Habitat Conservation Plan

Drought Outreach Press Release Packet

June 20, 2014

Edwards Aquifer Habitat Conservation Program (EAHCP)
Implementing Committee 2014 Drought Outreach Workgroup

To: Implementing Committee

From: Drought Outreach Workgroup

On March 14, 2014 the Implementing Committee formed the Drought Outreach Workgroup for the purposes of collaboratively working on messaging for the EAHCP. Specifically, the Implementing Committee provided the following charge to the Workgroup:

The charge of the 2014 Drought Outreach Workgroup is to consider and evaluate potential outreach strategies that could be utilized by Implementing Committee members in a coordinated manner to collaboratively raise awareness and understanding, by providing the public with information and updates about current drought conditions, HCP conservation measures and springflow protection measure implementation.

Appointed workgroup members included**;** Steve Ramsey, Jan Klein, Elizabeth Smith, LaMarriol Smith, Shane Townsend and William Peche. Additionally, the Workgroup utilized the marketing expertise of Boggess Communications to help prepare deliverables and provide direction throughout the process.

To address the Implementing Committee's charge by June 10th, the Workgroup met 5-times over the course of 3 months. The Workgroup first agreed to the format of the deliverable, which was to be a press packet with identified significant EAHCP activities triggering distribution of pre-prepared messaging (social media and print).

Following this communication is the 2014 Drought Outreach Press Packet. This messaging tool is intended to be used as needed and may be modified at the permittee's discretion.

With respect, the Workgroup formally submits for Implementing Committee consideration, the following EAHCP Press Packet

Respectfully,
Drought Outreach Workgroup Members

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Outreach Messaging Matrix

Triggering Levels	Action	Spokesperson	Fact Sheet	Press Release
Monthly	HCP Positive Messaging	LaMorrial Smith- GBRA Anne Hayden- SAWS Terri Herbold- EAA Shane Townsend- Texas State University	5	10
120 cfs at SM 200 cfs at Comal	Biological Monitoring	Nathan Pence- HCP	6	12
120 cfs at SM 130 cfs at Comal	Provision M of ITP	Nathan Pence- HCP	6	13
120 cfs at SM	State Scientific Area	Trey Hatt- San Marcos	6	14
100 cfs at Comal	Flow-Split Management	Steve Ramsey- New Braunfels	6	15
50 cfs at SM 60 cfs at Comal	Refugia Salvage Stock	Nathan Pence- HCP	7	16
45 cfs at SM 30 cfs at Comal	Minimum Daily Average	Trey Hatt- San Marcos Shane Townsend- Texas State University Steve Ramsey- New Braunfels Nathan Pence- HCP	5	10
≤ 630 ft (within DOR)	Aquifer Storage and Recovery	Anne Hayden- SAWS Terri Herbold- EAA	8	17
< 635 ft On Oct. 1st	VISPO	Terri Herbold- EAA	8	18
Spring-runs go dry in Comal	Visual Decreases in flows	Steve Ramsey- New Braunfels	5	10

Fact Sheets

HCP General Information

- The Habitat Conservation Plan (HCP) is a document required by the U.S. Fish and Wildlife Service as part of its enforcement of the Endangered Species Act.
- In 2007, The Texas Legislature established a stakeholder group known as the Edwards Aquifer Recovery Implementation Program (EARIP) Steering Committee, and assigned it the task of developing the HCP for the Edwards Aquifer Authority (EAA) board's consideration.
- The HCP was developed by consensus decision making.
- The Edwards Aquifer HCP was approved by U.S. Fish and Wildlife in 2013 for a period of 15 years.
- Granting of the HCP includes an "incidental take permit," which keeps the Edwards region from federal litigation and intervention under the Endangered Species Act if harm were to come to the protected species. That means EAA groundwater permit holders have complete assurance they can rely on their Edwards water rights for the term of the HCP.
- EAA, City of New Braunfels, City of San Marcos, City of San Antonio through San Antonio Water System (SAWS), and Texas State University in San Marcos make up the HCP Implementing Committee charged with carrying out HCP programs.
- A Stakeholder Committee was formed to consult and advise the Implementing Committee. The Stakeholder Committee meets twice a year and has representatives from around the region. View members at: www.eahcp.org/index.php/administration/stakeholder_committee.
- The goal of the HCP is to protect the endangered species whose only habitats are found in the Edwards Aquifer-fed Comal and San Marcos Springs from harm during the most severe drought to the extent required by state law (Edwards Aquifer Authority Act) and federal law (Endangered Species Act).
- The listed endangered species include: fountain darter, San Marcos salamander, San Marcos gambusia, Texas blind salamander, Peck's cave amphipod, Comal Springs dryopid beetle, Comal Springs riffle beetle and Texas wild rice.
- HCP implementation costs $17 million to $20 million per year over the life of the 15-year permit. It is being paid for through EAA aquifer management fees and third party contributions.
- **Habitat Protection Measures** - There are 10 different habitat protection programs outlined for Comal Springs, and 16 for the San Marcos Springs.
- **Flow Protection** - There are four major flow protection programs designed to reduce pumping from the Edwards Aquifer, especially in drought of record conditions.
- **Supporting Measures** - There are another seven supporting programs aimed at protecting water quality which is a key component in preserving endangered species and their habitats.
- View all of the HCP programs at: www.eahcp.org/index.php/habitat_protection.

