness of the salamander and aquifer. Outdoor educational displays will highlight the biology and ecology of the Central Texas springs with emphasis on the Barton Springs salamander. These measures will be in place within one year of permit issuance.

18. The City of Austin will set up a fund for conservation and research efforts for the Barton Springs salamander. The City will deposit \$45,000 annually (for the term of the permit) into this fund from the revenues generated by Barton Springs Pool. This fund will also be open to donations from any group or private individual. A committee of technical representatives will decide the allocation of money from this fund. At a minimum, the committee will consist of one technical representative from the City and one technical representative from the Service. These technical representatives must be experienced in salamander biology. Other committee members could include State, County, University or other qualified biologists and karst aquifer hydrogeologists and swimmer/stakeholder representatives. The City and the Service would both retain “veto” power in deciding how the money is allocated. The funds would be used for study of salamander biology, captive breeding and refugia, watershed related research, improved pool cleaning techniques, education, and/or land acquisition. The committee will decide how the money will best be spent. The funding will be in place within six months of permit issuance.

19. The City of Austin will deposit \$10,000 (in addition to the \$45,000 mentioned above) into the conservation fund. This will mitigate for the incidental take that occurred as a result of cleaning the pool and operation from May 30, 1997 (listing effective date) to the date the permit would be issued. The fund will be set up and the money deposited within 6 months of permit issuance.

20. The City of Austin will prohibit the use of high-pressure hoses in salamander habitat.

21. The City of Austin may remove woody debris by any methods approved by the Service. All debris will be visually inspected for salamanders before and after removal.
22. In the event of a flash flood or potential flash flood, it [may be] necessary to prepare Barton Springs Pool area to limit damage. To prepare for such an event, sections of fence, trash cans, railings and other items are moved to higher ground. The Endangered species biologist for the City of Austin will be notified before Barton Springs Pool is lowered. Barton Springs Pool will not be lowered if the flow is lower than 54 cfs or if the City of Austin Endangered species biologist indicates that Barton Springs Pool should not be lowered.
23. The City of Austin may clean sediment and debris from the adjacent springs sites using low-pressure hoses or other agreed to means on an as needed basis.
24. The City of Austin will not allow the introduction of exotic plants or animals in any springs in Zilker Park.
25. The City of Austin will not move salamanders between springs sites.
26. The City of Austin may manually trim aquatic vegetation that reaches the surface of the water.
27. The City of Austin will not allow unauthorized SCUBA in any springs in Zilker Park.
28. The City of Austin will prohibit the deliberate disturbance of substrate in the primary salamander habitat. This measure will be effective upon the issuance of this permit.
29. Sediment and debris that is collected during routine cleaning of the pool will be removed from the pool and disposed of properly. This would be accomplished by pumping the material into a vacuum truck for disposal, irrigating the lawns or other agreed to means. The sediment and debris will not be dumped into Barton Creek as a means of disposal. This measure will be effective upon the issuance of this permit.
30. Since there is a seasonal rate of turnover in the staff involved in the pool cleaning process, the City will have professional supervisors direct and document all cleaning procedures at the pool. This measure will be in place upon the issuance of this permit.
31. The City of Austin will ensure that all people working at the pool (lifeguards and other staff) are knowledgeable about the salamander. Yearly training will be given to teach staff about the salamanders and the ecology of Edwards Aquifer springs. This measure will be in place upon the issuance of this permit.
32. The City of Austin will ensure that all people surveying for salamanders are properly trained. The survey work should be done under the terms and conditions of a current scientific permit issued to the City of Austin. This measure will be in place upon issuance of this permit.
33. The City of Austin will provide yearly spill and response training for all that perform maintenance activities in and around the springs in Zilker Park. The annual training will address spill and response protocols, proper containment techniques, and remediation. An annual inventory of necessary containment and remediation equipment will be conducted during the

training session, and after the use of the equipment in response to any spill. This measure will be in effect upon the issuance of this permit.

34. Specific areas will be designated for the fueling and maintenance of equipment and vehicles used in maintaining the springs and the areas around the springs. These areas should be selected away from the springs to avoid the chance of impacts to the spring habitats. Absorbent pads will be used during all operations, fueling, and maintenance activities. This measure will be in effect upon the issuance of this permit.

35. The City, with concurrence of the Service, will develop a policy for silt and gravel removal in the deep end of the pool. In the past, silt removal in the deep end has been necessary after the pool has been flooded by Barton Creek, but the City does not have a policy that outlines when and how the removal of material should occur. The take estimate may change due to this policy but would probably be a minor amendment to the HCP. The new policy will be in place within one year of the issuance of this permit.

36. The City will, in concurrence with the Service, develop a catastrophic spill response plan for Barton Springs. The new plan will be in place within one year of the implementation of this permit. This plan will address spill prevention, containment, remediation, and salamander rescue.

37. Structural and habitat restoration will occur at Eliza Spring and Old Mill Spring. Habitat restoration will include enhancement of bottom substrate with clean cobble and gravel, and the establishment of native species of aquatic plants. Care will be taken to ensure that non-native invertebrates are not introduced. Old Mill Spring enhancement will include the restoration of full surface flow to the stream. All restoration efforts will be reviewed and approved by the Service before implementation. This work would be completed within two years of the issuance of this permit.

38. The City of Austin will continue to conduct monthly salamander surveys at all spring sites, in compliance with Federal and State Scientific Monitoring Permits.

39. The City will form a Scientific Advisory Committee of local and regional experts that will meet at least annually to discuss and refine pool maintenance activities. A variety of interests including swimming, biology, and hydrogeology will be represented on this committee. In addition, this committee will review this HCP and make suggestions for needed amendments as deemed necessary. The Advisory Committee will also be responsible for refining the habitat conservation plan through adaptive management. Data collected will be used to adapt management actions. The City of Austin will be responsible for implementation of adaptive management changes.

40. The City of Austin must reduce loadings of petroleum hydrocarbons, heavy metals and sediments to Barton Springs from current development and other activities located within the Barton Springs Zone, within the City limits, and subject to the City's jurisdiction. This reduction in loadings will be achieved through the measures set out in the NPDES stormwater permit and its reasonable and prudent measures listed in Appendix A of the EA/HCP.

41. The City of Austin will maintain a viable captive breeding population of Barton Springs salamanders. The City will designate a staff biologist and dedicate a minimum of \$20,000 annually to the development and maintenance of this program. The purpose of this program is to provide a contingency plan for the species if a catastrophic event were to occur. Funding and design of the new program will be in place within six months of the issuance of this permit.

