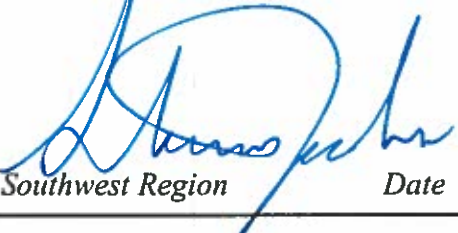




Issuing Office:

Department of the Interior
U.S. Fish & Wildlife Service
Endangered Species Permit Office
500 Gold Avenue S.W.
P.O. Box 1306, Room 6034
Albuquerque, NM 87103-1306

Acting Deputy Regional Director Signature:


Southwest Region Date 9-11-18

Permittee:

Alicia Reinmund-Martinez
Barton Springs/Edwards Aquifer Conservation District
1124 Regal Row
Austin, Texas 78748
Telephone 512/282-8441
Email address areinmund@bseacd.org

Authority: Statutes and Regulations: 16 USC 1539(a); 50 CFR 17.22, 17.32, 50 CFR 13.

Location where authorized activity may be conducted:

Within the Barton Springs segment of the Edwards Aquifer under the Barton Springs/Edwards Aquifer Conservation District's (BSEACD) jurisdictional authority.

Reporting requirements:

Annual REPORT DUE: February 28 during permit term
See permit terms and conditions for specific reporting requirements.

Conditions and Authorizations:

- A. General conditions set out in subpart D of 50 CFR 13, and specific conditions contained in Federal regulations cited above in Authority, are hereby made a part of this permit. All activities authorized herein must be carried out in accordance with and for the purposes described in the application submitted. Continued validity, or renewal, of this permit is subject to complete and timely compliance with all applicable conditions, including filing all required information and reports.
- B. Valid for use by permittees named above. The validity of this permit is also conditioned upon strict observance of all applicable foreign, state, local, or other Federal law.
- C. Acceptance of the permit serves as evidence that the Permittee understands and agrees to abide by the terms and conditions of this permit and all applicable sections of 50 CFR Parts 13 and 17 pertinent to issued permits. Terms and conditions of the permit are inclusive. Any activity not specifically permitted is prohibited. Violations of permit terms and conditions could result in the permit being suspended or revoked. Violations of the permit terms and conditions that contribute to a violation of the Endangered Species Act (ESA) could also subject you to criminal or civil penalties.
- D. The person listed above must counter-sign the permit to acknowledge receipt and signify agreement to fully abide by and implement this permit. You must return an original signature copy to the Regional Office listed below in condition M.

Permittee Signature: Blayne Stansbury Date: 9/20/2018



E. Compliance

The authorization granted by this permit will be subject to full and complete compliance with, and implementation of, the Barton Springs/Edwards Aquifer Conservation District HCP and all specific conditions contained in this permit. The permit terms and conditions shall supersede and take precedence over any inconsistent provisions in the HCP or other program documents.

F. Definitions

Terms used in this Permit and specifically defined in the ESA or in regulations adopted by the Service under the ESA have the same meaning as in the ESA and those implementing regulations, unless this Permit expressly provides otherwise.

G. Covered Species

The following is a list of the species covered under this Permit:

<u>Common Name</u>	<u>Scientific Name</u>	<u>Federal Listing Status</u>
Barton Springs salamander	<i>Eurycea sosorum</i>	E
Austin blind salamander	<i>Eurycea waterlooensis</i>	E

H. Incidental Take Authorized

Since there is no way to count the number of individuals of either species taken as a result of Covered Activities, BSEACD uses drought occurrences as a surrogate for the total number of individuals injured or killed. Salamanders exposed to different levels of drought conditions may be harmed once or multiple times, and eventually killed as a result of Covered Activities.

In the absence of the ability to document take of the Covered Species in the wild during drought, BSEACD used springflows and DO as metrics for measuring effects during a worst-case drought scenario. The depth (how much springflow is reduced) of any particular drought condition affects how much of the salamander population is exposed to these conditions, and the duration (the number of months that springflow is reduced) of the drought condition affects how long the population is exposed to the degraded environmental conditions. Since drought conditions cannot be predicted with certainty for the 20 year permit term, the following calculations are based on the period of record (1913-2013) and a series of reference droughts.

Drought/Springflow Scenarios	No. Months below 30 cfs (Per Modeled Hydrographs)	BSS Take/Month	ABS Take/Month	Total Take (Incidents)
7-Year DOR	72	174	36.6	BSS=12,528 ABS=2,635.2
7-Year Hybrid Drought	44	174	36.6	BSS=7656 ABS=1,610.4
6 Years No Drought	0	0	0	0
Occasional Activities	--	--	--	BSS and ABS=15 each
Cumulative Total for ITP	116*			~ 20,200 BSS; ~ 4,260 ABS

If actions associated with implementation of the HCP are shown to result in incidental take of listed species not covered by this permit, those activities that are shown to cause take must cease immediately and any take that has occurred must be reported to the Austin ESFO at 512/490-0057 within 48 hours.



