



# Water Grand Challenges: Water Conservation

## Habitat Conservation to Watershed Protection

**Background** – Securing healthy habitat necessitates ensuring that the health and quality of water and watersheds is maintained. There are several examples of watershed HCPs in which efforts for species conservation are tied to managing the watershed. Federal organizations and such as the [National Park Service](#) founded through the Department of the Interior in 1916 provide conservation information and community programs to increase environmental awareness and habitat protection. Since the [founding of Yellowstone National Park](#) in 1872, large-scale habitat conservation has been supported at the federal level. The passage of the [Endangered Species Act](#) (signed into law in 1973), established by Congress states that endangered species "are of esthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people."<sup>1</sup> The purpose of this Act is to 1) provide protection for ecosystem preservation in which endangered and threatened species can rely upon, and 2) to provide a conservation program for those species. Species of [plants](#) and [animals](#) may be designated as endangered or threatened for any of the following reasons:

1. "The present or threatened destruction, modification, or curtailment of its habitat or range;
2. Overutilization for commercial, recreational, scientific, or educational purposes;
3. Disease or predation;
4. Inadequacy of existing regulatory mechanisms; and
5. Natural or manmade factors affecting its survival."<sup>1</sup>

[Section 10\(a\)\(1\)\(B\) of the Endangered Species Act](#) provides for partnerships with non-Federal parties to conserve the ecosystem that listed species depend upon in order to contribute to their survival.<sup>2</sup> Habitat Conservation Plans The specific protocol for securing a species on the list is complex, but any private citizen may submit a petition to do so through the U.S. Fish & Wildlife service. All Habitat Conservation Plans (HCPs) must adhere to The Endangered Species Act and the National Environmental Policy Act (NEPA) of 1969 in order for applicants to be in compliance.<sup>3</sup>

**Habitat Conservation Plans** – Habitat Conservation Plans are a preemptive measure used to protect at-risk species. Section 10 of the Endangered Species Act sets the processes for creating HCPs.<sup>3</sup> Habitat Conservation Plans assure that measures for "adequate minimizing and mitigation of the take" are in place to limit harm to endangered species.<sup>2</sup> When non-federal activities result in the incidental "take" of a threatened or endangered species, an HCP



accompanies an incidental take permit.<sup>1</sup> A “take” as defined by the Endangered Species Act is any action that, “means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Once a plan is enacted, non-federal landowners may be protected from future changes to the plan if the need to adjust arises. The government gives these landowners assurance of no additional need to commit or restrict additional land, water, and financial resources to the HCP without consent of the permit holder through “[No Surprises](#)” assurances. Currently, there are more than 80 HCPs in Texas and 88 for the Southwest region of the United States.<sup>4</sup> The majority of these plans are developed to conserve habitat in rapidly developing areas where habitat for indigenous species like the golden-cheeked warbler and the Texas Blind Salamander is diminishing.<sup>5</sup> Larger regional and countywide HCPs for the Hill Country are also in effect or in development (table 1).<sup>6</sup> This area of special interest because of the large amount of urban expansion projected over the next 50 years and the development currently underway.

**Table 1: Regional Habitat Conservation Plans in Central Texas<sup>7</sup>**

County/Region	HCP
Comal County	<a href="#">Comal County Regional Habitat Conservation Plan</a>
Hays County and Travis County	<a href="#">The Balcones Canyonlands Conservation Plan</a>
Williamson County	<a href="#">The Williamson County Conservation Fund</a>
Southern Edwards Plateau	<a href="#">The Southern Edwards Plateau Habitat Conservation Plan</a>

**Habitat Conservation to Watershed Protection** – Healthy habitats require that watersheds are of good quality in order to sustain life. There are several examples of watershed HCPs in which efforts for species conservation are tied to managing the watershed. Habitat Conservation Plans such as the Edwards Aquifer Habitat Conservation Plan, or the [Edwards Aquifer Recovery Implementation Program \(EARIP\)](#), sustain the health of the fragile karst aquifer and endangered species in the system by limiting human activity in sensitive areas.<sup>7</sup> During times of drought, species living within the protected area may suffer when existing water resources are further diminished by human activities. Spring flow protection and no-pumping-related impacts are two adaptive measures implemented through the HCP to mitigate ecosystem damage and stress to endangered species.<sup>8</sup>

The creation of the Edwards Aquifer Authority (EAA) [resulted from a lawsuit filed by the Sierra Club in 1991](#) under the Endangered Species Act that provided the basis for environmental flows management in the Edwards Aquifer Region.<sup>9</sup> Through a stakeholder driven process, the [Edwards Aquifer Recovery Implementation Program \(EARIP\)](#) was created through the EAA in



late December 2011 and approved by City of San Marcos City Council, the City of New Braunfels City Council, the San Antonio Water System Board of Directors (SAWS), and the office of the President of Texas State University.<sup>7</sup> This HCP provides restoration and mitigation measures to protect spring flow and endangered species living in the region. Some of these mitigation measures include conservation incentives, voluntary irrigation suspension, and an aquifer storage and recovery unit in San Antonio for water storage to be used when resources are scarce.

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<sup>1</sup> U.S. Fish & Wildlife Service. "Habitat Conservation Plans | Overview." Endangered Species. May 7, 2013. <http://www.fws.gov/endangered/what-we-do/hcp-overview.html> (accessed May 29, 2013).

<sup>2</sup> U.S. Fish & Wildlife Service. "Habitat Conservation Plans Under the Endangered Species Act." Endangered Species Program. Arlington, VA, February 2002.

<sup>3</sup> U.S. Fish & Wildlife Service. "Habitat Conservation Plans, section 10 of the Endangered Species Act." Endangered Species Program. Arlington, VA, February 2002.

<sup>4</sup> U.S. Fish & Wildlife Service. "Habitat Conservation Plans". *Conservation Plans and Agreements Database*. May 29, 2013. [http://ecos.fws.gov/conserv\\_plans/PlanReport?region=2&type=HCP&rtype=2&hcpUser=&view=report](http://ecos.fws.gov/conserv_plans/PlanReport?region=2&type=HCP&rtype=2&hcpUser=&view=report) (accessed May 29, 2013).

<sup>5</sup> U.S. Fish & Wildlife Service. "Endangered Species Act of 1973." *Section 3. Definitions*. Department of the Interior, December 1973.

<sup>6</sup> Hill Country Alliance. "Habitat Conservation Plans." 2011. <http://www.hillcountryalliance.org/HCA/HabitatConservation> (accessed May 29, 2013).

<sup>7</sup> Edwards Aquifer Authority. "Mission and Goals Permit Planning and Issuance." *Edwards Aquifer Habitat Conservation Plan*. 2013. <http://www.eahcp.org/> (accessed May 29, 2013).

<sup>8</sup> City of Seattle. "Cedar River Watershed Habitat Conservation Plan." *Seattle.gov*. [http://www.seattle.gov/util/EnvironmentConservation/OurWatersheds/Habitat\\_Conservation\\_Plan/ManagingtheWatershed/index.htm](http://www.seattle.gov/util/EnvironmentConservation/OurWatersheds/Habitat_Conservation_Plan/ManagingtheWatershed/index.htm) (accessed May 29, 2013)

<sup>9</sup> Gaskill, Melissa. "Save the Springs." *Texas Parks and Wildlife Magazine*. July 2011. [http://www.tpwdmagazine.com/archive/2011/jul/scout1\\_aquifer/](http://www.tpwdmagazine.com/archive/2011/jul/scout1_aquifer/) (accessed June 6, 2013).