

FINAL

**BALCONES CANYONLANDS
CONSERVATION PLAN
PERMIT OPTIONS REPORT**

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Acronyms and Abbreviations

BCCP	Balcones Canyonlands Conservation Plan
BCNWR	Balcones Canyonlands National Wildlife Refuge
BCP	Balcones Canyonlands Preserve
City	City of Austin
County	Travis County
DNR	Washington State Department of Natural Resources
EA	Environmental Assessment
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FY	fiscal year
GIS	geographic information system
HCP	habitat conservation plan
LCR MSCP	Lower Colorado River Multi-Species Conservation Plan
MBHCP	Metropolitan Bakersfield Habitat Conservation Plan
MOA	memorandum of agreement
NEPA	National Environmental Policy Act
TXDOT	Texas Department of Transportation
USFWS	U.S. Fish and Wildlife Service

Executive Summary

The purpose of this report is to identify and describe the options available to the City of Austin and Travis County before the Balcones Canyonlands Conservation Plan (BCCP) Endangered Species Act (ESA) permit expires in 2026. The report also identifies the benefits and drawbacks of each option and, when appropriate, outlines the relative time and cost involved with each option. Renewing or amending an expiring HCP provides a tremendous opportunity to build upon successes and lessons learned from HCP implementation to date. However, a permit amendment can also introduce new risks. The information in this report will assist the City of Austin and Travis County to choose the option that best suits their needs beyond 2026.

The BCCP permit was issued in May 1996. Prior to this time, every project applicant in Travis County had to apply separately to the U.S. Fish and Wildlife Service (USFWS) for take authorization. Each project applicant prepared their own habitat conservation plan (HCP), submitted their own permit application, and negotiated separately with USFWS. Before the BCCP, the ESA compliance process in Travis County was often slow, expensive, and highly uncertain. All of these factors resulted in project delays and substantial costs to local developers and City and County public works agencies. The BCCP has succeeded in addressing these issues by providing a much faster permitting process for most projects, much lower mitigation costs, and more certainty in project costs and timing. The BCCP has also succeeded in protecting the 10 listed species covered by the plan: golden-cheeked warbler, black-capped vireo, six karst invertebrates, and two plants. The City and County have nearly met, met, or exceeded almost all of the required conservation actions years early and with substantially less impact on covered species habitat than predicted.

There are five permit options available to the City of Austin and Travis County, each with increasing complexity, cost, and time involved, but also with greater ability to address the issues and concerns identified in this report: (1) allow the permit to expire, (2) apply for a permit amendment that only extends the permit duration, (3) make administrative changes, (4) pursue a major permit amendment, or (5) replace the BCCP with a new HCP. Based on our review of implementation issues and the benefits and drawbacks of each approach, we recommend that the City and County begin a first phase of work in the next 1–2 years by updating and modernizing the BCCP document to make it more accessible to the public and to make future administrative changes more apparent and clear. This “makeover” process would include separating the EIS from the HCP to create a stand-alone HCP and improving formatting, mapping, and online accessibility. It would also include fixing errors and correcting inconsistencies. As part of this process, we recommend that the City and County also propose administrative changes to the BCCP to address some of the issues discussed in this report. The City and County would work closely with USFWS on these administrative changes to ensure that they are documented properly and do not trigger a major permit amendment.

A second phase of work would begin after the BCCP modernization to evaluate the need for additional administrative changes, or perhaps a major permit amendment. The City and County should extend the duration of the permit in order to continue to meet the needs of local development for take authorization under the plan. This permit extension could be done on its own because we expect there to be ample unused take authorization by 2026, or it could be accomplished as part of a major permit amendment that could address larger needs of the BCCP that may emerge by that time.

The Balcones Canyonlands Conservation Plan (BCCP) is a habitat conservation plan (HCP) that was approved by the U.S. Fish and Wildlife Service (USFWS) in 1996. The HCP and its Endangered Species Act (ESA) permit provide authorization for a wide range of covered activities in the City of Austin (City) and in Travis County (County), Texas to “take”¹ threatened and endangered species covered by the plan.

When the BCCP was approved in 1996, it represented an important milestone in the habitat conservation planning program nationwide. At the time, the only large-scale HCPs had been approved for one species; the BCCP was the first large-scale, multi-species HCP in the country. The BCCP provided a practical and biologically sound means to preserve the environment while allowing reasonable economic development to proceed. The BCCP has inspired other communities to pursue their own comprehensive HCPs to help solve the challenge of balancing growth with the protection of endangered species. Since the BCCP was approved, regional multi-species HCPs have been prepared and approved in 12 other Texas counties where local government agencies led development of the HCP: Bastrop County (approved in 2008), Bexar County (2015), Comal County (2014), Hays County (2012), Williamson County (2008), and along the Edwards Aquifer (all or portions of 8 counties; 2013).

By many measures, the BCCP has already been a success. Development in Austin and in unincorporated Travis County has proceeded almost unimpeded by endangered species and with a predictable cost. In addition, the BCCP has nearly accomplished its land protection goals for the two covered birds—golden-cheeked warbler (*Setophaga chrysoparia*) and black-capped vireo (*Vireo atricapilla*)—in establishing large blocks of habitat for the two birds that will be preserved and managed in perpetuity. During the 20th anniversary celebration for the plan in 2016, the Assistant Deputy Secretary for the Department of the Interior praised the HCP as a model for the country and congratulated the audience on its accomplishments so far. He also encouraged the BCCP Permittees, the City and County, to begin considering their options to extend the benefits of the BCCP beyond its current permit term, which expires on May 2, 2026. The City and County have started that work with this permit-options report.

1.1 Purpose and Organization of Report

The purpose of this report is to identify and describe the options available to the City of Austin and Travis County before their permit expires in 2026. The report also identifies the benefits and drawbacks of each option and, when appropriate, outlines the relative time and cost involved with each option. Renewing or amending an expiring HCP provides a tremendous opportunity to build upon successes and lessons learned from HCP implementation to date. However, a permit amendment can also introduce new risks. The information in this report will assist the City of Austin and Travis County to choose the option that best suits their needs beyond 2026.

¹ The Endangered Species Act defines “take” as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect” any endangered and most threatened wildlife species. Harm may include significant habitat modification where it actually kills or injures a listed species through impairment of essential behavior (e.g., nesting or reproduction).

This report is organized into three chapters. This *Introduction* chapter provides an overview of the BCCP and, importantly, describes what led to the plan and what ESA compliance was like before it existed. It also describes generically what the process is for making administrative changes or amendments to an HCP, and provides several case studies of HCPs that have secured or are pursuing amendments to their plans.

Chapter 2, *Options for the BCCP*, reviews in detail the five options available to the City and County at the end of the BCCP permit. It also describes the benefits, drawbacks, and ability to address the issues identified by staff as needing adjustment. The relative costs and timeline for each option are also described.

Chapter 3, *Recommendations*, provides summary conclusions and compares all options side-by-side. To help the reader navigate the report, each section begins with a list of questions that will be answered in that section.

1.2 Overview of BCCP

1.2.1 ESA Compliance before BCCP

Questions addressed in this section:

- *What was ESA compliance like prior to the BCCP?*
- *What led to the creation of the BCCP?*

During the 1980s and 1990s, the City of Austin added 311,000 people to its population, nearly doubling its size and making it one of the fastest-growing cities in the country. Smaller cities and communities in the rest of Travis County were growing at similarly high rates. This growth spawned a housing boom that spread west of Austin into many unincorporated areas of Travis County. In 1987, USFWS listed the black-capped vireo as endangered, and in 1988 it listed five karst invertebrates as endangered.² Housing projects and public infrastructure to support them were immediately affected by the new listings. The provision of the ESA that allowed take authorization to non-federal parties (Section 10 of the ESA) was only a few years old, having been enacted by Congress in 1983. The first HCP in the country had been approved in 1983, and only two more were approved through 1990. This new and unfamiliar compliance process and the new listings created confusion, project delays, and frustration among many landowners, developers, and public works staff.

In response to the new species listings, USFWS, City of Austin, Travis County, the Lower Colorado River Authority, Texas Parks and Wildlife Department, environmental groups, business representatives, and landowners formed an executive committee to begin developing a regional HCP that would ultimately become the BCCP. A biological advisory team was formed soon after to advise the Executive Committee on the scientific basis for the BCCP. The listing in 1990 of the golden-cheeked warbler solidified the need to continue pursuing a regional HCP. After hundreds of public and stakeholder meetings, a public National Environmental Policy Act (NEPA) process, and several

² *Texella* was subsequently split into two species (*T. redelli* and *T. reyesi*), which are both covered by the BCCP.

drafts of the HCP, the City of Austin and Travis County submitted the formal draft BCCP to USFWS in 1995.³

The BCCP and its permit provide incidental take authorization for a wide range of public and private projects in unincorporated Travis County and the City of Austin. The BCCP is a type of HCP called a “programmatically HCP,” which is designed to be as inclusive as possible in order to streamline urban and rural development projects and the public infrastructure that supports them. Today many developers can obtain their endangered species take authorization for the covered species directly from the City or the County, providing a faster alternative to the USFWS permit process.⁴ However, prior to the BCCP, the endangered species permit process was very different.

Prior to May 1996 (when the BCCP permit was issued), every project applicant had to apply separately to USFWS for take authorization. Each project applicant prepared their own HCP, submitted their own permit application, and negotiated separately with USFWS staff. In many cases, these projects were large enough to trigger the need for USFWS to prepare a NEPA compliance document, either an Environmental Assessment (EA) or Environmental Impact Statement (EIS). Each project proponent was expected to pay for all consultant and legal costs related to preparing their HCP, negotiating with USFWS staff, and paying a consultant to prepare the NEPA document on USFWS’s behalf. These project HCPs often took several years to prepare, negotiate, and complete. As a result, the HCP process was often costly. Project construction could not begin until after the incidental take permit was issued, sometimes causing substantial project delays and additional costs related to those delays.

One indication of the need for the BCCP prior to 1996 is the number of project HCPs that were approved by USFWS in Travis County before or soon after the BCCP was approved. Table 1 lists all 12 of the project HCPs that were approved before or soon after approval of the BCCP in 1996. There are several important conclusions from this table. First, no other county in the country at the time had so many HCPs approved in the span of just a few years as Travis County did. Second, the golden-cheeked warbler was listed in 1990 but the first incidental take permit was not issued in Travis County until 1995. This span of 5 years between listing and the first incidental take permit indicates that it took applicants several years to develop the first HCPs and USFWS a similar amount of time to review and approve them. Each of these HCPs, NEPA documents, and legal and consultant support likely cost \$100,000 or more in today’s dollars, representing a total cost of \$1–2 million or more (this rough estimate excludes the cost of mitigation and project delays). Finally, all but two of the 12 HCPs covered projects of fewer than 500 acres, and several were only a few acres. The fact that so many of the first HCPs were for relatively small projects indicates that the need for the BCCP was acute. Many more projects likely started their own HCPs prior to 1996 but abandoned them and simply used the BCCP once it was approved. Plans approved after the BCCP likely started their HCP prior to the BCCP and decided to complete it anyway, perhaps due to investments already made in their HCP process.

In conclusion, the ESA compliance process in Travis County before the BCCP was often:

- **Slow:** It typically took several years to prepare a project HCP, negotiate with USFWS, prepare USFWS’s NEPA document, and receive the project permit.

³ For a more detailed history of the BCCP development process, see the BCCP pages 1-7 to 1-11.

⁴ The City or County cannot issue take permits for developments that lie within the Balcones Canyonlands Preserve Acquisition zone unless authorized to do so by USFWS on a case-by-case basis.

- **Expensive:** Preparing a project HCP was expensive because of the consultants and attorneys involved, and the time needed for negotiations with USFWS. The inevitable project delays added to the costs.
- **Uncertain:** Especially for the first HCPs, the negotiation process had few rules and mitigation requirements were uncertain. Mitigation often changed over time, sometimes in unpredictable ways. Because of rapidly rising land costs, mitigation costs continued to go up.

The BCCP addressed these issues, at least for the activities and species covered (gaps in BCCP coverage are addressed later in this report), by providing a faster permitting process for most projects and more certainty in mitigation costs. It also reduced the volume of projects waiting for USFWS approval, which may have helped reduce the processing time for permits issued directly by USFWS.

Table 1. Project HCPs and Incidental Take Permits Issued Before and Soon after BCCP

Habitat Conservation Plan	Permittee	Permit Issued	Permit Area (acres)	Covered Species
Barton Creek Community	FM Properties	1995	4,684	Barton Springs salamander (<i>Eurycea sosorum</i>) and golden-cheeked warbler
Rob Roy on the Lake Subdivision	David Dijoy	1995	5	Golden-cheeked warbler
Canyon Mesa	Richland SA, Ltd	1995 ¹	4	Golden-cheeked warbler
Westminster Glen	MaBe, Inc.	1995	270	Golden-cheeked warbler
Bee Cave Oaks	Bee Cave Oaks Development, Inc.	1996	347	Golden-cheeked warbler
Lake Pointe IV	Bon Terre-B Ltd.	1996	128	Golden-cheeked warbler
Park 22	Unknown	1996	77	Golden-cheeked warbler
Four Points	TPG Four Points Land, L.P. (formerly P-WB Joint Venture)	1996	333	Golden-cheeked warbler, black-capped vireo, Jollyville Plateau salamander, and seven karst invertebrates
Wallace Tract	Private individual	1996	73	Golden-cheeked warbler
Earlynn McIntyre	Private individual	1997	2	Golden-cheeked warbler
Vista Royale	Lakeway Vista Royale Ltd.	1998	498	Golden-cheeked warbler
Grandview Hills	Toman Parke Inc.	1999	550	Golden-cheeked warbler, Jollyville Plateau salamander, and six karst invertebrates

Source: USFWS ECOS Database
Notes:
¹ Fourteen separate permits were issued, one for each subdivision lot.