HCP

The Edwards Aquifer is a unique groundwater resource and primary source of water for more than 2 million people in Uvalde, Medina, Bexar, Comal and Hays Counties, supporting domestic, industrial and agricultural water needs. The Edwards Aquifer is also the source of the only two major springs remaining in Texas - the San Marcos and the Comal. These springs feed the San Marcos and Comal Rivers, which are tributaries to the Guadalupe River. The Habitat Conservation Plan was developed to protect and preserve this vital water resource. You can read more about the HCP at www.eahcp.org. Contact: Nathan Pence, HCP Program Manager, npence@edwardsaquifer.org…210-222-2204.

Habitat Protection Measures

Habitat Conservation Plan (HCP) contains 26 specific endangered species habitat protection measures. The full list can be viewed at: www.eachp.org/index.php/flow_protection. Following are some of the major programs included in the HCP.

Flow Split Management - The City of New Braunfels is constructing a series of pipes and valves to regulate the flow of water in the Landa Lake Old and New Channels. Endangered Species are found in the Old Channel. The New Channel is man-made, and over time has made flows to endangered species habitat in the Old Channel irregular, which can harm habitats. The Flow Split System will give New Braunfels a means to regulate flows into the Old Channel, thus protecting species habitats.
www.eahcp.org/index.php/habitat_protection/comal_springs/flow_split_management.

Provision M - Provision M is part of the federal incidental take permit and is triggered when the Comal Springs reach a flow of 120 cubic feet per second (CFS) and/or the San Marcos Springs reaches 120 CFS. This provision requires all HCP program work (construction, sampling, sediment removal, etc.) to stop so the U.S. Fish and Wildlife Service (USFWs) can determine whether the work will damage endangered species/habitats.

State Scientific Areas - When flow at the San Marcos Springs reaches 120 cubic feet per second, HCP staff and consultants will secure areas of the San Marcos River to protect species and habitats from recreational activities occurring on the river. For example, at lower flows, Texas Wild Rice can become exposed to tubing recreation in the river. So to preserve those areas, Texas Parks and Wildlife will place buoys in the area to keep people from harming the species and habitats.

Biological Monitoring - When spring flows in New Braunfels reach 120 cubic feet per second, the HCP triggers more frequent biological monitoring of the endangered species and habitats. Currently, comprehensive biological monitoring occurs twice a year. Once the biological monitoring trigger in the HCP occurs, bio-monitoring increases to every other week. This type of ecology evaluation includes water quality testing, vegetation mapping and species collection and testing.

Sediment Removal - Sediment coming from river bank erosion can alter flows of the river and cover up endangered species habitat. To address this issue, the City of San Marcos removes sediment from the river bottom at various locations from City Park to IH-35. Divers are trained to recognize Texas Wild Rice and other endangered species in sediment removal. They also remove non-native plants in their work. Sediment samples are sent to the Texas Commission on Environmental Quality for contaminant testing.

Native Riparian Habitat Restorations - The City of San Marcos is replacing non-native plants with native plants in locations from City Park to I-35. Area residents are also being asked to participate in the restoration program. Texas State University is undertaking a similar program in Sewell Park. Vegetation such as big bluestem, switchgrass, Indian grass, live oak, Texas red oak, bur oak, pecan, bald cypress, American beautyberry, and buttonbush is being planted.

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Refugia Information

When spring flows reach 50 cubic feet per second, the Habitat Conservation Plan triggers some extreme measures for protecting endangered species. Species are collected and placed in man-made facilities known as "refugia."