I. Covered Activities

BSEACD is a statutorily mandated groundwater conservation district (GCD) that issues permits to well owners/operators for their groundwater supply. Covered Activities include:

1. groundwater withdrawals from permitted non-exempt wells in the Barton Springs Segment of the Edwards Aquifer (Aquifer) that are authorized and regulated under the BSEACD's permitting program, and
2. activities necessary to manage potential habitat for the Covered Species within the permit area as described in the HCP.

J. Conservation Program

1. Minimization

The BSEACD shall implement the following minimization measures in accordance with the HCP. Each measure has a corresponding objective and one or more associated performance standards (metrics) set forth in the HCP. These standards will be reviewed and revised every five years to be responsive to all then-recognized needs. Revisions to these metrics will not require a permit amendment, unless the amount of incidental take is expected to increase. Chapters of the HCP where more details are located are provided:

- a) Provide the most efficient use of groundwater (6.2.1.1).
- b) Control and prevent waste of groundwater (6.2.1.2).
- c) Address conjunctive surface water management issues (6.2.1.3).
- d) Address natural resource management issues (6.2.1.4).
- e) Address drought conditions (6.2.1.5).
- f) Address demand reduction through conservation (6.2.1.6).
- g) Address supply through structural enhancement (6.2.1.7).
- h) Quantitatively address established desired future conditions (6.2.1.8).

2. Mitigation

The BSEACD will implement the following mitigation measures. Chapter 6.2.2.2 of the HCP provides the specific details of each measure.

- a) Commitment to support the operations of an existing refugium through in-kind, contracted support, or cash provisions or other appropriate means.
- b) Conduct a feasibility study of dissolved oxygen augmentation. If warranted, and with the cooperation of the City of Austin, the BSEACD will implement a pilot project at the outlets.
- c) Maintain and operate the Antioch Recharge Enhancement Facility for the permit term.
- d) Establish a new reserve fund for plugging abandoned wells to eliminate high-risk abandoned wells as potential conduits for contaminants from the surface or adjacent formations into the aquifer, with priority given to problematic wells close to the Barton Springs outlets and/or associated with water chemistry concerns under severe drought conditions.
- e) Provide leadership and technical assistance to other government entities, organizations, and individuals when prospective land-use and groundwater management activities in those



entities' purview will, in the BSEACD's assessment, significantly affect the quantity or quality of groundwater in the Aquifer.

3. Research

The BSEACD will support research to address uncertainties, such as the hydrologic performance of the Aquifer, especially during extreme low-flow conditions; the relationship between springflow and its DO concentrations, especially during extreme low-flow conditions; the ecological effects and physiological impacts of antagonistic contaminants in recharge water; and salamander behavior, both individually and as a population, under ecological stress (Chapter 6.2.2.1 of the HCP).

K. Changed Circumstances

Because of a number of uncertainties (described in HCP Chapter 7.2.1) surrounding the Covered Species and their habitat, BSEACD developed a method (described in HCP Chapter 7.1.2) to determine if a changed or unforeseen circumstance has occurred. The BSEACD will provide information about the circumstance to the Service. If the Service determines it is a changed circumstance, the BSEACD will implement the actions described (HCP Chapter 7.2.2) for that circumstance.

L. Monitoring

The BSEACD will implement the following monitoring activities. Chapters of the HCP are provided where each measure is detailed.

1. Monitor groundwater management actions (6.3.1).
2. Monitor HCP effectiveness (6.3.2).
3. Monitor HCP implementation (6.3.3)

Based on the results of the monitoring, the BSEACD will implement an adaptive management program (Chapter 6.4 of the HCP).

M. Reporting

An annual report will be submitted by February 28 of each year this permit and the BSEACD HCP is in effect to the Austin ESFO at the address below. The annual report will describe the previous fiscal year's (September 1 through August 31) activities and compliance with this permit and the HCP (as described in the BSEACD HCP). At the end of the ITP term, the permittee(s) must submit a final annual report summarizing full compliance with the permit and HCP.