1.2.2 Key Elements of BCCP

Questions addressed in this section:

- *What are the basic elements of the BCCP?*
- *Which species are covered by the BCCP? What activities are covered?*

All HCPs have the same basic elements. There are one or more permit holders, called **permittees**, who receive the incidental take permit. An HCP has a defined **permit area**, in which all permitted activities occur. An HCP must also define the **covered species** for which take authorization is being requested. Covered species can be listed at the time the permit is issued or not. Covered species not listed yet are often covered in case they become listed during the permit duration. An HCP also describes the activities or projects expected to take the covered species, called **covered activities**. The permit is issued for a specific duration, called the **permit term**. HCPs must also define **conservation measures** to offset the **authorized take** of the covered species and meet permit issuance criteria.⁵ These basic elements of the BCCP are as follows.

BCCP Key Elements

- **Permittees:** City of Austin and Travis County.⁶
- **Permit Area:** 561,000 acres = This area includes all of the lands within Travis County, except the following: the preserve acquisition area; that portion of Balcones Canyonlands National Wildlife Refuge (BCNWR) that falls within Travis County; and areas within the city limits and planning jurisdictions of municipalities not participating in the BCCP. There is very little identified habitat for the protected species east of MOPAC Expressway (Loop 1), so the BCCP Participation area generally lies west of the current alignment of the MOPAC Railroad, as depicted in the BCCP Participation Area in Figure 1.
- **Permit Term:** 30 years (May 2, 1996 to May 2, 2026).
- **Covered Species:** 8 endangered species (golden-cheeked warbler, black-capped vireo, and six karst invertebrates), two plants of concern (canyon mock-orange [*Philadelphus ernestii*] and texabama croton [*Croton alabamensis* var. *texensis*]), and 25 karst invertebrates of concern. Since the BCCP was approved, there has been a change in listing status of only one species: black-capped vireo was de-listed in April 2018. None of the 27 species of concern covered by the BCCP have been listed or proposed for listing since the plan was approved.
- **Covered Activities:** The BCCP covers a wide range of projects and activities associated with urban and rural development, including residential, commercial, and industrial construction; road and utility construction; and water and wastewater infrastructure. Covered activities include specially designated “infrastructure corridors” intended to focus rural road and utility corridors to minimize disruption and fragmentation to preserves. The BCCP also covers ongoing ranching and farming activities and construction for those wishing to participate. Within BCCP preserves, the plan covers preserve management and designated infrastructure corridors.

⁵ The key permit issuance criterion related to conservation measures is that, collectively, they must minimize and mitigate the impact of the taking on each covered species to the maximum extent practicable.

⁶ The Lower Colorado River Authority is a participating agency that uses the BCCP, but it is not a permittee.

- **Authorized Take:** The BCCP quantifies allowable take of covered species in terms of loss of habitat. Table 2 below summarizes the relevant take limits established by the plan.

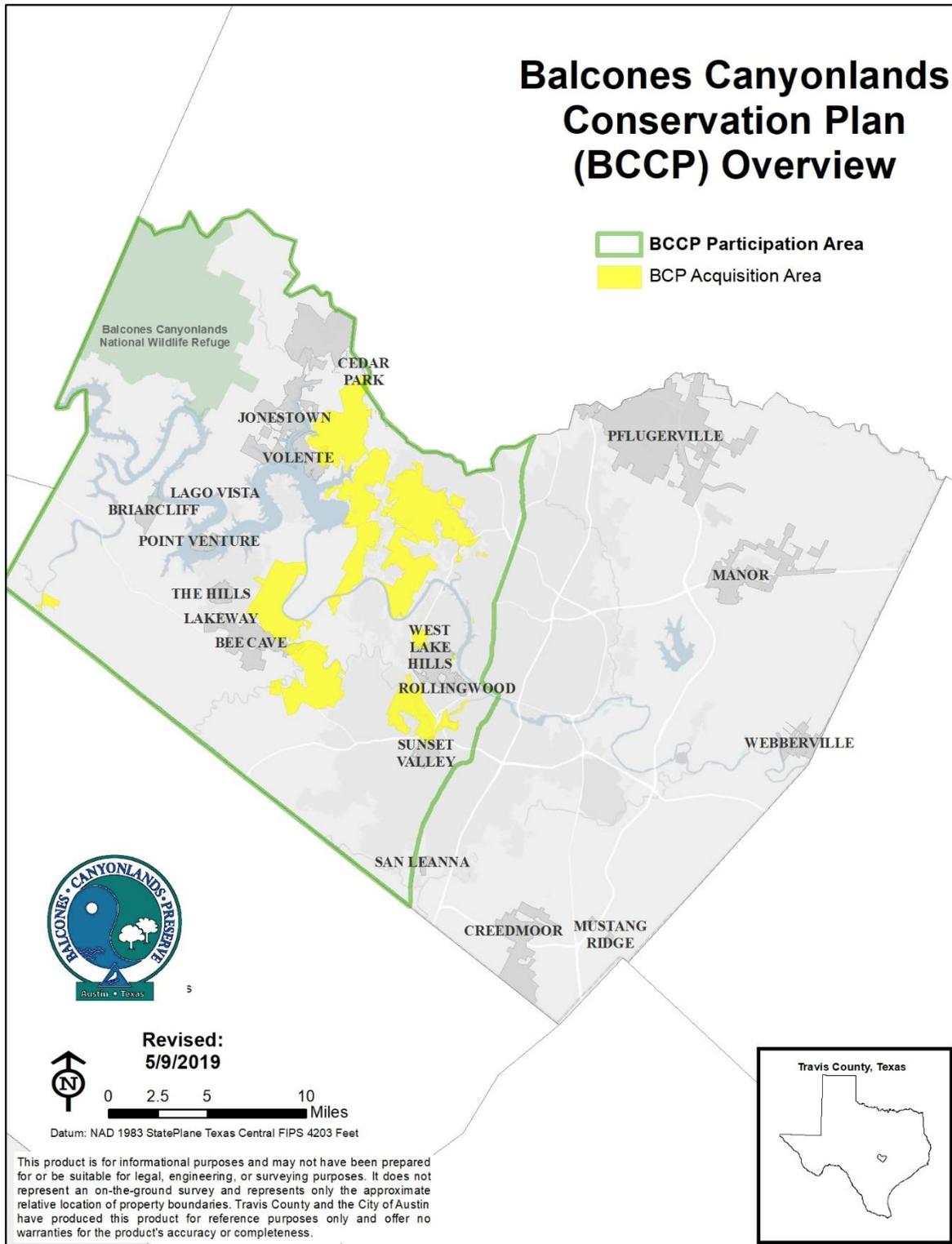


Figure 1: BCCP Overview

Table 2. Summary of Incidental Take Provided by BCCP

Species	Take Authorization	Source
Black-capped vireo	Loss of 1,000 acres of occupied vireo habitat not included in preserve acquisition areas or public/institutionally owned land. This equates to approximately 40–60 individuals subject to take. ¹	BCCP p. 4-5
Golden-cheeked warbler	Loss of 26,753 acres of potential habitat (71% of what remains). ²	BCCP p. 2-68 and 4-16
Tooth Cave pseudoscorpion (<i>Tartarocreagris texana</i>) Tooth Cave spider (<i>Neoleptoneta myopica</i>) Bee Creek Cave harvestman (<i>Texella reddelli</i>) Bone Cave harvestman (<i>Texella reyesi</i>) Tooth Cave ground beetle (<i>Rhadine persephone</i>) Kretschmarr Cave mold beetle (<i>Texamaurops redelli</i>)	Loss of four known endangered karst invertebrate caves: Beer Bottle Cave, Millipede Cave, Puzzle Pits Cave, and West Rim Cave. Loss of 38,349 acres of potential karst habitat (85% of what remains); and subsequent loss of currently undiscovered species and sites.	BCCP p. 4-29, 5-2 BCCP p. 2-68 and 4-35
Canyon mock-orange	Some loss of presently unknown populations may occur (i.e., other than the 3–5 known populations of the species protected by the preserve ³).	BCCP p. 2-19, 2-68, and 4-42
Texabama croton	Loss of “few sites” outside of the known population at Balcones Canyonlands National Wildlife Refuge and Pace Bend Park, both of which would be protected.	BCCP p. 2-58, 2-68, and 4-44
Additional karst invertebrates listed on permit	Loss of 38,349 acres of potential karst habitat (85% of what remains), same as for the listed karst invertebrate species.	BCCP p. 4-35
Notes: ¹ The BCCP on pages 2-15 and 2-68 cites losses of habitat and individuals inconsistent with these numbers, but the references on pages 2-15 and 2-68 are considered erroneous. ² On page 2-58 of the BCCP, the take limit is reported as 25,750 acres of potential habitat (71% of habitat in the permit area), which is equated to 1,545–3,090 pairs based on 15–30 pairs per 250 acres. ³ The BCCP states in different places that there are three, four, or five known populations of Canyon mock orange, all of which were to be protected by the plan.		

- **Conservation Measures:** To offset the authorized take, the BCCP permit holders must acquire, protect in perpetuity, manage, and monitor a system of preserve lands called the “Balcones Canyonlands Preserve” (BCP). Mitigation ratios applied to the amount of take determine the amount of preservation necessary, as well as a strict preserve design intended to maximize benefits to the covered species in the smallest feasible area. The primary conservation obligations of the BCCP are listed below.
 - Preserve 28,428 acres of golden-cheeked warbler habitat and 2,000 acres of black-capped vireo habitat. The BCCP permittees are not required to prove that these habitats are

occupied by the species, but the assumption of the plan was that most of these areas would be occupied or would grow into habitat suitable for occupation over time.

- Preserve golden-cheeked warbler and black-capped vireo habitat within seven specific planning units called “macrosites,” with minimum targets for each macrosite.
- Preserve habitat with less than 20 percent edge-to-area ratio and a “contiguous core” for each macrosite.
- Acquire and manage or secure formal management agreements with landowners for 35 named caves to preserve their environmental integrity for listed karst invertebrates. Acquire and manage or secure formal management agreements with landowners for another 27 named caves to preserve their environmental integrity for karst invertebrates of concern.
- Protect and manage three known populations of canyon mock-orange (West Bull Creek, Bohls Hollow, and Hamilton Pool populations) and protect and manage populations of Texabama croton at Pace Bend Park.
- Manage the preserves according to the standards outlined in the BCCP, and pursuant to an approved land management plan.

1.2.3 ESA Compliance with BCCP

Questions addressed in this section:

- *How has the BCCP worked for the permittees and the development community over the last 22 years?*
- *Which have been the most successful aspects of the plan?*
- *Which elements of the BCCP have been the most challenging to implement?*

Since the BCCP was approved in 1996, more than 900 private landowners have received take coverage through the BCCP permit. More than 360 “Participation Certificates” have been issued for development. More than 330 infrastructure projects have benefitted from the BCCP. In total, the BCCP has provided take authorization for one or more covered species on over 11,000 acres of development and over 600 acres of public infrastructure projects (Table 3). Travis County processes approximately 52 percent of all permit requests in the form of Participation Certificates, under the BCCP. The City of Austin processes the remaining 48 percent of permit requests for utilities and infrastructure projects. Three years saw spikes in take authorization for black-capped vireo (in 2001), golden-cheeked warbler (2001, 2006, and 2007) and karst invertebrates (in 2001). Take authorization has been consistently provided for golden-cheeked warbler ever since the plan became well known starting in 1997 (Table 3). Take authorization for karst invertebrates has been more sporadic because projects tend to encounter karst invertebrate caves much less often. Take authorization for black-capped vireo was discontinued in April 2018 when the species was de-listed by USFWS.

Table 3. Take Authorization Provided by the BCCP for Development Participation Certificates,¹ 1996–2018 (acres)

Fiscal Year	Black-capped Vireo Habitat	Golden-cheeked Warbler Habitat		Karst Invertebrate Habitat		Total
		Zone 1	Zone 2	Zone 1	Zone 2	
1996	0	3.61	7.99	0	0	11.60
1997	0	151.88	13.71	0	1.13	166.72
1998	0.02	139.99	44.74	6.87	0	191.63
1999	0	251.46	124.23	0.54	17.87	394.10
2000	0.01	255.96	214.25	0	68.96	539.18
2001	32.46	2,161.75	953.20	5.20	212.31	3,364.92
2002	0.01	139.76	91.75	0	0	231.51
2003	0	96.27	0	0	0	96.27
2004	0	128.68	23.25	0	1.33	153.26
2005	0.01	233.08	106.93	0	0	340.02
2006	0.05	643.34	573.99	0.41	0	1,217.79
2007	0	241.58	1,506.12	0	4.68	1,752.37
2008	0	610.90	143.31	0	0.17	754.38
2009	0	0.54	0	0	0	0.54
2010	0	6.51	16.29	0	0	22.80
2011	0	54.92	41.38	0	4.84	101.14
2012	0	52.87	29.52	0	0	82.39
2013	0	84.28	156.05	13.07	64.94	318.34
2014	0	44.07	137.39	0.16	86.05	267.67
2015	0	66.16	202.47	0	0.23	268.86
2016	0	114.48	208.62	0	0	323.10
2017	0	53.12	162.22	0	39.84	255.18
2018 ¹	0 ¹	5.65	155.06	0	11.73	172.44
Grand Total	32.57	5,540.84	4,912.49	26.25	514.06	11,026.21

Notes:

Source: BCCP Coordinating Committee (City of Austin staff and Travis County staff)

¹ Excludes 330 public infrastructure projects with impacts of approximately 600 acres.² Through November 2, 2018. Take authorization for black-capped vireo was discontinued in April 2018 when the species was de-listed by USFWS.

Without the BCCP, many of these 690 projects would have had to apply for their own incidental take permit from USFWS. That would have required preparing their own HCP (and in many cases, a NEPA compliance document) and providing their own mitigation. The BCCP thus represents an enormous savings to landowners, developers, and public works and utility agencies in avoided costs, time saved, and in avoided project delays.⁷ Despite this success, some stakeholders perceive the BCCP as restricting development unnecessarily.

⁷ The City and County intend to complete a study estimating the full economic benefit the BCCP.