- Triggering the refugia measure of the Habitat Conservation Plan requires the collection of as many endangered species as can be harvested and placed in fish tanks and ponds at various facilities around the Edwards Aquifer region.
- The three refugia are located at the San Marcos Aquatic Resource Center, Uvalde National Fish Hatchery and Inks Lake Fish Hatchery.
- The refugia program will cost $25 million over the 15 year permit period granted by the U.S. Fish and Wildlife Service.
- "Salvage stock" is the name of the endangered species collected during drought of record conditions. The program anticipates being able to save animals and then reintroducing them back into the environment after drought of record conditions subside.
- A collection of endangered species known as "standing stock" will always exist in laboratories not only for drought of record reasons, but also in case of another type of catastrophic event such as a large oil or fuel spill in the river. This type of capability to reintroduce endangered species into their habitats after a catastrophe is the primary goal of the refugia program.
- Researchers at refugia facilities also study the species while in the laboratory to expand knowledge of their biology, life histories and effective reintroduction techniques. For example, water temperature studies and genetic evaluations will be conducted on species in refugia.
- HCP staff coordinate all refugia work with the U.S. Fish and Wildlife Service.
- View the current HCP refugia work plan at: www.eahcp.org/files/uploads/7-2-12%20Refugia.pdf.

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HCP Water Acquisition

- The Habitat Conservation Plan (HCP) contains four major flow protection measures. Two of those programs include water acquisitions; one through a suspension program and the other through a lease. Under either scenario, Edwards water rights holders are compensated for not pumping certain amounts of their water in drought of record type conditions.
- Not pumping water from the Edwards Aquifer helps maintain flows at the Comal and San Marcos Springs, which are home to endangered species and their habitats.
- The two HCP water acquisition programs are the Voluntary Irrigation Suspension Program Option (VISPO) and Aquifer Storage and Recovery (ASR).
- **VISPO** - The VISPO program is open to eligible Edwards Aquifer irrigation water rights holders in Atascosa, Bexar, Comal, Hays, Medina and Uvalde counties.
- The goal of this voluntary program is to enroll 40,000 acre-feet of permitted irrigation rights (base and/or unrestricted) that will remain unused in years of severe drought.
- Enrollees suspend all or a portion of their water rights in exchange for financial compensation.
- On October 1 of each year, if the J-17 monitoring well in San Antonio is at 635 feet or below, the VISPO program triggers and participants are required to forebear their water for the following calendar year (starting January 1).
- If J-17 is above 635 feet, enrollees are paid an annual standby fee of $50 per acre-foot enrolled in the 5-year program. For the 10-year program, the annual standby payment is $57.50 per acre-foot.
- If VISPO triggers, enrollees receive an additional suspension payment. Payments for the 5-year program start at $150 per acre foot and enrollees in the 10-year program receive $172.50 per acre foot.
- View all VISPO details at: www.eahcp.org/index.php/flow_protection/vispo.
- **Aquifer Storage and Recovery (ASR)** - The ASR Leasing Program acquires Edwards Aquifer leases on unrestricted water rights only (no base rights can be leased). The ASR leased water is stored in the San Antonio Water Systems ASR facility in South Bexar County and pumped out during drought of record conditions.
- The goal of the ASR program is to enroll 50,000 acre-feet of water. There are three tiers of 16,667 acre feet which will be used as various drought conditions become worse.
- ASR triggers when the level of the Aquifer gets to 630 feet at the J-17 well in San Antonio during drought of record conditions.
- ASR leases terms include 1, 3, 5, 7 and 10-year options. Longer year options pay higher amounts per acre foot enrolled. Leasers also do not have to pay Aquifer management fees on water leased to the program.
- During years when VISPO is not triggered, irrigators who have enrolled unrestricted water in VISPO can increase their income by leasing it to the ASR program.
- View all ASR Leasing Program information at: www.ASRLeasingProgram.com or www.eahcp.org/index.php/flow_protection/asr.

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Press Releases

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Date
FOR IMMEDIATE RELEASE

Edwards Aquifer Region's Habitat Conservation Plan Designed to Ease Drought Effects

Endangered species and their habitats in the Edwards Aquifer region have a fighting chance to weather the historic drought gripping the state thanks to innovative environmental programs set in motion in 2013 through a regional Habitat Conservation Plan (HCP).

In late 2006, the U.S. Fish and Wildlife Service brought together stakeholders from throughout the Edwards Region to develop a plan to protect federally listed endangered species dependent on the Edwards Aquifer. The plan was approved in 2013, and program implementation quickly followed.

"This was a long and intense process that regional entities went through to develop what is known as the Habitat Conservation Plan," said HCP Implementing Committee Chairman Tom Taggart. "Stakeholders developed many different components to help protect the Edwards Aquifer during critical periods. Our overall efforts were designed to maintain spring flows, make sure all water users have adequate water supplies and reduce impacts to endangered species and their habitats."

Some of the major HCP initiatives include:

Regional Municipal Water Conservation Program - The goal of the program is to conserve 20,000 acre-feet of permitted or exempt Edwards Aquifer withdrawals. In exchange for technical assistance and incentives, program participants retain half of the conserved water for their use and the rest remains unpumped in the aquifer for fifteen years. Currently, the communities of Uvalde and Universal City are the initial participants with others being contacted each year.