U.S. Fish and Wildlife Service
Austin Ecological Services Field Office
10711 Burnet Road, Suite 200
Austin, Texas 78758
Telephone 512/490-0057
Fax 512/490-0974



A copy of the cover letter must be submitted to the Service's Regional Office, preferably by e-mail to FW2_HCP_Permits@fws.gov, or to the following address:

U.S. Fish and Wildlife Service, Region 2
Branch of Environmental Review
P.O. Box 1306, Room 6034
Albuquerque, New Mexico 87103
Telephone 505/248/6920
FW2_HCP_Permits@fws.gov

The annual report will include:

1. Descriptions of the Covered Activities undertaken;
2. Reported groundwater withdrawals from permitted wells;
3. Reference well levels;
4. Springflow at Barton Springs;
5. Total Aquifer discharge, measured for permitted wells, estimated for exempt wells, gaged/measured for Barton Springs; and estimated for Cold & Deep Eddy Springs;
6. Drought-stage management reductions;
7. Estimated actual take, if any, for the annual reporting period, and total cumulative take for the ITP term;
8. Minimization measures and actions taken during the prior year;
9. Mitigation actions taken during the year and updates on any ongoing mitigation actions;
10. An evaluation of the effectiveness of the avoidance, minimization, and conservation measures;
11. Adaptive management activities undertaken during the year or indicated as prudent by outcomes of the conservation program;
12. Expenditures by BSEACD on implementation activities;
13. Any species-specific or aquifer research compiled or completed during the prior year;
14. Proposed activities for the next year;
15. Recommendations for improvement; and
16. Any other appropriate information documenting Permittee's compliance with the Permit.

GENERAL TERMS AND CONDITIONS

N. No Surprises Assurances

The covered species listed above are considered adequately addressed under the Barton Springs/Edwards Aquifer Conservation District HCP, and are therefore, covered by "No Surprises" assurances. If the Service demonstrates that unforeseen circumstances exist during the life of the permit and additional measures are deemed necessary to respond to those circumstances, the Service may require additional measures of the permittees where the HCP is being properly implemented, but only through coordination with the permittees and only if such measures are limited to modifications to the HCP's operating conservation program for the covered species, and maintain the original terms of the HCP to the maximum extent practicable.

Notwithstanding the foregoing, the Service will not require the commitment of additional land, water, or



financial compensation or additional restrictions on the use of land, water, or other natural resources beyond the level otherwise agreed upon for covered species without the consent of the permittee(s).

O. Transferring

The terms and conditions of this permit shall be binding on and inure to the benefit of the permittee(s), including their successors and assigns, as provided in 50 CFR 13.24 and 13.25. If this permit needs to be transferred due to a change in ownership the transfer will be accomplished in accordance with 50 CFR 13.25. Any change in the names, addresses or other administrative correction or alteration of the permit will be in accordance with 50 CFR 13.23. The covered activities proposed or in progress under the original permit may not be interrupted provided the conditions of the permit are being followed.

P. Amendments

This permit may be amended in accordance with the provisions of 50 CFR 13.23. The permittee(s) must provide a written statement of the reasons for the proposed amendment and an analysis of its environmental effects, including its effects on covered species. The activities proposed or in progress under this permit may not be interrupted, provided the required conditions of this permit are being followed. The Service may amend the permit at any time for just cause, and upon written finding of necessity.

If the covered activities and/or the extent of the impacts described in the agreement are altered during the life of the permit, such that there may be an increase in the anticipated take of covered species, permittee(s) are required to contact the Service and obtain authorization and/or amendment of this permit before commencing any activities that might result in take beyond that described in the agreement.

Q. Suspension and Revocation

Suspension: The Service may suspend this permit if the permittee(s) is/are not in compliance with the conditions of this permit, the agreement, or any applicable Federal laws and regulations. The procedures applicable to any suspension shall be in accordance with the Federal regulations in effect at the time of the suspension; provided however, that, at a minimum, the permittee shall be afforded the procedural rights set forth in 50 CFR 13.27 in existence on the effective date. The suspension shall remain in effect until the Service determines that the permittee(s) have corrected the deficiencies.

Revocation: The Service shall not revoke this permit for any reason except those listed in 50 CFR 13.28(a)(1)-(4), or unless the covered activities would be inconsistent with the criteria set forth in 16 U.S.C. § 1539(a)(2)(B)(iv) and this inconsistency has not been remedied. Notwithstanding the foregoing, this Permit will only be revoked if the Service, the Permittees, and other interested parties have not been successful in remedying any such inconsistency through other means.

R. Renewals

The permittee(s) may apply for the renewal of the permit prior to its expiration date in accordance with the provisions of 50 CFR § 13.22.



S. Disposition

Upon locating a dead, injured, or sick individual of the covered species, or any other endangered or threatened species, the Permittee is required to contact the Service's Law Enforcement Office in San Antonio, Texas, 210/681-8417 for care and disposition instructions. Extreme care should be taken in handling sick or injured individuals to ensure effective and proper treatment. Care should also be taken in handling dead specimens to preserve biological materials in the best possible state for analysis of cause of death. In conjunction with the care of sick or injured endangered/threatened species, or preservation of biological materials from a dead specimen, the Permittee and any contractor/subcontractor has the responsibility to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

***** End of Permit Terms and Conditions for Permit # TE10607C-0 *****