As noted above, the plan has succeeded in providing take authorization to a significant number of projects in Travis County. Table 4 below summarizes the authorized take used to date for each of the covered species. As this table shows, a substantial amount of take authorization remains to be used on the permit until it expires in 2026.⁸

Table 4. Take Authorization Used and Remaining on the Permit

BCCP Component	Take Authorized by BCCP	Take Authorization Used to Date ¹ (%)	Take Authorization Remaining (%)
Golden-cheeked warbler habitat (Zones 1 and 2)	26,753 acres	10,454 acres (39%)	16,299 acres (61%)
Black-capped vireo habitat	1,000 acres	33 acres (3%)	967 acres ² (97%)
Potential karst invertebrate habitat (Zones 1 and 2)	38,349 acres	1,557 acres (4%)	37,792 acres (96%)
Named caves	Four specific named caves ³	One cave ³	Three caves
Notes			
¹ As of November 1, 2018 for Participation Certificates only. Data rounded up to nearest acre. See Table 3 for accounting.			
² Take authorization would be needed only if the black-capped vireo is listed again.			
³ Take was authorized by BCCP of Beer Bottle Cave, West Rim Cave, Millipede Cave, and Puzzle Pit Cave. Of these, only Puzzle Pit cave has been lost; the other three caves remain intact, although some have encroachment (Nico Hauwert, and Mark Sanders, City of Austin, personal communications 2018).			

The BCCP requires that the permittees protect habitat for the covered species to mitigate impacts as they occur. Table 5 summarizes the mitigation ratios for golden-cheeked warbler and black-capped vireo and habitat zones and multiplies these ratios by the take authorized to date. As shown, the City of Austin and Travis County have succeeded in protecting enough land to more than offset the authorized take to date for these covered species. Mitigation lands protected to date have outpaced take, allowing for continued take authorization (although additional land needs to be protected to meet other plan requirements; see below).

The same land protection is shown in Table 6 by land owner. Travis County and the City of Austin have acquired 3,961 acres to date using federal grant funds. These acquisitions are part of the BCP and count toward BCCP configuration requirements such as macrosite acquisition and edge-to-area ratio. However, these acquisitions with federal grants do not count against BCCP mitigation requirements (Table 5) because federal grants cannot be used for mitigation purposes.

Table 6 also lists lands which are part of the BCP but acquired by third parties to mitigate their projects using a separate application under ESA Section 10 (i.e., a project HCP) or through a separate federal consultation and ESA Section 7 biological opinion. Again, these lands are part of the BCP and count toward BCCP configuration requirements but cannot offset take associated with BCCP impacts.

⁸ The totals in Table 4 do not include authorized take for infrastructure projects, but these total approximately 600 acres over the life of the permit to date. Substantial take authorization remains regardless.

Table 5. Mitigation Requirements to Date and Mitigation Lands Protected

Covered Species	Take to Date ¹	Mitigation Ratio ²	Mitigation Requirement	Mitigation Acquired to Date ³
Black-capped vireo	32.57	1:1	32.57	810
Golden-cheeked warbler (Zone 1)	5,540.84	1:1	5,540.84	--
Golden-cheeked warbler (Zone 2)	4,912.49	0.5:1	2,456.24	--
Total golden-cheeked warbler	10,453.33	--	7,997.08	17,719

Notes:
¹ See Table 3 for details. As of November 1, 2018.
² Source: BCCP Exhibit A (Shared Vision)
³ Source: David Gimnich, City of Austin personal communication 2018

Table 6. Ownership of Balcones Canyonlands Preserve and Available Mitigation

Landowner	Total BCP (as of Nov. 1, 2018)	Acquired with Federal Grants ¹	Mitigation for Other ESA Permit ²	Remaining Available for BCCP Mitigation ¹	Notes
City of Austin	13,610	942	829	11,839	
Travis County	12,320	3,144	2,954	6,222	
Lower Colorado River Authority	390	0	0	0	Available only for mitigation of Lower Colorado River Authority projects
The Nature Conservancy	4,244	0	4,244	0	Two sites: Barton Creek Habitat Preserve (4,084 acres) and Lehmann property (160 acres)
Travis Audubon Society	44	0	44	0	
City of Sunset Valley	22	0	22	0	22 acres already used for trail construction
Private	1,627	0	1,627	0	All separate 10(a) permits or Sect. 7 Biological Opinions
Grant Total	31,861	3,961	8,981	18,529	

Notes:
¹ Through November 1, 2018.
² Mitigation lands for other ESA Permits are not included in determining available BCCP Mitigation Credits.

The City and County have also succeeded in protecting substantial tracts of land to meet the land protection requirements of the BCCP not tied directly to take as it is authorized. Table 7 summarizes the progress to date in the protection of land within each of the macrosites. Protection targets have

been met in three of the macrosites. In the remaining four macrosites, only 3–11 percent of protection remains. However, the County is still protecting land to meet the configuration requirements of the plan such as edge-to-area ratio and the need to have intact core areas within each macrosite. To meet these configuration requirements, the County will need to exceed protection targets in Table 7.

Table 7. Minimum and Target Preserve Design by Macrosite and Progress to Date

Macrosite (in order of priority)	Priority	Min. Area (acres)	Target Area (acres)	Protected to Date ¹	Remaining (acres)	Edge-to-Area Ratio Target (%)
Bull Creek	High	5,200	5,638	5,008	635 (11%)	≤20%
Cypress Creek	High	7,700	8,111	9,698	None (1,587 excess)	≤20%
South Lake Austin	High	3,000	4,491	4,061	430 (10%)	≤20%
North Lake Austin	High	3,000	5,117	5,681	None (564 excess)	≤20%
Barton Creek	Medium	4,000	6,330	6,125	205 (3%)	≤20%
West Austin	Medium	--	482	465	17 (4%)	--
Pedernales	Medium	--	259	262	None (3 excess)	--
Total Preserve Size	--	--	30,428	31,300	-872	--

Notes:

Source: Kimberlee Harvey, BCCP Coordinating Committee Secretary, 2018.

¹ As of November 20, 2018.

For karst invertebrates, the BCCP requires the preservation of 62 named caves to mitigate for impacts on potential karst habitat and named caves providing karst invertebrate habitat. However, it allows for newly discovered caves that provide habitat for listed species to be substituted, and the City and County finalized a cave substitution policy with USFWS in 2015. The BCCP has authorized 540.3 acres of take of karst habitat, and Puzzle Pit Cave, one of the four named caves authorized for take, has been lost. A total of 48 of the BCCP caves are “protected” in some way, with 14 “unprotected”.⁹

Despite these successes in land protection and development authorizations, City and County BCCP staff listed several issues that have arisen throughout the implementation of the plan. These issues are listed in Table 8 below.

⁹ Kelsey Meisenhelder, Environmental Specialist, BCCP Administrator, Travis County. Personal communication on January 25, 2019.

Table 8. Issues with BCCP Implementation to Date Identified by City and County Staff

Issue	Solution Identified?	Notes
<i>Plan Participation</i>		
Plan participants. Government entities (e.g., TXDOT, cities in Travis County) may want to use BCCP but cannot without becoming managing partners.	Must amend the plan or Shared Vision to allow more flexibility in how government entities can participate (e.g., remove requirement for managing partners to manage mitigation land).	Managing partners must manage their own mitigation land.. 17 cities occur in Travis County besides Austin, 3 of which are partially in the County.
<i>Covered Species</i>		
Add/remove covered species. Future projects may need coverage for species listed since BCCP but not covered by the plan, such as Jollyville Plateau salamander, or for species not yet listed and not covered by BCCP.	If needed, could amend the HCP to cover new species.	USFWS has not indicated plans for enforcement to address potential unauthorized take of listed species. Central Texas freshwater mussel species listing decisions anticipated.
<i>Conservation Strategy: Golden-cheeked Warbler</i>		
Achieving edge-to-area ratios. It may be difficult to achieve the edge-to-area ratio requirement for some macrosites.	This issue stems from a mapping error in the North Lake Austin macrosite that could be addressed via an administrative change.	
Achieving macrosite protection requirement. The acreage protection targets in certain macrosites (e.g., Bull Creek) may not be feasible within the existing permit duration.	BCCP allows substitution with other macrosites.	Landowner constraints are primary obstacle, which could change over time.
Degraded habitat in grandfathered preserve tracts. Some tracts grandfathered into the preserve no longer support the covered species for various reasons.	No Surprises assurances allow for this to occur as long as BCCP requirements are followed; in most cases, no change is necessary.	On BCP tracts where recreational impacts have exceeded 1996 levels, mitigation credit given lost value to species may need to be revisited.
<i>Conservation Strategy: Caves and Karst Invertebrates</i>		
Named cave conservation. Some named karst caves that BCCP says must be protected either (1) cannot be found, (2) do not have listed karst invertebrates, (3) are infeasible to protect, or (4) are inadequately protected.	2015 Cave Substitution Policy allows “exchange” of caves named in BCCP for protection as long as certain criteria are met.	Policy planned for implementation starting in 2019.
Karst species identification. BCCP had insufficient data at the time on species identification.	BCCP is conducting its own genetic studies to identify listed invertebrates. Implementing 2015 Cave Substitution Policy to completion should address this.	Policy planned for implementation starting in 2019.

Issue	Solution Identified?	Notes
Preserve Management and Long-term Funding		
<p>Recreational use in grandfathered preserve tracts. The BCCP allows recreational use on “grandfathered” preserve tracts at 1996 levels, but maintaining at 1996 levels is infeasible to enforce given the growth in recreation.</p>	<p>None yet. 2018 update proposed to public access chapter of BCP Land Management Plan.</p>	<p>As the region grows, recreational pressures increase in BCCP preserves.</p>
<p>Long-term funding. The BCCP did not create a permanent long-term funding source to pay for preserve management post-permit.</p>	<p>City and County could build a non-wasting fund using County benefit tax already collected and City general fund contributions, both of which would sunset.</p>	<p>A plan and permit amendment may be needed to establish this new approach. City and County funding sources could be altered by elected officials. However, officials are likely to continue to support funding in support of ESA compliance.</p>

1.3 Process for Administrative Changes and Amendments

Questions addressed in this section:

- *What is the typical process for an administrative change?*
- *What is the typical process for an HCP and permit amendment?*

There are three general types of changes permittees can make to an HCP or incidental take permit: (1) permit renewal, (2) administrative change, and (3) HCP and permit amendment. Permittees who wish to make any of these changes should begin by contacting USFWS to discuss the desired change. Once the permittee and USFWS agree on the best approach, the permittee should coordinate with USFWS to identify the components of the permit or HCP to be changed, and the necessary procedural steps.

The difference between an administrative change and major amendment depends on the nature of the changes proposed to the original HCP. If the changes are relatively minor, the permittee may be able to document the change with an exchange of letters with USFWS, an addendum or revision to the HCP, or a simple permit amendment. USFWS does not need to advertise administrative changes to an HCP in the Federal Register when levels of incidental take do not increase and the covered activities do not expand in ways not analyzed in the original NEPA or Section 7 documents. Changing the HCP without a Federal Register notice and without additional NEPA compliance is considered an administrative change.

However, as the scale or scope of the change to the HCP and permit increases (e.g., increasing take amount, changing plan area, covered activities, covered species), it becomes more likely that USFWS will need to publish a public notice and amend the NEPA and Section 7 analyses. Any of these outcomes would be considered a major amendment.

Permit amendments are initiated by the same application form as applying for a new incidental take permit.¹⁰ The simplest amendment is a permit renewal that only changes the expiration date of the plan and permit. A permit renewal cannot change the amount of authorized take or any other components of the plan or permit. To apply for a permit renewal, a permittee must contact USFWS and request a renewal at least 30 days prior to permit expiration. Federal regulations allow the permit to remain in effect while USFWS considers and processes the request.¹¹ No federal notice is required for a permit renewal, nor is NEPA compliance required. This option is a good one for permittees who have substantial unused take authorization at the end of the permit and do not wish to change any aspects of the plan or permit except the date.

As in most HCPs, the BCCP specifically addresses the amendment process. The BCCP refers to administrative changes as “minor amendments.” Examples of minor amendments or administrative changes include changes in the personnel implementing the plan; day-to-day decisions regarding land acquisition, management, fee collection, etc. so long as they are in general accordance with terms and conditions of the BCCP; and rules or bylaws of the Coordinating Committee that do not affect the level of take. The BCCP identifies examples of major amendments, including the following:¹²

- Additional or withdrawal of parties to the permit.
- Changes in geographic boundaries of the permit area.
- Changes in the composition or powers of the BCCP Coordinating Committee.
- Additions to or deletions from the list of species of concern protected under the plan.
- Changes in state or local legislation that diminish the authority of parties to the permit to carry out the terms and conditions of the permit.
- Changes in the habitat conservation, monitoring, compliance, or enforcement programs that are likely to increase the level of incidental take of a species of concern.

The BCCP also identifies the process for plan amendments.¹³ Amendments can be initiated by a BCCP Coordinating Committee voting member, USFWS, or other entity via petition to the BCCP Coordinating Committee. The amendment process is summarized in the BCCP and involves review and approval by the Coordinating Committee and the permittees, and then sending the proposed amendment to USFWS for consideration.

¹⁰ Form 3-200-56 (Rev. 10-2017). Available at <https://www.fws.gov/forms/3-200-56.pdf>.

¹¹ 50 Code of Federal Regulations 13.22 (for USFWS).

¹² BCCP pages 2-51 and 2-53.

¹³ BCCP pages 2-53 to 2-55.

1.4 Examples of Regional HCP Amendments

Questions addressed in this section:

- *How common are HCP amendments and who typically does them?*
- *What components of HCPs are typically amended?*
- *Have other regional HCPs approved around the same time as the BCCP been amended yet? If so, how extensive were those amendments?*
- *When is an HCP too old to amend, and when must it be replaced?*
- *What federal ESA regulations have been enacted since 1996 that might affect a BCCP amendment or replacement?*

Case studies examined in this section:

- *Washington State Department of Natural Resources State Lands HCP Amendment*
- *San Bruno Mountain HCP Amendments*
- *Lower Colorado River MSHCP Amendment]*
- *Bakersfield HCP (replacement of Metro Bakersfield HCP)*

HCP amendments are relatively common because not all issues or changed circumstances can be envisioned when the HCP is developed. Administrative changes to address implementation issues (e.g., administrative, monitoring measures) are very common. Major amendments that address changes to the scope of the HCP are also common. To date, there have been 108 major amendments approved by USFWS for 690 HCPs, or approximately 15 percent.¹⁴ These usually address changes such as:

- Covered species, when listed species not covered by a plan are discovered within the plan area, or new species listings occur with the potential to be affected by the permittee's activities.
- Covered activities, when a new land use or type of development may result in effects on covered species that were not considered in the original plan.
- Plan area, when activities may result in take of covered species in areas not covered by the original plan.