Voluntary Irrigation Suspension Program (VISPO) - The VISPO is a voluntary program open to eligible holders of irrigation water rights from the Edwards Aquifer Authority (EAA) in Atascosa, Bexar, Comal, Hays, Medina and Uvalde counties who are willing to not pump authorized withdrawal rights in exchange for financial payments. More than 24,000 acre-feet of water have been committed to VISPO by the agriculture community.

ASR Leasing Program - The Aquifer Storage and Recovery Leasing Program leases water from Edwards permit holders so it can be stored in San Antonio Water System's Aquifer Storage and Recovery facility in south Bexar County. Edwards water is stored underground for use during extremely dry periods. When stored water is used, SAWS reduces its active pumping from Edwards wells helping to preserve flows at the Comal and San Marcos Springs.

Critical Period Management and Stage V - Under Stage V emergency rules, the Edwards Aquifer permit holders are required to reduce water use from the Edwards by 44 percent. This measure is currently implemented in the Uvalde Pool of the Edwards Aquifer. The San Antonio pool is now in Stage III critical period reductions of 30 percent.

Habitat Protection Measures - There are 10 different habitat protection programs outlined for Comal Springs. Some measures include: aquatic vegetation restoration, decaying vegetation removal, old channel restoration and non-native species animal control. In San Marcos, 16 different environmental plans are being implemented that include: sediment removal, surface water diversions, bank stabilization and native riparian restoration.

"The HCP programs are ways for the Edwards Region to be ready for extended dry periods, so we can minimize adverse impacts to the Edwards Aquifer water levels, spring flows and endangered species," HCP Program Manager Nathan Pence stated. "Everyone has a stake in this program succeeding, and we've seen great collaboration on all aspects of program implementation."

Pence pointed out that despite recent rainfall, the Edwards Region is still in a drought and residents and businesses should continue those extra water-conserving practices. He encouraged people to find and repair water leaks, retrofit homes and businesses with high efficiency fixtures, and being very careful not to overwater landscapes.

During critical periods, each water entity will have strict outdoor watering guidelines. You can check your water supplier's website for important water-saving information.

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Drought Causes Edwards Aquifer Region's Habitat Conservation Plan to Trigger "Biological Monitoring Plan"

Habitat Conservation Plan (HCP) staff and consultants have stepped up field evaluations of endangered species and their habitats due to drought-caused conditions at the Comal and San Marcos Springs. As part of the HCP's biological monitoring plan, the health of the springs ecosystem will now be analyzed every two weeks rather than the typical program practice of two studies per year.

"With the implementation of HCP programs in 2013, the Edwards Aquifer, spring flows, endangered species and their habitats have a fighting chance to weather this current drought," stated Tom Taggart, HCP Implementing Committee chairman. "The HCP regional stakeholder efforts are designed to strike the right balance in environmental and human needs while preserving the Edwards Aquifer as a resource."

A typical biological monitoring effort includes a detailed evaluation of water quality and overall health of the various protected species and their habitats. The trigger levels for additional monitoring were chosen based on the available data suggesting when significant changes to habitat quality or availability may impact species.

"While droughts are tough to deal with on many levels, we do learn a great deal about how we can protect the Edwards Aquifer as a resource as we conduct research in these fortunately rare extended dry conditions," said Nathan Pence, HCP Program Manager. "The weather is constantly changing, but we can control how we prepare for droughts, and that's what the HCP is all about."

The current biological monitoring plan components include:

- Aquatic vegetation mapping for select river reaches;
- Fountain darter sampling (drop nets, dip nets, visual);
- San Marcos salamander sampling (SCUBA and snorkel);
- Texas wild-rice physical observations and annual mapping;
- Comal Springs riffle beetle monitoring;
- Comal invertebrate sampling (drift net sampling over spring orifices);
- Comal Springs salamander sampling;
- Parasite evaluations concerning the fountain darter
- Ramshorn and other exotic snail monitoring

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Drought Causes Edwards Aquifer Region's Habitat Conservation Plan to Trigger "Provision M"
All work being done around Comal and San Marcos Springs is stopped for Fish and Wildlife review

Lower flows in the Comal Springs and San Marcos Springs caused by the ongoing drought have stopped work projects in New Braunfels and San Marcos associated with the Habitat Conservation Plan (HCP) until officials can ensure no damage is being done to endangered species or their habitats.

According to Provision M of U.S. Fish and Wildlife (USFWS) Incidental Take Permit, work near the springs must stop when flow at the Comal Springs reaches 130 cubic feet per second (CFS) or the San Marcos Springs reaches 120 CFS. Activities which disturb habitat or the listed species are no longer covered when flows drop below these levels.