An important consideration for amending an older HCP is how the policies and regulations established since the 1990s have changed the required elements and conditions for HCPs. Important changes include the following, as summarized in the 2016 HCP Handbook:¹⁵

- **Regulatory assurances (63 FR 8859; 1998).** These assurances are called No Surprises assurances and are also known as “a deal is a deal.” If an unforeseen circumstance occurs, USFWS will not require additional land, water, or financial compensation or impose additional

¹⁴ A few plans have multiple amendments but most have just one. No data are available on minor amendments. Source: U.S. Fish and Wildlife Environmental Conservation Online System (ECOS) database.

¹⁵ USFWS and National Oceanic and Atmospheric Administration Fisheries. 2016. *Habitat Conservation Planning and Incidental Take Permit Processing Handbook*. Available online: https://www.fws.gov/endangered/what-we-do/hcp_handbook-chapters.html.

restrictions on the use of land, water, or other natural resources beyond the level agreed to in the HCP. Permittees can provide additional conservation voluntarily, but USFWS cannot require it. USFWS will honor these assurances as long as a permittee is implementing the requirements of the HCP, permit, and other associated documents properly, and their permitted activities will not jeopardize the continued existence of any of the covered species. As a result of this regulation, HCPs now must address those changed circumstances provided for in the plan and not provided for in the plan (i.e., unforeseen circumstances).

- **Five-Point Policy (65 FR 35242; 2000).** The policy expanded the use and integration of five components of the HCP program: (1) biological goals and objectives, (2) adaptive management, (3) monitoring, (4) permit duration, and (5) public participation. The principles and specifics of this policy have been integrated into the revised HCP Handbook, and HCPs are now required to address these components.

An HCP, so long as its permit is still active, is never too old to amend. However, in order to gain regulatory assurances,¹⁶ the amended HCP has to meet current regulatory and policy requirements, which may require such extensive revision that replacing the plan may be the easier option. The following sections provide some examples of HCP amendments or replacements.

1.4.1 Washington State Department of Natural Resources HCP

The Washington State Department of Natural Resources (DNR) HCP was approved in 1997. It covers 1.6 million acres of Washington state trust lands, six federally listed species, and 46 unlisted species. Covered activities include forest management activities, oil and gas production, and recreation activities. The plan has a 70-year permit duration, longer than typical regional HCPs, in order to encompass the full duration of forest management covered activities.

The original HCP included an interim conservation strategy for the marbled murrelet (*Brachyramphus marmoratus*). During the mid-1990s when the HCP was developed, not enough was known about murrelet habitat use to design and implement a long-term conservation strategy, and USFWS had not yet developed a recovery plan for the murrelet. Therefore, the interim conservation strategy included studies to identify marbled murrelet habitat relationships within the plan area; these studies were largely completed between 1997 and 2010.

With new information gained from murrelet habitat studies, Washington DNR and USFWS developed the long-term conservation strategy from 2012 to 2016, and DNR proposed to amend the HCP to include the revised strategy. The draft amended HCP and revised draft EIS were published in September 2018¹⁷ and are expected to be approved soon. No other plan components are proposed for amendment.

¹⁶ Although the BCCP was approved prior the regulations establishing No Surprises assurances, USFWS did have a No Surprises policy in place in 1996, and the conditions of the No Surprises policy as they apply to the BCCP permit are described therein.

¹⁷ 83 FR 45458

1.4.2 San Bruno Mountain HCP

The San Bruno Mountain HCP was the first to be approved in the country in 1983, with a permit duration of 30 years. Original permittees include the County of San Mateo and Cities of Brisbane, Daly City, and South San Francisco. The plan originally covered three federally listed species: the mission blue butterfly (*Icaricia icarioides missionensis*), San Bruno elfin butterfly (*Callophrys mossii bayensis*), and San Francisco garter snake (*Thamnophis sirtalis tetrataenia*). It did not cover any unlisted species because it was approved prior to the USFWS's No Surprises policy and unlisted species could not be covered. The plan area covers 3,500 acres of private and public park land and is administered by San Mateo County.

The HCP has been amended five times (twice in 1985, 1986, 1990, and 2009). In 2013 the permit was renewed for another 30 years, through 2043. Early amendments adjusted the plan area boundary and added covered activities (e.g., temporary landfill) not considered in the original plan. In 2009, a major amendment was completed to add two covered species, callippe silverspot butterfly (*Speyeria callippe callippe*) and Bay checkerspot butterfly (*Euphydryas editha bayensis*). The callippe silverspot butterfly was listed as endangered in 1997 and the HCP amendment authorized take of 19.64 acres of habitat for the species. The Bay checkerspot butterfly was listed as threatened in 1987, but it has not been observed in the plan area since the mid-1980s. It was added to the incidental take permit in case it is reintroduced or recolonizes naturally within the plan area. The amendment also reconfigured areas designated for development and conservation to increase the conservation value, added recreational activities to the list of covered activities, and added a new funding source to address long-term management costs that were much higher than originally anticipated due to new invasive species issues. In order to complete the amendment, ICF prepared for USFWS an EA and Finding of No Significant Impacts in 2009.¹⁸

1.4.3 Lower Colorado River Multi-Species Conservation Plan

The Lower Colorado River Multi-Species Conservation Plan (LCR MSCP) was approved in 2005, covering 718,000 acres of the lower Colorado River and adjacent floodplain in Arizona, California, and Nevada. The plan covers operation, maintenance, and repair of water diversion facilities, with a 50-year permit duration. Originally, the plan covered six listed species and 12 unlisted species. In 2017, the LCR MSCP was amended to add the northern Mexican gartersnake (*Thamnophis eques*) as a covered species. The northern Mexican gartersnake was not considered for coverage during development of the plan because it was believed to be extirpated within the plan area. However, in 2011 and 2012 the Arizona Game and Fish Department discovered the species on the Bill Williams River within the plan area, which is within a designated conservation area of the plan that may result in creation of habitat and further colonization by the gartersnake. In 2014, USFWS published a final rule to list the northern Mexican gartersnake as threatened and proposed critical habitat that included portions of the Bill Williams River.¹⁹ In June 2017, the LCR MSHCP steering committee recommended that the plan be amended to add the gartersnake as a covered species.²⁰ USFWS published a draft EA to amend the HCP in November 2017, and the amendment was completed in March 2018.

¹⁸ 74 FR 50985

¹⁹ 82 FR 56261

²⁰ [LCR MSCP HCP Steering Committee Resolution 17-003](#)

1.4.4 Metropolitan Bakersfield Habitat Conservation Plan

The Metropolitan Bakersfield Habitat Conservation Plan (MBHCP) was one of the first regional, multi-species HCPs in the country, approved in 1994 with a 30-year permit duration. The original goals outlined in the MBHCP were to protect and enhance native habitats that support threatened and endangered species while allowing urban and rural development projects to proceed as set forth in approved local land use plans. Prior to the permit expiring in 2014, USFWS extended the incidental take permit to 2019. Rather than amend the original MBHCP, the permittees (the City of Bakersfield and Kern County), with concurrence from USFWS, decided to replace the old plan with a new plan for the following reasons:

- The implementation regulations of the ESA and Section 10(a)(1)(B) permits have changed in important ways since 1994 that require new components of for HCPs, such as biological goals and objectives, a monitoring and adaptive management plan, and No Surprises assurances.
- The 1994 MBHCP was very general, which has required additional coordination between the permittees and USFWS to clarify aspects of the plan to ensure that it is being implemented according to the permit terms and conditions. For example, the covered activities are not stated very clearly, so frequent communication is necessary between the permittees and USFWS to decide which activities are or are not covered by the plan.
- There have been some substantial changes to species information since the MBHCP was approved. The biggest issue is the urban population of San Joaquin kit fox in Bakersfield, which has grown substantially since the MBHCP was approved. Although the MBHCP covers kit fox, it does not address the urban kit fox population. Presently the urban population is at the highest risk for take, a critical shortfall of the existing plan to address take coverage needs.
- Permittees are proposing to remove four covered species add five new covered species, a significant change to the composition of covered species, necessitating an entirely new conservation strategy.

ICF is currently preparing a new HCP for the City of Bakersfield and Kern County²¹ to replace the MBHCP.

²¹ City of Bakersfield. No date. *The Bakersfield Habitat Conservation Plan* website. Available online: <http://www.bakersfieldhcp.us/>

Chapter 2

Options for the BCCP

Questions addressed in this section:

- *What options are available to the BCCP permittees near the end of the permit?*
- *How were these options developed and evaluated?*

There are five options available to any incidental take permit holder near the end of the permit term.

1. The vast majority of all HCPs in the country are small HCPs that authorize take of listed species for single projects. Once the project is built, take authorization is no longer needed because all impacts occur during project construction. In these cases, incidental take permits are for a relatively short duration, typically only 5 or 10 years. Once the project is built, the **permit is allowed to expire**. This is the first and the simplest option available to the City and County. Although it requires no action on the part of the City or County, this option has important consequences.
2. The second option is to **apply for a permit amendment that only extends the duration of the permit**. This is a relatively simple process but only changes one aspect of the HCP, its expiration date. As a result, this type of amendment is often called a permit renewal. How long the permit can be extended depends on how much take authorization is left to use, which is evaluated for this option.
3. The third option is to address issues in implementing the BCCP through **administrative changes**. As described above, administrative changes can usually be conducted through an exchange of letters with USFWS and/or addendum to the HCP. The scale and scope of these can vary greatly, from making minor clarifications in the HCP to resolve ambiguities or errors, to more significant changes affecting the implementation of the plan just short of what would require a permit amendment.
4. The fourth option is to formally amend the permit, called a **major permit amendment**. The scope and scale of this option is up to the permittees to decide. Incidental take permit holders can apply to amend their permit in any way they wish. If the changes proposed to the HCP are relatively small, the amendment may not require a notice in the Federal Register or a new or amended NEPA document. However, the most common major permit amendments (e.g., increasing take amount, changing plan area, covered activities, covered species) typically require both.
5. The last option is to **replace the BCCP with a new HCP**. Ideally, this would be done prior to the BCCP expiration date to ensure that there is no interruption in ESA coverage for the City and County and its developers.

Each of these five options is described in more detail and evaluated in turn. Although each is evaluated separately, aside from allowing the permit to expire, the options are not mutually exclusive. Chapter 3, *Recommendations*, presents a summary comparing each option (or combination of options) and its benefits and drawbacks to address the City and County's current needs.

ICF assessed the benefits and drawbacks of each option based on extensive discussions and two workshops with City and County staff who have been implementing the BCCP for over 20 years. Many of these staff were also involved in the development of the BCCP itself. ICF also met with staff from the USFWS Austin Field Office to discuss their views on BCCP implementation and renewal. ICF reviewed the following documents to gain insights into BCCP and its implementation successes and challenges:

- *Balcones Canyonlands Conservation Plan and Environmental Impact Statement (1996).*
- *U.S. Fish and Wildlife Service Incidental Take Permit to the City of Austin and Travis County (PRT-788841; 1996).*
- *BCCP Coordinating Committee Cave Substitution Policy, adopted August 21, 2015*
- *Balcones Canyonlands Conservation Plan: Completion Task Group Report, July 25, 2011.*
- *Balcones Canyonlands Conservation Plan Annual Reports (fiscal year [FY] 2015, FY 2016, FY 2017).*
- BCCP implementation documents and data compiled by the City of Austin and Travis County and provided to ICF.

2.1 Allow Permit to Expire

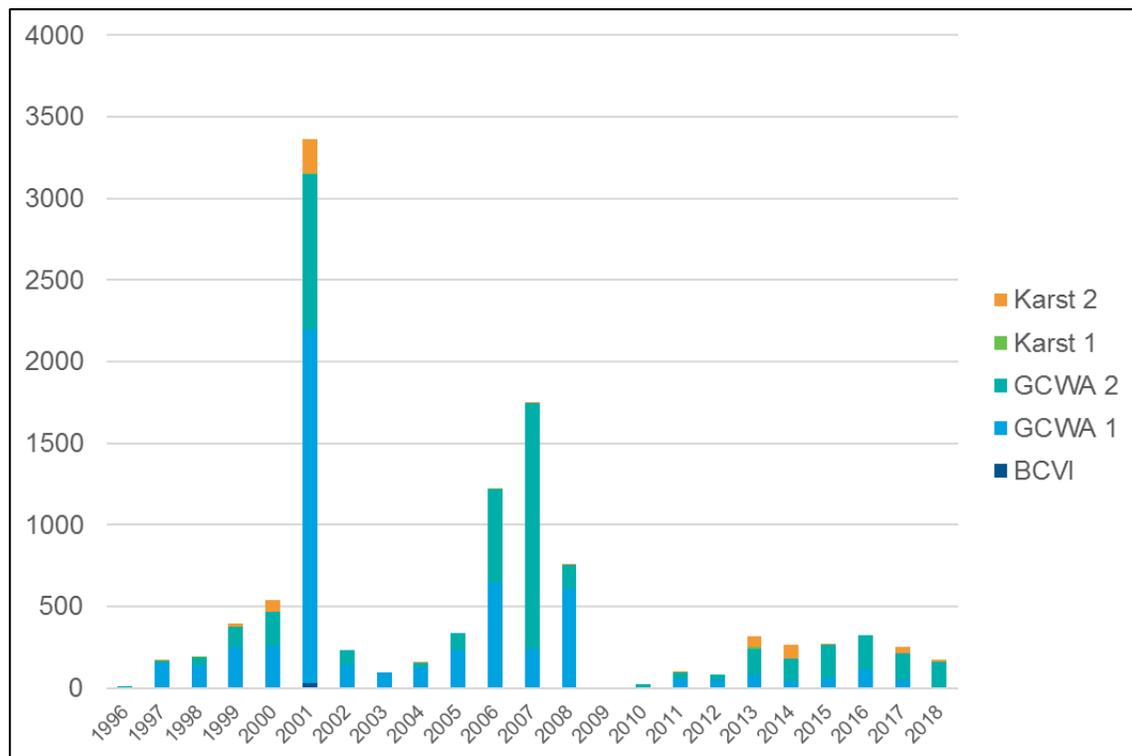
Questions addressed in this section:

- *What happens to the current ESA compliance process when the BCCP permit expires?*
- *What would future developers do if the BCCP permit was allowed to expire?*
- *What would happen to BCCP preserve lands if the permit expires?*

The current ESA compliance process under the BCCP allows voluntary participation, documented by a Participation Certificate or infrastructure permit issued by Travis County or the City of Austin. Applications for Participation Certificates are processed free of charge, typically within 15 business days, and fees for participation range from zero up to \$5,500 per acre. Once a participation contract is issued for a parcel or tract, it is attached to the land title similar to an easement. ESA compliance for land with a Participation Certificate remains in perpetuity, assuming future development on the land would occur in accordance with the participation contract.