"While we can't control the weather, we can control how we prepare for these extremely dry periods, and that's what the HCP is all about," said Tom Taggart, HCP Implementing Committee chairman. "We know the springs lose flow and water levels across the Edwards Aquifer can drop significantly during prolonged droughts. The good news is that the region has done a very good job of coming together to help us minimize impacts as much as possible."

Current HCP work includes:

- flow-split construction project designed to keep water in the Comal Springs old channel where most of the endangered species and habitats flourish;
- sediment removal program to take out excess erosion materials that could cover up habitats in Comal and San Marcos Springs;
- vegetation restoration efforts to remove exotic vegetation and replace with native vegetation that represents prime habitat for the species during lower flows in Comal and San Marcos Springs.

"Due to the HCP programs implemented in 2013, the Edwards Aquifer, spring flows, endangered species and their habitats have a fighting chance to weather this current drought," Tom Taggart. "Overall, the HCP regional stakeholder efforts are designed to strike the right balance in protecting spring flows, ensuring all water users have the water they need each day and preserving the Edwards Aquifer as a resource."

In addition to new HCP science being applied to Edwards Aquifer protection, residents and businesses are encouraged to continue their water conservation efforts as well. Make sure all water leaks are repaired, and reduce indoor water use by using high efficiency fixtures and appliances. Outdoors, only water your landscape when it is needed, and make sure to follow your local area's Critical Period watering guidelines.

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Drought Causes Edwards Aquifer Region's Habitat Conservation Plan to Trigger "State Scientific Area" Provision

The current drought conditions in South Texas, and resulting lower flows of 120 cubic feet per second (CFS) at the San Marcos Springs, have caused Habitat Conservation Plan (HCP) managers to trigger the HCP's "State Scientific Area" provisions. This requires HCP staff and consultants to essentially rope off areas of the San Marcos River to protect species and habitats from recreational activities occurring on the river.

"The rivers are never completely blocked, and people will always be able to float downstream. But, we just take some extra precautions with known habitat during periods of drought," said Nathan Pence, HCP Program Manager. "We urge everyone floating the river to make sure they go around places that are clearly marked as sensitive environmental areas."

The State Scientific Area program was developed by the Texas Parks and Wildlife Department. Currently, a portion of the San Marcos River starting just below Spring Lake Dam has been designated as a State Scientific Area. When springflows feeding the river begin to slow due to dry weather, specific areas where endangered species like Texas Wild Rice live can become exposed to recreational activities like tubing and swimming. So to preserve those areas, Texas Parks and Wildlife will place buoys in the area to keep people from harming the species and habitats.

"With the HCP programs in place since 2013, the Edwards Aquifer, spring flows, endangered species and their habitats stand up to droughts much better," Pence stated. "The HCP objective is to strike the right balance in protecting human and environmental water needs, while preserving the Edwards Aquifer as a resource."

Similar provisions are also currently being considered for areas of the Comal River in New Braunfels.

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"Flow Split Management" Part of Edwards Aquifer Region's Habitat Conservation Plan to Preserve Ecosystem in Landa Lake River Channels

With various developments of Landa Lake occurring over time, the flows of the Comal River were altered, and consequently, habitats protecting endangered species have faced challenges. But, new construction of a valve and piping system called "Flow Split Management" is designed to provide flows in the river as they once naturally occurred.

"As flows in the Comal River changed during the development of Landa Lake, many non-native plants took over the native plants in the river channels," said Edwards Aquifer Habitat Conservation Plan (HCP) Program Manager Nathan Pence. "The non-native plants proved to be harmful to endangered species supported by habitats of native plants. To stem that tide, the City of New Braunfels is constructing a river flow management system to help regulate flows in the Comal River's Old Channel, where the federally protected fountain darter and its habitat is most abundant."

As New Braunfels grew during the early 1900s, a second and deeper Comal River channel was constructed to provide water flows for light industrial purposes. Over time, increased flows in the Old Channel of the Comal River resulted in the loss of significant amounts of the original habitat. The flow split management system, as defined in the HCP, addresses the degradation of the ecosystem in the Old Channel.

The HCP was developed by stakeholders from throughout the Edwards Aquifer Region to protect federal listed endangered species.

"There is a delicate human and environmental balance we have achieved in our HCP work. While everyone knows Texas weather is always changing, we can be ready with programs to address severe droughts when they occur," Nathan Pence, HCP Program Manager, stated. "A healthy ecosystem is good for the environment, people and local economies. As the state's population grows, demand for water increases for various types of uses. With appropriate management and conservation, we can balance regional water supply needs with environmental needs and preserve the Edwards Aquifer resource for many generations."