Should the BCCP permit be allowed to expire in 2026, this ESA compliance process would no longer exist. Developers of all kinds, including private developers and public infrastructure agencies, who need take authorization would be responsible for their own ESA compliance with USFWS. This is essentially the situation described in Section 1.2.1, *ESA Compliance before BCCP*. Although the black-capped vireo has been delisted, all other threatened and endangered species covered by the BCCP remain listed and would require a take permit. Additional species listed since the BCCP could create new ESA compliance issues for certain projects (e.g., Jollyville Plateau salamander [*Eurycea tonkawae*] and Austin blind salamander [*Eurycea waterlooensis*]). Also, new species listed in the future could create additional ESA obligations for projects that support these species and their habitat. Most project proponents who need take authorization would be left to prepare their own project HCP similar to those prepared prior to the BCCP (Table 1). This project HCP process would be slow, time-consuming, and costly compared to the current BCCP process.

Figure 2 illustrates the historic pattern trend of how much take has been authorized by the BCCP. It indicates the plan’s consistent use to authorize take, especially over the last 5 years, which is a good indication of the future demand for take authorization in the county in the relatively near future.



Notes: Karst 2 = Karst Zone 2; Karst 1 = Karst Zone 1; GCWA 2 = Golden-cheeked Warbler Zone 2; GCWA 1 = Golden-cheeked Warbler Zone 1; BCVI = Black-capped Vireo

Figure 2. Take Authorized under BCCP by Year (acres)

However, how much future development is anticipated in the City of Austin and in unincorporated Travis County after 2026 that might require take coverage? Comparing current population estimates to the population growth forecasted by Travis County’s Growth Guidance Plan,²² the population of all of Travis County is estimated to grow by approximately 330,000 people by 2035.²³ The proportion of the County’s population in the unincorporated portions of Travis County has continued to grow, from 15.4 percent in 2000 to 17.5 percent in 2010. The Growth Guidance Plan forecasts the unincorporated County population to grow by 111,706 people by 2035 compared to the 2010 population as of last census, and the plan estimates that this growth would require approximately 66,000 acres of new development. This growth will also require expanded transportation and utility infrastructure. The *Land, Water, and Transportation Plan* identifies transportation as the top concern identified by the public, and major transportation corridors to be established to support this growth. Clearly, forecasted population growth and anticipated public

²² Travis County. 2014. *Land, Water and Transportation Plan: Growth Guidance Plan*. Adopted December 2, 2014. Available online: https://www.traviscountytexas.gov/images/tnr/Docs/lwtp-Growth_Guidance_Plan.pdf.

²³ Based on current population estimate of 1,226,698 from 2017 census data (<https://www.census.gov/quickfacts/fact/table/traviscountytexas/PST045217>) and the 2035 population of 1,555,300 estimated by Travis County (2014).

infrastructure needs indicate that ESA compliance will be needed for the City of Austin and Travis County beyond 2026.

Aside from the take coverage needs of future development, there is also the existing lands within the BCCP preserves. What happens to these lands if the BCCP permit expires? Because the impacts and take authorized by the BCCP are permanent, the mitigation to offset those impacts must also be permanent. The BCCP states that the “preserve system is to be managed to *permanently* conserve and facilitate the recovery of the populations of target endangered species inhabiting western Travis County.”²⁴ So, even if the incidental take permit is allowed to expire, the City of Austin and Travis County would still be responsible for maintaining and managing the BCCP preserve lands in perpetuity for the benefit of the covered species.

2.2 Amend Permit to Extend Duration Only

Questions addressed in this section:

- *What is the process to extend the duration of the BCCP permit without changing anything else?*
- *How long would it take to prepare and how much would it cost?*
- *What are the benefits and drawbacks of this approach?*

As described above in Section 1.3, *Process for Administrative Changes and Amendments*, extending the permit duration only—also called permit renewal—is the simplest form of HCP amendment. A permit renewal changes no other components of the permit, requires no federal notice or NEPA review, and could be accomplished with a letter exchange with USFWS. Because the BCCP is well below the take limits established on the current permit for golden-cheeked warbler and karst invertebrate habitat (Table 4), this is a feasible option for consideration by the BCCP Coordinating Committee. The following sections identify the potential benefits and drawbacks of this option.

2.2.1 Benefits

The benefits of extending the BCCP permit duration only are described below.

Benefit: Avoid Opening the Plan to Challenges from Stakeholders

Renewing the permit without changing any other components of the plan would avoid opening up components of the plan to challenges from stakeholders with polarized views of BCCP, where compromise could be difficult. For example, environmental groups may assert that the BCCP has not conserved enough, while some representatives of the development community feel that the BCCP is hampering development rather than streamlining it. Simply renewing the permit would allow the BCCP to continue to operate with business as usual, without creating a contentious public debate on what to change or not change.

²⁴ BCCP page 2-31.

Benefit: No Administrative Burden to Adjust to Changes

The City of Austin and Travis County have been implementing the BCCP for 22 years and at this point have a well-established system in place. Proceeding with the status quo would benefit the permittees by presenting no adjustments to implementing the BCCP.

2.2.2 Drawbacks

The drawbacks of extending the BCCP permit duration only are described below.

Drawback: Continued Use of Old Plan

The BCCP in its current form (combined HCP/EIS document) contains inconsistencies and is difficult to understand. The current practice is to separate HCPs from their associated NEPA review documents (EISs or EAs). In fact, the BCCP was one of the few combined HCP/EIS documents ever issued. That is because combined HCP/EIS documents are lengthy and cumbersome. Combining the HCP (the proposed action) with the NEPA review conducted through analyzing several alternatives to the HCP makes it challenging to discern what the final approved HCP is. It also makes the document more prone to inconsistencies and errors. The BCCP did not escape these typical pitfalls of a combined HCP/EIS document. Furthermore, the plan was completed prior to modern geographic information system (GIS) software, meaning that it relies on hand-drawn maps and suffers from geographic inaccuracies that can lead to ambiguity and confusion. Unique to the BCCP, it also relies heavily on critical policies set forth in the *Balcones Canyonlands Conservation Plan – Shared Vision*, which is Exhibit A of the HCP/EIS document. The Shared Vision defines which entities can participate in the plan and the fees required for participation, among other key plan components. Including these in a separate document apart from the HCP only makes the plan more difficult to understand. The plan's inconsistencies, ambiguity, and general unwieldiness has made it more challenging to implement, and this difficulty would continue.

Drawback: Increasing Reliance on Institutional Knowledge

Several County and City staff have been involved with BCCP implementation for decades, as far back as its inception. They represent a wealth of institutional knowledge of what has worked well for the BCCP and what has not (some of which is described in this report). This institutional knowledge has also helped to patch over some of the issues with the plan document itself (described above). Only extending the permit duration without addressing any of the implementation issues of the BCCP places a greater amount of pressure on staff to implement the plan. That is, successful implementation relies more heavily on the know-how of staff as opposed to clear guidance and processes set up by the BCCP and associated implementation procedures. Addressing the BCCP implementation issues described in this report may be more difficult in the future, especially if staff turnover results in a loss of this institutional knowledge. Staff turnover at USFWS is also a potential risk. USFWS has generally taken a relatively hands-off approach with the BCCP recently, but new agency staff could take a more hands-on approach and could take issue with lacking or inconsistent implementation processes or documentation with a permit renewal.

Drawback: Inability to Fix Implementation Issues

Components of the plan that have presented implementation challenges, summarized in Table 8, would not be addressed by a permit renewal alone.

2.2.3 Timeline and Cost

The timeline for a permit renewal would be relatively short and the cost would be minimal. The Coordinating Committee would need to contact USFWS and request a renewal at least 30 days prior to permit expiration. USFWS would allow the permit to remain in effect while it considers and processes the renewal request. The cost would only be the administrative time for the Coordinating Committee to consider and pass a motion to request a permit renewal, and to complete the necessary letter correspondence with USFWS and the permit renewal application. If the Coordinating Committee submits the necessary information about the remaining take authorization, USFWS is likely to process and approve the renewal request within 1 to 3 months.

2.3 Administrative Changes

Questions addressed in this section:

- *What administrative changes might the City and County pursue? And why?*
- *How long would administrative changes take to prepare and how much would it cost?*
- *What are the benefits and drawbacks of administrative changes?*

As described above in Section 1.3, *Process for Administrative Changes and Amendments*, the process for administrative changes can be determined by coordinating with USFWS. Administrative changes would typically be accomplished by one or more of the following actions:

- Updating and correcting the BCCP through an addendum and reissue of the updated document;
- An exchange of letters with USFWS to document the change to the BCCP; and/or
- A minor amendment²⁵ to the permit by USFWS that does not require Federal Register notice or additional NEPA review.

If the changes proposed fall within the range of environmental effects evaluated in the original HCP EIS, then USFWS can justify using the original EIS to issue the permit amendment and avoid preparing a supplemental NEPA analysis. The BCCP Cave Substitution Policy, adopted by the Coordinating Committee in 2015 after coordination with USFWS, is an example of an administrative change. The following sections identify the potential benefits and drawbacks of this option.

2.3.1 Benefits

Benefit: Surgical Changes to Plan and Implementation

The City and County can pursue administrative changes to address very specific issues in the BCCP or its implementation policies. Depending on the issue, the administrative change can be relatively simple, or could be more complicated and require more coordination with USFWS. Some examples of administrative changes for the BCCP that the City and County could pursue include the following:

²⁵ The BCCP considers minor amendments to be the same as an administrative change.

- Clarifying reporting and implementing requirements and correcting errors in the BCCP. For example, the North Lake Austin macrosite conservation target is incorrect as a result of a mapping error.
- How the plan covers trails constructed outside of the BCCP preserves. The BCCP does not identify this activity as covered, but a limited number of trail-building projects have been permitted through the BCCP as infrastructure projects.
- Remove (or suspend) a certain amount of mitigation credits voluntarily to account for decreased habitat value of grandfathered reserve tracts (e.g., Wild Basin Preserve, Emma Long Metropolitan Park).

The City and County can choose which issues they want to address through administrative changes. They also control the scope of any administrative change, giving them more control over the process and outcome.

The process of implementing an administrative change to the plan is the simplest of all of the options available. Depending on the nature of the change, the City and County could simply make the corrections and adjustments to the plan and notify USFWS of these changes (as long as those changes fall within the definition of an administrative change).

Benefit: Avoid Opening Up the BCCP to Public Scrutiny

Similar to the benefit of only extending the BCCP's permit duration, pursuing only administrative changes could avoid opening up the BCCP to public scrutiny that could increase the risk of negative public perception of the plan. Administrative changes are not released for public review. However, once the City, County, and USFWS settled on a set of administrative changes, the revised BCCP should be released to the public with a list of changes made.

2.3.2 Drawbacks

Drawback: Cannot Be Used to Address All Issues

As noted previously, administrative changes can only be used to address issues that do not require amending the permit. Specifically, they could not be used to address the following, which are defined as major amendments in the BCCP:

- Additional or withdrawal of parties to the permit.
- Changes in geographic boundaries of the permit area.
- Changes in the composition or powers of the BCCP Coordinating Committee.
- Additions to or deletions from the list of species of concern protected under the plan.
- Changes in state or local legislation that diminish the authority of parties to the permit to carry out the terms and conditions of the permit.
- Changes in the habitat conservation, monitoring, compliance, or enforcement programs that are likely to increase the level of incidental take of a species of concern.

As a result, certain implementation issues could not be addressed via administrative change. One example of such an issue is expanding the BCCP permit area to include more golden-cheeked warbler habitat, as meeting the protection targets set forth in the BCCP within the existing permit

area will be challenging. Another issue that is unlikely to be addressed via administrative change is allowing other government entities to participate in the plan without requiring them to become managing partners. Although there may be some flexibility on this issue, because managing partners and permit holders are defined in the Shared Vision (outside of the permit itself), USFWS could view this as adding parties to the permit. As such, both of these issues are likely to be left unaddressed without a major permit amendment.

Drawback: Administrative Changes May Be Difficult to Track

A potential drawback of using administrative changes to address issues with the HCP or its implementation is that, as the number of these changes grows, it may become increasingly difficult to track them. This potential drawback would only be exacerbated by the challenges of the existing BCCP document, as described above under *Drawback: Continued Use of Old Plan*.

2.3.3 Timeline and Cost

Although dependent upon the complexity of the administrative change, most could be completed at a relatively low cost and over a relatively short timeline. At the low end of potential costs, the City and County could prepare their own request for an administrative change without any consultant support. A more complex administrative change that requires consultant support would likely cost in the range of \$50,000 to \$100,000 in today's dollars. The cost would also include the administrative time for the BCCP management staff to prepare and present the proposed administrative change to the Coordinating Committee, the Committee to consider and pass a motion for the administrative change, and the BCCP management staff to complete the necessary correspondence with USFWS to document the administrative change. A simple administrative change without a Federal Register notice and without NEPA compliance would likely take 3 to 12 months to prepare and get approved by USFWS.