You can read more about flow split management at:
http://www.eahcp.org/index.php/habitat_protection/comal_springs/flow_split_management.

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Severe Drought Conditions Drive Extreme Habitat Conservation Measures

"Salvage Stock" HCP Component Triggered by Minimal Spring Flows

Today, the HCP staff and consultants began collecting endangered species from the springs and river runs to move them to fish tanks and other man-made environments known as "refugia." The Habitat Conservation Plan (HCP) Implementing Committee has been prepared to take these extreme measures to preserve endangered species and habitats as aquifer levels and spring flows have steadily declined throughout this extended drought.

The Habitat Conservation Plan was developed through Edwards Aquifer regional partner consensus over a six-year period and officially adopted in 2013.

"When we first developed this program for taking endangered species out of their natural habitats and placing them in refugia, we always knew that this would be the worst case scenario type of effort to preserve them," said Tom Taggart, HCP Implementing Committee chairman. "But, with spring flows reaching near minimum flows of 50 cubic feet per second (CFS), that's exactly what our planning calls for, and so we've begun collecting the various species and moving them to fish tanks to keep them alive. They will be returned to their habitats as water levels in the Edwards Aquifer rise to normal levels."

There are actually a number of collected species known as "standing stock" that are kept in laboratories at all times. They are maintained not only for this type of historically low Edwards Aquifer levels, but also in the case of other catastrophic events like a major contaminant spill in one of the rivers.

The three refugia are located at the San Marcos Aquatic Resource Center, Uvalde National Fish Hatchery and Inks Lake Fish Hatchery. The refugia program will cost $25 million over the 15-year period of the federal permit.

"There is a delicate human and environmental balance we have achieved in our HCP work. While everyone knows Texas weather is unpredictable, we can proactively prepare programs to address severe droughts when they occur, and this is as bad as the region has ever seen," HCP Program Manager Pence stated. "A healthy ecosystem is good for the environment, people and local economies. As the state's population grows, demand for water increases for various types of uses. With appropriate management and conservation though, we can balance regional water supply needs with environmental needs and preserve the Edwards Aquifer resource for many generations."

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Aquifer Storage and Recovery Program Key Part of Protecting Edwards Aquifer During Drought of Record

San Antonio Water System Facility Storing Edwards Water for Use During Extreme Drought

"In developing the Habitat Conservation Plan, we realized what a tremendous resource the SAWS Aquifer Storage and Recovery (ASR) facility is for the Edwards Region," said Nathan Pence, HCP Program Manager. "We worked with SAWS to put together a program where the Edwards Aquifer Authority could acquire water and store it at their facility for withdrawal during drought of record conditions. It's sort of like having a savings account to store water when you have it, then taking it out when you really need it."

Pumping from the ASR facility and not from SAWS' Edwards Aquifer wells helps maintain spring flows in the Comal and San Marcos Springs, helping protect endangered species and their habitat. This also helps stabilize overall water levels in the Edwards Aquifer, which is a big benefit to all users.

The ASR facility is a groundwater storage plant located in southern Bexar County, and operated by the San Antonio Water System (SAWS). Its primary function is to store Edwards Aquifer water in the Carrizo Aquifer when available. During dry months water is pumped back into the existing distribution system in San Antonio to help meet summer water demand. The ability to store large amounts of water in the Carrizo Aquifer makes the ASR facility a key water management tool for the Edwards Aquifer region.

This is the fourth year in a row of drought conditions in South Texas causing Edwards Aquifer levels in Bexar, Medina and Uvalde Counties, plus spring flows in New Braunfels and San Marcos to drop towards historic lows. However, the ASR program component of the Edwards Aquifer Habitat Conservation Plan (HCP) will play a key role in preserving spring flows and water supply around the region through this extremely dry period.

"The ASR water management tool is just one of many HCP programs so the Edwards Aquifer, spring flows, endangered species and their habitats will have a fighting chance to weather extreme droughts," Pence stated. "The bottom line for all of our programs is that we strike the right balance in protecting human and environmental needs, while preserving the Edwards Aquifer as a resource."

While regional water managers are trying to maximize the use of the Edwards Aquifer through programs like ASR, residents and businesses are encouraged to do their part by using water wisely as well. For example, make sure all water leaks are repaired, and reduce indoor water use by using low-flow fixtures and appliances. Outdoors, only water your landscape when it is needed, and make sure to follow your local area's drought restrictions watering guidelines.