2.4 Major Permit Amendment

Questions addressed in this section:

- *What elements might be included in a BCCP amendment? And why?*
 - *Should new species be added?*
 - *Should the black-capped vireo be dropped as a covered species now that it has been de-listed?*
 - *Should new covered activities be added?*
 - *Is more take authorization likely to be needed by the time the permit ends, for existing covered activities? If so, how much?*
- *Should the conservation strategy be adjusted to account for lessons learned to date?*
- *How long would an amendment take to prepare and how much would it cost?*
- *What are the risks and benefits of a permit amendment?*

A major permit amendment is a flexible tool that allows permittees to amend their HCP as much or as little as desired. As seen in the examples of HCP amendments provided in Section 1.4 of this report, a permit amendment can amend one or many aspects of an HCP at once. In theory, there is no limit to the scale and scope of an amendment. However, at some point, if there are many changes proposed, it may be better to simply replace the HCP with a new and completely updated plan in order to realize the unique benefits of a new HCP (see the next section for an evaluation of that option). Another consideration as to the scale and scope of the amendments proposed is whether the changes trigger a new Federal Register notice and a supplemental EIS or a new EIS. The triggers for either of those will depend on the nature of the changes proposed. For example, adding covered species or increasing the allowable take is likely to trigger both a Federal Register notice and at least a supplemental NEPA analysis.

The major amendment process is evaluated below in terms of the categories of challenges listed in Table 8.

2.4.1 Recreational Use on Grandfathered Preserve Tracts

The BCCP allows strict control of recreation on newly protected preserve lands but fixes recreational use on “grandfathered” preserve tracts to 1996 levels. Regional HCPs that cover urban development often face the issue of increasing pressure on preserve lands to provide more recreational opportunities for the growing population nearby. The BCCP is no exception. It is becoming increasingly difficult to control illegal access to new preserve lands, and it is difficult or impossible to enforce use limits on grandfathered preserve tracts to 1996 levels. The permittees have started to address these two issues through a comprehensive update to the public access chapter of the BCCP Land Management Plan,²⁶ a requirement of the permit. This management plan provides guidelines for trail construction and recreational use consistent with the BCCP requirements. A permit amendment could also help to solve this problem by:

1. Providing take authorization for construction of new trails throughout participating jurisdictions (both on and off BCCP preserve lands).
2. Mitigating for the impacts of trail construction and use by requiring additional land protection for the BCCP preserve system.
3. Formalizing through the permit the rules for trail construction on BCCP preserve lands to minimize impacts on the covered species (a requirement of the ESA permit).
4. Formalizing through the permit the limitations on trail use in certain areas and during certain times to avoid or minimize impacts on covered species (e.g., use restrictions within certain distance of active warbler nests).

2.4.2 Unauthorized Take

An estimated 5–10 percent of development (in acres) occurs **without acquiring the necessary authorizations** through the BCCP, or paying the required BCCP fees.²⁷ This equates to approximately 500–1,000 acres or more that have skirted BCCP requirements, resulting in several

²⁶ An update to the 1999 Public Access Management chapter of the *Preserve Management Handbook* was approved December 7, 2018. See <https://www.traviscountytx.gov/tnr/bccp>.

²⁷ This is a rough estimated range of non-compliance by City and County staff. The City and County do not systematically track or monitor non-compliant projects.

million dollars in uncollected fees that would otherwise support land protection. This underreporting also results in the underestimate of impacts on covered species' habitat. The BCCP relies on voluntary participation from all landowners, as stated in Key Concept #8 in the Shared Vision. However, this voluntary participation has created a fairness issue. Certain developers pay more to offset potential impacts and support the BCCP, while others choose not to pay their fair share but still derive benefits from the BCCP. These benefits include the preserve system (which raises property values for the region) and the reduced legal risk within the BCCP permit area (where USFWS perceives that take is authorized through the BCCP). Because the BCCP is voluntary, the City and County may have limited means to enforce non-compliance.

The City and County should assess how administrative changes in permitting procedures could incentivize more participation in the BCCP. Addressing the issue more explicitly in the BCCP would require clarifying or revising Key Concept #8 in the Shared Vision. Depending on the nature of the revision, it may trigger a major amendment if USFWS deems it a change in the compliance or enforcement programs that are likely to increase the level of reported incidental take. Other regional HCPs rely on the discretionary land use authority of local agencies to require participation. Requiring participation in the BCCP may not be politically feasible, but the City and the County can improve upon the procedures and training related to the development process in order to improve voluntary compliance with the plan.

2.4.3 New Permittees or Managing Partners

Aside from participating as a Permit Holder (i.e., the City and County) or a utility, governmental and non-profit entities are required under the BCCP to participate in the BCCP as managing partners. Managing partners protect land to provide mitigation credits for their own project impacts and for private projects within their jurisdiction. Some government entities have expressed interest in using the BCCP, but are not interested in buying or managing their own mitigation land.

If the City of Austin and Travis County want to allow more government entities to participate in the BCCP without becoming managing partners, such as other cities in Travis County (e.g., Cedar Park, Bee Caves, Lakeway, Briarcliff, Leander, Jonestown, Pflugerville, Rollingwood, West Lake Hills, Round Rock, Lago Vista), Texas Department of Transportation (TXDOT), or others, a permit amendment is the only way to accomplish this. New permittees could help to expand the benefits of the BCCP and help achieve the plan's conservation goals. There appears to be more than enough take authorization remaining on the permit (for all covered species) to accommodate more permittees. More than 60–70 percent of take authorization remains for golden-cheeked warbler and karst invertebrates, respectively, despite only 25 percent of the permit term remaining (90 months out of 360 months total; see Table 4).

2.4.4 Adding or Removing Covered Species

A common reason HCP permittees consider a major amendment is to add one or more covered species. This need may arise because a listed non-covered species expands its range in the plan area, or a new species is listed that was not anticipated in the original HCP. Although less common, some plans are amended to remove covered species that are de-listed or found to be more common than previously thought (e.g., removing non-listed species no longer expected to become listed). To assess these potential needs for the BCCP, ICF considered over 60 special-status species for potential coverage. We identified listed and candidate species with the potential to occur within the plan area by reviewing the covered species of more recent HCPs adjacent to the BCCP (Oncor HCP, Williamson

County HCP, Hays County HCP) and reviewing the USFWS National Listing Plan.²⁸ ICF assessed these species against the following criteria for their initial consideration of coverage were the permit to be amended. This is a preliminary analysis only; a more in-depth assessment should be conducted for any species considered for coverage for a proposed amendment.

- **Listing status.** Listed under the ESA as threatened or endangered, proposed for listing (candidate), or likely to be listed under the ESA.
- **Range.** Species are known to occur or are expected to occur within the plan area based on a review of species locality and range data.
- **Species data.** Sufficient occurrence data and scientific data on the species habitat associations must exist to adequately analyze impacts on the species and to develop a conservation strategy for the species.
- **Take.** Species or their habitat would be affected by covered activities or projects at a level that may result in take. For example, some avian species could be affected by wind energy development, but take for these activities is not authorized by the BCCP nor is it likely to be permitted by the City or County in the future; therefore, these species are not considered for coverage.

Based on this preliminary assessment, five species are discussed in more depth below as potential candidates for coverage under an amended BCCP.

Black-capped Vireo

Currently covered under the BCCP, the black-capped vireo was delisted in April 2018. The BCCP still tracks impacts on black-capped vireo habitat, but it has not assessed the fee for the species since it was delisted. Given that the species has been delisted, the Coordinating Committee should consider removing it from the covered species list if the BCCP is amended. The delisting of the species garnered mixed reactions; some celebrated it as an example of species recovery, while the City and County commented that down-listing was warranted, not de-listing. The City and County should discuss the status of the species at the time of a BCCP amendment to assess the likelihood of its relisting.

If the likelihood of relisting is low, removing it from the covered species list as part of a plan amendment may be warranted because continuing to cover the species would unnecessarily increase the cost and complexity of the plan amendment. The BCCP has conserved an estimated 2,046 acres, exceeding the 2,000-acre conservation goal for the black-capped vireo and has documented only 33 acres of habitat impacts for the species (Table 3). In order to comply with its current permit, the BCCP must continue to manage 2,000 acres protected to date for the benefit of the black-capped vireo. Black-capped vireo habitat is early successional stage and requires disturbances to maintain, increasing management complexity in BCCP preserves, relative to just managing for golden-cheeked warbler habitat, which is late successional. Removing the species from the permit would clarify BCCP's habitat management responsibilities and potentially reduce future management costs.

²⁸ In 2016 USFWS published a 7-year workplan of species it intends to consider for listing or uplisting each fiscal year. USFWS may still consider listing species not on the list, especially if a court orders it to do so. However, this 7-year workplan provides a strong indication of which species USFWS intends to consider for listing and when. See <https://www.fws.gov/endangered/what-we-do/listing-workplan.html>.

Austin Blind, Barton Springs, and Jollyville Plateau Salamanders

The Barton Springs salamander was listed in 1997 soon after the BCCP permit was issued. The Jollyville plateau salamander and Austin blind salamander were both listed in 2013 with critical habitat designated within the plan area (Figure 3).

Despite these listings, BCCP covered activities do not appear to need take authorization for any of these species. Designated critical habitat provides one indication of where take authorization may be needed. As illustrated in Figure 3, most of the Jollyville Plateau salamander critical habitat designated within the BCCP plan area occurs within BCCP preserve lands, and only a small amount and percentage occurs in areas that are still undeveloped where future development could occur (Table 9). Although Jollyville Plateau salamander may occur outside of designated critical habitat, there appears to be very limited potential need for take authorization from future development based on the critical habitat map. The Austin blind salamander has critical habitat designated in the plan area in only one unit of 120 acres. The few projects that may need this take authorization could seek it on their own from USFWS, rather than through an amended BCCP.

Table 9. Jollyville Plateau Salamander Critical Habitat in the BCCP Plan Area

Jollyville Plateau Salamander Critical Habitat	Amount (acres)	Percent of Total
Inside BCCP Preserves	1,828	52%
Outside BCCP Preserves – Developed or Parkland	1,632	46%
Outside BCCP Preserves – Undeveloped	67	2%
Total Critical Habitat in BCCP Plan Area	3,528	100%
Notes: Source: BCCP Coordinating Committee (City of Austin staff and Travis County staff)		

A major permit amendment to cover these species would afford the BCCP No Surprises assurances; however, it would also greatly increase the scope of the BCCP. Water quality and quantity degradation in the aquifers upon which they depend is a primary threat to all of these species. This degradation is largely caused by urbanization over the aquifers supporting the species. Addressing this threat by conserving headwaters to these aquifers would require significant changes in the scope of the BCCP, and might be infeasible with voluntary participation, as the BCCP currently functions.

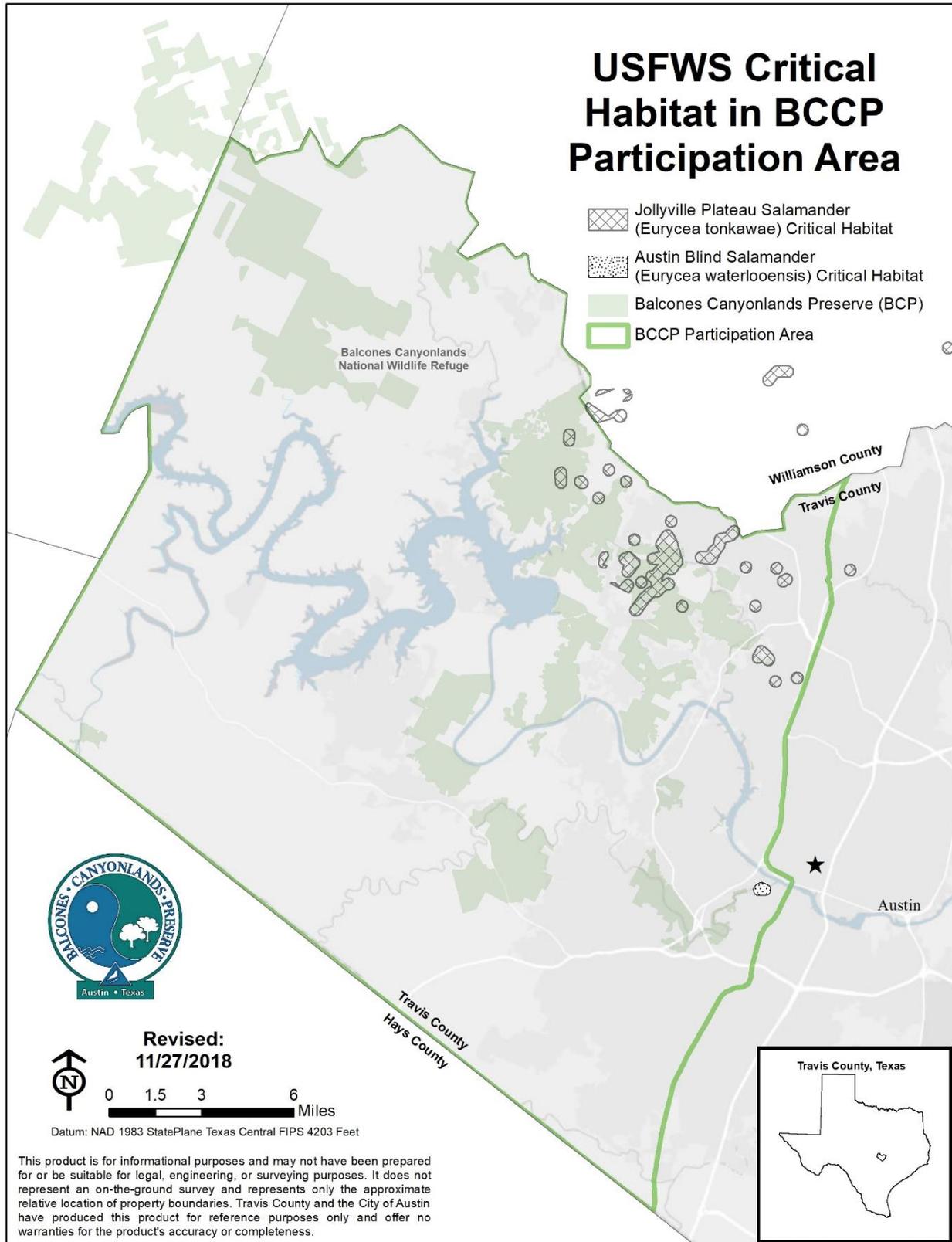


Figure 3. Critical Habitat for the Jollyville Plateau Salamander and Austin Blind Salamander Designated within the BCCP Participation Area

Bracted Twistflower

The bracted twistflower (*Streptanthus bracteatus*) was addressed in the original EIS but not covered by the BCCP. The species is a candidate for listing, and USFWS is currently conducting a Species Status Assessment to evaluate the potential for its listing. Texas Parks and Wildlife Department also recently reviewed the status of the species to update the NatureServe Rank for the species in the Texas Natural Diversity Database to S1G1, a global and national rank of “critically imperiled,”²⁹ indicating some potential for future listing of the species.