HCP

The Edwards Aquifer is a unique groundwater resource and primary source of water for more than 2 million people in Uvalde, Medina, Bexar, Comal and Hays Counties, supporting domestic, industrial and agricultural water needs. The Edwards Aquifer is also the source of the only two major springs remaining in Texas - the San Marcos and the Comal. These springs feed the San Marcos and Comal Rivers, which are tributaries to the Guadalupe River. The Habitat Conservation Plan was developed to protect and preserve this vital water resource. You can read more about the HCP at www.eahcp.org.

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Voluntary Irrigation Suspension Program Option Leasing (VISPO) Helps Protect Edwards Levels in Critical Periods

Extended drought conditions in South Texas always produce historically low Edwards Aquifer levels in Bexar, Medina and Uvalde Counties, and minimal-to-no spring flows in New Braunfels and San Marcos. However, the Voluntary Irrigation Suspension Program Option (VISPO) component of the Edwards Aquifer Habitat Conservation Plan (HCP) can play a key role in preserving spring flows and water supplies around the region despite these extreme dry periods.

VISPO is a voluntary program open to eligible Edwards Aquifer irrigation water rights holders in Atascosa, Bexar, Comal, Hays, Medina and Uvalde counties. VISPO participants agree to suspend pumping water for an entire year in exchange for financial compensation when the Edwards Aquifer level is a 635 feet on October 1. Once VISPO triggers at 635 feet, irrigators must suspend pumping beginning January 1 of the following year. They receive a standby payment for each acre-foot of water enrolled even if VISPO does not trigger, and a higher per acre-foot payment if it does.

“In developing the Habitat Conservation Plan we realized providing incentives for irrigators to suspend pumping could be a very helpful method in slowing the decline of the Edwards Aquifer,” said Tom Taggart, HCP Implementing Committee chairman. “This ca.”

“Through the HCP programs, the Edwards Aquifer, spring flows, endangered species and their habitats stand to fair much better in drought conditions,” HCP Program Manager Nathan Pence stated. “Our efforts are designed to strike the right balance in protecting spring flows, ensuring all water users have the water they need each day and protecting the Edwards Aquifer as a resource.”

In addition to new HCP programs like VISPO being applied to Edwards Aquifer protection, all water entities agree that residents and businesses should continue their water conservation efforts as well. Make sure all water leaks are repaired, and reduce indoor water use by using high efficiency fixtures and appliances. Outdoors, only water your landscape when it is needed, and make sure to follow your local area’s Critical Period watering guidelines.

More VISPO details, such as lease lengths and payment options can be found at: www.eahcp.org/index.php/flow_protection/vispo.

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Social Media and Regional Messaging

General HCP Information

- With South Texas being in year four of a drought, water flowing from the Comal Springs in New Braunfels is starting to show signs of low-to-no flows in certain areas. The Edwards Aquifer Region's Habitat Conservation Plan includes several water-saving and endangered species/habitat preserving programs to ease the effects of the drought on the Comal and San Marcos Springs. You can read more about these programs at: www.eahcp.org.
- While the HCP is the scientific method for protecting the Edwards Aquifer, what can you do to help preserve the region's primary source of water? You can start by repairing all water leaks at your home or business. A steadily leaking toilet can waste up to 500 gallons per day. Water your landscapes only as much as needed, hand water whenever possible. Indoors, take short showers, wash clothes and dishes only when you have a full load and never leave the water running if it is not being used.

Biological Monitoring

- Current drought conditions caused the Habitat Conservation Plan program to step up its "bio-monitoring" work. Under normal conditions, evaluation of the river water quality and the endangered species habitats happens twice a year. When the Comal and San Marcos Springs start flowing slowly due to lack of rainfall, the U.S. Fish and Wildlife Service requires monitoring to occur every other week. See www.eahcp.org/index.php/supporting/biological_monitoring for more information.
- Typical biological monitoring includes detailed evaluations of water quality and overall health of the various protected species and their habitats living in the Comal and San Marcos Rivers.
- Biological monitoring is just one effort of the Habitat Conservation Plan designed to strike the right balance in environmental and human needs, while preserving the Edwards Aquifer as a resource. A healthy ecosystem is good for the environment, people and local economies. Do your part by keeping our rivers clean. Remember, always put your trash in its proper place.
- Current biological monitoring program components include:
    - Aquatic vegetation mapping for select river reaches;
    - Fountain darter sampling (drop nets, dip nets, visual);
    - San Marcos salamander sampling (SCUBA and snorkel);
    - Texas wild-rice physical observations and annual mapping;
    - Comal Springs riffle beetle monitoring;
    - Comal invertebrate sampling (drift net sampling over spring orifices);

- Comal Springs salamander sampling;
- Parasite evaluations concerning the fountain darter
- Ramshorn and other exotic snail monitoring

- While the experts are doing the scientific work, you can help preserve our natural resources by making sure you leave no trash behind after enjoying our Texas parks and rivers. Have fun!