In 2004, the City of Austin and Travis County established a voluntary memorandum of agreement (MOA) with USFWS, Texas Parks and Wildlife Department, the Lower Colorado River Authority, and the Lady Bird Johnson Wildflower Center to protect populations of bracted twistflower and its habitat on BCCP preserve lands.³⁰ Currently, all known populations of the species in Travis County occur on BCCP preserve lands. Therefore, even if the species were to be listed, it is unlikely that there would be further impacts from development covered by the BCCP. Because federally listed plants are exempt from the take prohibitions of the ESA, take coverage for management actions on BCCP preserve lands is also technically not needed.

However, there are advantages to covering the species in the BCCP in a major amendment. For one, covering the species and formally committing to the conservation that is already occurring (i.e., beyond the MOA already in place) may help to prevent the species from becoming listed by USFWS. Covering the species may also support local environmental policies (e.g., by the City of Austin) to protect special-status species. Finally, the species has a persistent seed bank,³¹ so any ground-disturbing activity has the potential to adversely affect the species. Covering the species in the BCCP could therefore formalize and institutionalize avoidance and minimization measures for preserve management. Covering the species could also provide additional funding for conservation measures by using BCCP mitigation fees as a local match for federal grants.

Freshwater Mussels

The Texas Parks and Wildlife Department lists 15 species of mussels as threatened. USFWS is currently considering 12 of these for listing under the ESA. Six of these species, which occur in the Colorado River basin that encompasses Travis County, have ongoing or expected status reviews. Completed status reviews for four central Texas mussel species are expected in FY 2018 (*Lampsilis bracteata*, *Truncilla cognata*, *Quadrula petrina*, and *Quadrula mitchelli*) and two more in FY 2020 (*Quadrula houstonensis* and *Quadrula aurea*). Should any of these species be found to occur within the BCCP plan area and listed by USFWS, the City and County should consider amending the plan to cover them after the status reviews are complete in 2020. Covering these mussel species could be considered along with covering other aquatic species such as the Austin blind, Barton Springs, and Jollyville Plateau salamanders (if the need for covering these species has changed).

²⁹ Sherri Kuhl, Division Manager, City of Austin. Personal communication on October 24, 2018. NatureServe conservation status ranks: www.natureserve.org/conservation-tools/conservation-status-assessment.

³⁰ Memorandum of Agreement Between and among U.S. Fish and Wildlife Service Region 2 and Texas Parks and Wildlife Department, City of Austin, Travis County, Lower Colorado River Authority, and the Lady Bird Johnson Wildflower Center. FWS Number 201813K912.

³¹ D. Zippin, 1997. *Herbivory and the population biology of a rare annual plant, the bracted twistflower* (*Streptanthus bracteatus*). Ph.D. dissertation. University of Texas at Austin, TX. 265 pp.

2.4.5 Conservation Strategy: Golden-cheeked Warbler

City of Austin and Travis County staff have identified several issues implementing the BCCP related to the conservation strategy for golden-cheeked warbler. One relates to City parks that the BCCP incorporated into the BCCP preserve system on the first day of the permit in 1996. These **“grandfathered” parks** were incorporated “as is,” including all recreational uses at the time. The BCCP states that compliance with the federal permit requires that recreational uses remain at 1996 levels. This condition was imposed in order to maintain the biological values of these at the time, but it was probably unrealistic given the proximity of many of these sites to population centers of the region. Since 1996, recreational uses in City parks such as Emma Long Metropolitan Park, Barton Creek Greenbelt and Wilderness Park, and Bull Creek Park and Greenbelt have dramatically increased in some areas, degrading habitat for golden-cheeked warbler in particular. The County’s grandfathered tract Wild Basin Preserve has experienced similar degradation. The No Surprises assurances provided by the BCCP permit allow for areas to function better or worse than forecast when the plan was approved, but only if the HCP is being properly implemented. If recreational use at these sites is much greater than 1996 levels (which is inconsistent with the plan’s requirement), then a permit amendment is needed to adjust how these sites are counted as mitigation.

Another issue for successful implementation of the BCCP may be meeting the macrosite configuration requirements, which mostly affect the biological benefits to golden-cheeked warbler. As shown in Table 7, the permittees need to protect an additional 641 acres in the Bull Creek macrosite and smaller amounts in several other macrosites. This requirement may be difficult to achieve given the limited available sites left to acquire in that macrosite. The BCCP allows for substitutions in acquisition between macrosites, so the Bull Creek requirement could perhaps be met in other areas. However, a plan amendment would allow acquisition in new areas of Travis County that could expand the available acquisition targets while still benefiting the covered species. The more challenging mitigation requirement may be the edge-to-area ratio of less than 20 percent for the five largest macrosites. If this requirement cannot be achieved, changing it would likely require a plan amendment.

2.4.6 Conservation Strategy: Caves and Karst Invertebrates

The permittees intend in 2019 to implement the Cave Substitution Policy adopted in 2015. This policy addresses many of the issues that have occurred in implementing the BCCP’s conservation strategy for karst invertebrates. Although a permit amendment is not needed to implement the Cave Substitution Policy, incorporating it into a major amendment would formalize the policy by revising permit conditions.

2.4.7 Preserve Management and Long-term Funding

As described above, a major amendment could be used to help improve BCCP implementation regarding recreational uses of BCCP preserves. This issue is closely related to how recreational uses are managed and whether species management occurs where recreational uses are relatively high. By itself, the issue of recreation management on preserves can be solved without a plan amendment. However, if the permittees are pursuing a plan amendment anyway, the amendment can be used to strengthen and clarify how recreational uses are addressed on preserve lands. Currently, the City and County use the public access chapter of the BCP Land Management Plan to define the allowable

recreational uses. Some of these guidelines could be incorporated into a formal plan amendment to establish them as rules rather than guidelines, if desired.

Regarding funding, the BCCP did not create a permanent long-term funding source (e.g., an endowment) to pay for preserve management in perpetuity. Instead, the City uses general funds to support land management for City-owned properties. The County uses general funds and a portion of a dedicated property tax benefit assessment for BCCP preserve management. In both cases, these funding sources are not necessarily secure in the long term and are not guaranteed in perpetuity. A major amendment could be used to explore and better define a long-term funding source for the plan, such as a non-wasting account that would generate sufficient interest to support preserve management. The plan amendment could also describe how the current funding sources could be transitioned to the long-term funding source.

2.4.8 Benefits

Compared to the simple permit renewal, a plan amendment would provide the permittees the opportunity to adjust many aspects of plan implementation that would not be available otherwise. For instance, a plan amendment would allow the City and County to do any or all of the following:

- Add new permittees who may want to join the plan, such as TXDOT or other cities in Travis County.
- Adjust the mitigation requirements to ensure that they are more feasible to achieve, such as the location of protected land and the edge-to-area ratios.
- Add species to the plan to increase the real and perceived benefits of the permit.

Many people in the City and County may have forgotten about the benefits of the BCCP. Some people are new to the area and therefore did not live through the boom of the early 1990s when the conflict between development and endangered species was at its peak. A major permit amendment that includes a public process is an opportunity to tout those benefits of the BCCP and to re-educate the public about why the plan is important to continue.

2.4.9 Drawbacks

Any permit amendment creates some risk that stakeholders or elected officials may want to change the plan and the permit in ways that may compromise the biological benefits achieved so far. Ultimately, USFWS must approve a permit amendment using the same permit issuance criteria that were used for the original permit. This approval process provides a safeguard against changes to the plan that might undermine its biological benefits. However, a permit amendment may be susceptible to local political pressures nonetheless. The level of risk of a permit amendment depends in large part on how substantially the permittees want to change the plan. By proposing few changes to the plan, the permittees can portray the amendment as focused and perhaps avoid pressure to change more components. Many proposed changes to the plan may open it up to more scrutiny by stakeholders and the public.

2.4.10 Timeline and Cost

The time required to prepare and get approved a major permit amendment depends primarily on how many changes the permittees propose to make. The time required to prepare the amendment

will also depend on how much the City and County want to solicit input and involve stakeholders and the public in decisions about the nature of the proposed amendment. More stakeholder and public involvement will likely extend the schedule and increase costs.

A major amendment that requires a Federal Register notice, additional NEPA compliance, and modest stakeholder and public involvement is likely to take approximately 12–18 months to prepare and process with USFWS. If proposed changes are very extensive (e.g., all of the items discussed above in this section), then the timeline could exceed 2 years to prepare the amendment, conduct the necessary analysis, and prepare and process a NEPA document. Although the EIS for the BCCP is already old, the NEPA compliance necessary for a major permit amendment is still likely to be an EA rather than another EIS because there is likely no need to increase the authorized take limit, or at least not by much. Currently, the Department of the Interior mandates that federal agencies complete all EAs within 6 months of initiating them. This accelerated timeline is factored into the timeline estimates above.

Similar to the timeline, the cost of a permit amendment varies considerably depending on the scope of the amendment and the nature of the stakeholder and public outreach desired. The cost range of a major permit amendment is much wider owing to the uncertainties in its scope, stakeholder and public involvement, and schedule. A major permit amendment with a modest scope would likely cost in the range of \$300,000 to \$500,000 for the HCP, and another approximately \$100,000 for the EA. For a major permit amendment with a large scope, costs for both the HCP and EA would be approximately 50 percent higher.³²

2.5 Replace BCCP with New HCP

Questions addressed in this section:

- *What is the difference between a major amendment to the permit and replacing it with a new HCP?*
- *Are there advantages to developing a new HCP that would not be available through the amendment process?*
- *How long would it take to prepare a replacement HCP and how much would it cost?*
- *What are the risks and benefits of a replacement plan?*

As discussed in the last section, a major amendment is a flexible option that can include a few changes to an existing HCP or many changes. However, when many changes are proposed to an existing HCP, the permittees should consider whether simply replacing the old HCP with a new HCP is a better option. The 2016 HCP Handbook does not describe preparing a new HCP as an alternative to a permit amendment, but it can be done. For example, the City of Bakersfield and Kern County, California, are preparing a new HCP to replace their Metro Bakersfield HCP (1994), as described in Section 1.4.4. There is no clear rule as to when proposed changes reach a level that exceeds what an amendment is designed for and therefore warrant a new plan. The fundamental differences between a major amendment and a replacement HCP is that (1) the original permit is allowed to expire but is replaced with the new HCP and permit, whereas an amended permit is renewed, and (2) the original

³² In all cases, these estimates do not include local staff costs or specialized services such as external legal support or stakeholder facilitation.

HCP is completely replaced rather than revised. Otherwise, there are no technical differences between a major amendment and a new HCP. In both an amended and replaced HCP, the permittee must describe the changes proposed and the basis for those changes; in both cases, USFWS must comply with NEPA by publishing the appropriate NEPA document—either an EA or EIS.

2.5.1 Benefits

Benefit: Clarifying and Updating the HCP

A new HCP has the unique advantage of being able to say exactly what permittees want to say about how implementation will work, based on many years of implementation experience so far. This would be possible but more difficult with an HCP amendment because an amendment rewrites only small portions of the existing HCP. A new HCP could be reorganized and streamlined to be as clear and concise as possible. For example, the City and the County would write an HCP separate from the EIS in keeping with current practice. The original BCCP was one of the few in the country that combined the HCP and the EIS into one document. This practice was abandoned soon after the BCCP because it was found to be too difficult for the public to interpret and inefficient to use in implementation.

A complete rewrite of the HCP would also have the benefit of creating new, updated, clearer graphics and figures for the plan. While some of this would also be needed for a major amendment, a new HCP would give the public much better access to the entire plan. For example, the current BCCP uses black-and-white graphics that are difficult to read and interpret, and that rely on what is now outdated information. The City and County have compensated for this somewhat by publishing maps as part of the annual reports and periodic status reviews of plan implementation, but a comprehensive rewrite of the HCP would provide the best update possible of all aspects of the BCCP. City and County staff could use the new HCP and its improved accessibility as a way to renew public interest in the BCCP program in ways that would be more compelling than an HCP amendment that may just “refresh” a 30-year-old document.

Benefit: Comprehensive Update to Data, Models, Maps, and Costs

A new HCP would require a complete update to the environmental baseline, including vegetation maps, the status of the covered species, and any models used to support the analysis (e.g., species habitat distribution models, population viability models). There has been extensive monitoring conducted on some of the covered species since 1996, especially golden-cheeked warbler. This monitoring data could be used to more effectively establish where future land protection should occur, rather than relying on old models (e.g., in the case of a permit duration amendment only). While somewhat time-consuming and costly, this comprehensive data and modeling update would strengthen the scientific underpinnings of the plan for the next several decades of the permit.

A new HCP could also more comprehensively update BCCP implementation costs and perhaps more easily justify a new funding structure. This new funding structure could be better linked to existing land acquisition and preserve management costs. The new funding structure could also address the need to provide a permanent funding source to pay for management and monitoring of the preserve system in perpetuity. Similar to a permit amendment, a new HCP could incorporate changes to the funding program that would provide a more secure long-term funding source than is currently in place today.

Benefit: Federal Funding to Write the HCP

A new HCP is the only permit option eligible to receive substantial federal funding under the Cooperative Endangered Species Conservation Fund. Each year, USFWS awards up to \$1.0 million per plan for HCP planning assistance.³³ In FY 2017–18, USFWS awarded a total of \$7.4 million nationwide for HCP planning assistance. These grants can only be used to prepare a new HCP, not to amend an existing HCP.³⁴ The grants are awarded through a competitive selection process under Section 6 of the ESA, Cooperation with States. Local HCP applicants must work with their state wildlife agency (in this case, Texas Parks and Wildlife Department) to develop and submit the grant application to USFWS. If awarded, the local agency preparing the HCP enters into a grant contract with its state wildlife agency to receive the funds as reimbursement for work performed. All federal grants must be matched by local funding of at least 25 percent (more points are awarded for more of a match, up to 55 percent). Plans can receive multiple awards, with no limit on maximum funding.

2.5.2 Drawbacks

Drawback: Public Perception of Starting Over

There may be important differences between an amendment to the BCCP and a new plan in terms of perception by the public and stakeholders. A new HCP may give the public and stakeholders the false impression that the City and County are “starting over” and writing a new plan from scratch, even if the goal is to change some elements but not others. This perception may embolden stakeholders to push for dramatic changes to the BCCP that are beyond what the City and County want or is even feasible. Although this perception is also likely with a major permit amendment, it may be more pronounced with a replacement HCP.

Drawback: Potential for Increased Mitigation, Monitoring Requirements

A new HCP would be required to reassess all aspects of the plan, including the status of the covered species, mitigation requirements, monitoring, and funding. With far more data available now for the covered species, this analysis may result in mitigation requirements changing from the original plan. For example, the amount of habitat preserved for the golden-cheeked warbler for every acre of habitat lost may go up. Similarly, the standards for cave preservation may also increase now that there is better understanding of the importance of subsurface drainage conditions to support the covered species. If the status of the covered species has worsened since 1996, then mitigation requirements and costs are likely to increase from levels in the BCCP. This may be difficult for some stakeholders to accept. If the new BCCP encounters difficulties locally, then the permittees can instead turn to a permit amendment to accomplish many of the same goals.

Drawback: New Plan Must Adhere to Current Federal and State Policies Affecting HCPs

There have been significant developments since 1996 in federal policy and standards for HCPs, including components such as biological goals and objectives, monitoring and adaptive management, and funding assurances. Some of these changes are the result of the “Five-Point Policy”

³³ This maximum award per plan of \$1.0 million has been in place since 2011. The next grant cycle may lift this award cap.

³⁴ The grant program does not distinguish between an HCP in a new area versus an HCP that replaces an old HCP.

adopted in 2000 and incorporated into the 2016 HCP Handbook (see Section 1.4). Other changes are the result of several court decisions since 1996. One risk of replacing the BCCP with a new plan is that the new plan would need to adhere to these higher standards, resulting in higher costs and time required in the planning process (this is also a benefit—bringing the BCCP up to current higher standards). The new BCCP would then be judged against these new, higher standards.

All new HCPs in Texas are subject to a state law passed in 1999 to amend Chapter 83 of the Texas Parks and Wildlife Code to restrict options for HCP implementation and to mandate additional procedural steps in their development. For example, a government entity developing a regional HCP must appoint a citizens advisory committee that includes at least one voting member from the Texas Parks and Wildlife Commission, may not require a mitigation fee for participation in the plan, and can only accept a federal incidental take permit if it has demonstrated that adequate sources of funding exist to acquire all land for habitat preserves within 5 years of permit issuance. These requirements and others in Chapter 83 of the code would make developing a new BCCP significantly more difficult than the original plan.

2.5.3 Timeline and Cost

The replacement HCP would take the most time and cost more than any of the other permit options. The timeline of a new HCP would depend heavily on the nature of the changes and the level of stakeholder and public involvement in the HCP development process. At a minimum, ICF estimates that a new HCP would take 2–3 years to prepare. This includes 6–12 months for data collection, compilation, and modeling, and 1 year to prepare an EIS once the new draft HCP is nearly complete. Currently, all HCP EISs must take no longer than 1 year from the date of Notice of Intent to prepare an EIS to USFWS signing the Record of Decision for the EIS.³⁵ This EIS deadline is assumed to continue. If the City and County decided to establish a robust stakeholder and public involvement process, the new HCP schedule could be extended by another 6–12 months, extending the schedule to a range of 2.5–4 years.

It is difficult to estimate the cost of a replacement HCP without knowing the nature of the changes proposed and the degree to which data, models, and other elements of the plan are updated. The level of stakeholder and public involvement would also greatly influence cost. Given these uncertainties, the range of potential consultant costs for a replacement HCP would be in the range of \$750,000 to \$1.5 million plus an estimated \$500,000 for the EIS. Therefore, the total cost of the replacement HCP would be in the range of \$1.25 million to \$2.0 million in today's dollars. This estimate does not include local staff time or the costs of specialized services, such as external legal support or stakeholder facilitation.

³⁵ Based on Secretary of the Interior Order 3355 on NEPA Streamlining (August 2017) and USFWS memorandum regarding EISs for HCPs (April 27, 2018).

Chapter 3 Recommendations

Questions addressed in this section:

- *How does each BCCP option compare in terms of time, costs, risks, and benefits?*
- *Which permit option is recommended to maximize benefits and minimize risks?*

Overall, BCCP implementation to date has been a success. The City and County have nearly met, met, or exceeded almost all of the required conservation actions, and they have done so almost years early and with substantially less impact on covered species habitat than predicted. As with any long-term plan, unanticipated issues have arisen in implementation. With the permit expiration approaching in 2026, the City and the County have the opportunity to address these unexpected issues and make adjustments to the plan to improve its long-term viability and ensure that it continues to benefit the residents of Travis County and the City of Austin.

This report has identified a number of issues or concerns with BCCP implementation and assessed how each permit option could address each of these issues. These issues include those identified by City and County staff listed in Table 8 above, as well as some additional issues identified during discussion of the BCCP’s permit options. Table 10 summarizes this assessment by identifying which permit option could address which issue. As illustrated, only the last permit option (Replace BCCP) has the ability to address all issues identified. However, Options 3 and 4 (Administrative Changes and Major Permit Amendment) can address many or almost all of the issues.

Table 10. BCCP Implementation Issues and Available Permit Options

Issue	Ability to Address Issue by Permit Option				
	1: Allow to Expire	2: Permit Renewal	3: Admin. Changes	4: Major Amend.	5: Replace BCCP
Recreational trails. Add trail construction outside of BCP as covered activity.	No	No	Yes	Yes	Yes
Unauthorized take. Improve local compliance with BCCP.	Yes	Yes	Yes	Yes	Yes
Plan participants. Allow government entities to participate in plan without requiring land acquisition and management, or add new permittees.	No	No	No	Yes	Yes
Add/remove covered species. Add listed species for which take coverage is needed.	No	No	No	Yes	Yes
Achieving edge-to-area ratios. Correct mapping error in North Lake Austin macrosite.	No	No	Yes	Yes	Yes

Issue	Ability to Address Issue by Permit Option				
	1: Allow to Expire	2: Permit Renewal	3: Admin. Changes	4: Major Amend.	5: Replace BCCP
Achieving macrosite protection requirement. Wait for landowner constraints to change.	No	Maybe	No	Yes	Yes
Achieving macrosite protection requirement. Mitigate outside 1996 macrosites.	No	Yes	Yes	Yes	Yes
Degraded habitat in grandfathered preserve tracts. Adjust how sites are counted as mitigation.	No	No	No	Yes	Yes
Degraded habitat in grandfathered preserve tracts. Voluntarily reduce available mitigation credits to account for decreased habitat value.	No	No	Maybe	Yes	Yes
Named cave conservation. Change which caves are preserved (apply Cave Substitution Policy).	Yes	Yes	Yes	Yes	Yes
Karst species identification. Conduct genetic studies and implement Cave Substitution policy.	Yes	Yes	Yes	Yes	Yes
Long-term funding. Wind down tax benefit financing program and establish non-wasting fund to support management in perpetuity.	Maybe	Yes	Yes	Yes	Yes
Long-term funding. Have outside party manage non-wasting funds to maximum returns for long-term management.	Maybe	Yes	Yes	Yes	Yes
Long-term funding. Receive federal grants for planning.	No	No	No	No	Yes

The report also identifies potential benefits and drawbacks of each permit option, summarized in Table 11 on the next page. This table also compares the relative time and cost involved in each permit option.

Table 11. Comparison of BCCP Permit Amendment Options

Option	Est. Timeline	Est. Cost ¹	Benefits	Drawbacks
1. Allow Permit to Expire	None	None	<ul style="list-style-type: none"> No administrative burden on City/County for permit issuance 	<ul style="list-style-type: none"> Streamlined ESA compliance gone, increasing cost and project permitting timeline No streamlined ESA compliance option to accommodate anticipated growth
2. Amend Permit to Extend Duration Only	Relatively short	None or minimal	<ul style="list-style-type: none"> Avoid opening plan to challenges from stakeholders No administrative burden to adjust to changes 	<ul style="list-style-type: none"> Continued use of old plan Increasing reliance on institutional knowledge Inability to fix implementation issues
3. Administrative Changes	3-12 months	\$50k–\$100k	<ul style="list-style-type: none"> Surgical changes to plan and implementation Avoid opening plan to challenges from stakeholders 	<ul style="list-style-type: none"> Does not address all issues with plan Administrative changes could be difficult to track
4. Major Permit Amendment	12-24 months	\$300k–\$1M	<ul style="list-style-type: none"> Address bigger issues with plan (e.g., grandfathered preserve tracts, new permittees) Add/remove covered species when warranted 	<ul style="list-style-type: none"> Opens plans to challenges from stakeholders or political pressures
5. Replace BCCP with New HCP	2-3 years	\$1.25M–\$2M	<ul style="list-style-type: none"> Clarify and update the HCP Modernize the HCP, including incorporating best available scientific data to inform the plan's design Potential for federal funding to prepare HCP 	<ul style="list-style-type: none"> Perception of starting over and balancing stakeholders' desires Potential for increased mitigation, monitoring requirements New plan must adhere to current and more rigorous federal and state regulations (e.g., 2016 HCP Handbook; Texas Parks and Wildlife Code Chapter 83)
Notes ¹ Estimated consultant costs only. Excludes staff costs.				

ICF carefully considered each permit option in light of the benefits, drawbacks, and needs of the BCCP. Option 1 (Allow Permit to Expire) is not desirable or feasible. Travis County and the City of Austin will continue to grow and there will clearly be a need for continued take authorization of golden-cheeked warbler and karst invertebrates beyond the current permit term. Allowing the permit to expire is not a viable option.

Option 2 (Amend Permit to Extend Duration Only) is a viable option because we expect there to be sufficient unused take authorization at the end of the current permit term to allow a permit

extension for perhaps another 10 years or more. However, by itself this option does nothing to address the issues and concerns addressed in this report.

Option 3 (Administrative Changes) is an attractive option, especially when combined with Option 2, because many of the concerns and issues raised by City and County staff can be addressed by this approach (Table 10). Administrative changes are needed in some form to clarify and correct the BCCP to improve its implementation.

Option 4 (Major Permit Amendment) is also a viable option but would require substantial new work to adjust major elements of the BCCP such as the take authorization, covered species (adding and deleting), permittees, plan area, and conservation strategy. Because of the additional public review and NEPA process, a major permit amendment would likely involve substantial stakeholder and public review. Some or all of these changes may be necessary at some point, but for now our view is that a major permit amendment is not necessary to continue to implement the BCCP successfully, and it introduces too many risks to plan implementation.

Finally, Option 5 (Replace BCCP with New HCP) would allow solving and addressing all issues and concerns, but with the most extensive and expensive process. While there are attractive elements of this approach, the substantial cost and time involved are not, in our view, justified. The BCCP can be improved with simpler permit options.

In considering plan implementation issues and the potential benefits and drawbacks of each permit option, we recommend that the City and County take a phased approach that will maximize near-term benefits, minimize drawbacks, and allow further consideration of the BCCP's other permit options. USFWS Austin Field Office staff voiced support for this approach during the December 6, 2018, meeting with City and County staff and ICF.

Phase 1 – BCCP “Makeover” Plus Administrative Changes. A major issue is the age and difficult organization of the BCCP document itself (see *Drawback: Continued Use of Old Plan*). During ICF's review, we found that the plan contains inaccuracies, inconsistencies, and ambiguities. The document may be difficult for the public to access and understand because of its old format and often unreadable graphics. The fact that the HCP is combined with the EIS makes the HCP even more difficult to interpret. These structural and format issues makes it even more difficult to determine where changes would need to be made to clarify certain elements (e.g., the BCCP, Shared Vision, and/or permit?), and places a greater reliance on the institutional knowledge of City and County staff to interpret elements of the plan. What happens when this institutional knowledge is lost due to staff turnover?

Therefore, we recommend that the City and County in the next 1–2 years perform a BCCP “makeover” to update and modernize the plan document. The original HCP/EIS would be left alone for the public record, but a new BCCP would be created as a standalone document. The new document could be organized similarly to current HCPs and updated with a modern look and feel that could include these elements:

- Transferring the document to modern versions of Microsoft Word
- Removing the EIS so that the HCP stands alone
- Implementing searchable formatting with hyperlinks to all chapters and sections in the table of contents
- Including GIS-based color maps

- Making the document accessible to persons with disabilities (e.g., compliant with Federal Rehabilitation Act Section 508 standards)

The term “makeover” is used deliberately to indicate surface changes only—no content would be changed except perhaps to correct errors and resolve inconsistencies. The makeover process would also help the City and County identify where additional clarifications may be needed. These could be specifically addressed through administrative changes documented with USFWS and written into the updated plan as tracked changes. We recommend that the plan update and modernization (makeover) occur first, followed by a series of administrative changes developed and documented in close coordination with USFWS. The outcome would be a modernized and streamlined BCCP that is much easier to understand and far more accessible to the public, includes any necessary clarifications, and provides clear guidance to current and future County and City staff to properly and successfully implement the plan.

Phase 2 – Assess the Need for Amendments and Permit Renewal. The BCCP’s permit expires on May 2, 2026. This timeline would allow the City and County several years after the BCCP makeover to complete any additional administrative changes and to consider the need for any major amendments, if necessary. These amendments could be completed at the same time as extending the permit duration, or before depending upon how urgent the need may be. Alternatively, the City and County could simply extend the permit duration (Option 2), then consider plan amendments under the renewed permit. The modernized and streamlined BCCP would be easier to amend, should any amendments be necessary.