Refugia

- There are endangered species living in parts of the Comal and San Marcos Rivers. Those rivers are fed by the Edwards Aquifer. Because spring flows have dwindled to near all-time lows, experts working through the Habitat Conservation Plan are moving those endangered species to man-made fish hatcheries known as "refugia." The species will be returned to the rivers when rains replenish the aquifer and springs return to normal.
- There are actually a number of collected species known as "standing stock" that are kept in laboratories all of the time. They are maintained not only for this type of historically low Edwards Aquifer levels, but also in the case of other catastrophic events like a major contaminant spill in one of the rivers.
- Moving endangered species to man-made refugia might seem like a lot of effort, however, a healthy ecosystem is good for animals, people and our economy. You can help keep the environment clean by never leaving trash outdoors.
- Learn more about how the Habitat Conservation Plan protects endangered species by going to: www.eahcp.org/index.php/supporting/nfhtc_refugia

State Scientific Areas

- When Edwards Aquifer levels get low, so do the flows at the Comal Springs in New Braunfels and the San Marcos Springs in San Marcos that feed the rivers. At certain river flows, the State puts out buoys and ropes to protect certain environmentally sensitive areas. Tubers are asked to float around these areas. That's a simple way you can enjoy the river but help protect the habitats where endangered species live.
- When you see certain areas of the San Marcos River roped off, that just means that flows in the river are low, and environmental scientists are trying to preserve habitats where endangered species live. The river will never be completely blocked, so just tube around these places called "State Scientific Areas" and you'll be helping too.
- Download this great info sheet on State Scientific Areas from the Texas Parks and Wildlife.
  http://www.tpwd.state.tx.us/publications/pwdpubs/media/cs_lf_p4000_1876.pdf

Flow Split Management

- Building at Landa Lake in New Braunfels over the years has included the construction of a man-made river channel. The original river channel is known as the "Old Channel." During drought conditions, flows in the Old Channel can get very low which create problems for endangered species living there. To address that issue, the City of New Braunfels is constructing a series of pipes and pumps to move water into the Old Channel during dry periods. This is known a "flow split management" and serves as a key part of the Habitat Conservation Plan.

- Read all about flow split management at: www.eahcp.org/index.php/habitat_protection/comal_springs/flow_split_management

Provision M

- Lower flows in the Comal Springs and San Marcos Springs caused by the ongoing drought have stopped work projects in New Braunfels and San Marcos associated with the Habitat Conservation Plan (HCP). Program managers just want to be sure that any kind of work activity in the rivers is not harming the endangered species and their habitats that live there. Once everyone agrees that ongoing work is not hurting species habitats, projects can resume.
- Typical Edwards Aquifer Habitat Conservation Plan work includes environmental scientists removing sediment in the rivers, which can cover up animal habitats, and the replacing of non-native plants with native plants, which help protect endangered species. You can read all about the Habitat Conservation Plan at: www.eahcp.org.

ASR Program

- During these types of drought conditions, pumping lots of water out of the Edwards Aquifer can reduce spring flows in New Braunfels and San Marcos. But, what if you could store Edwards Aquifer water during wet periods for use during dry times? Well, San Antonio Water System has created just such a system called Aquifer Storage and Recovery, or ASR. The Habitat Conservation Plan makes use of that system by leasing water from Edwards Aquifer water right holders and storing that water in ASR. So, the next time we hit a drought of record, and it will happen, the ASR Leasing Program will be up and running to help keep water pumping down.
- Everyone around the region benefits from ASR Leasing. Edwards Aquifer permit holders can make some additional money, San Antonio Water System doesn't have to pump its wells as much, and that in turn relieves some pressure on Comal and San Marcos spring flows. Do you have water rights to lease? Learn more at: www.ASRLeasingProgram.com.
- While the ASR Leasing Program is storing water for dry times, how are you helping conserve water? Have you checked for water leaks and fixed them? How switching out all of the water fixtures in your home, like showerheads and toilets, to high efficiency devices. And outdoors, water your landscape only when it's needed. If it rains, make sure your automatic sprinkler system doesn't come on. That's an obvious waste of water.

VISPO

- What's a VISPO? That's an acronym for Voluntary Irrigation Suspension Program Option, and a key part of the Edwards Aquifer Habitat Conservation Plan. Edwards water rights holders can allow the Edwards Aquifer Authority (EAA) to acquire their water, and in turn, the EAA prevents that water from being pumped from the Edwards Aquifer during drought periods. The less water we take out of the Edwards Aquifer during these types of drought conditions, the better chance we have at preserving major spring flows in New Braunfels and San Marcos. Overall, a healthy ecosystem is good for animals, humans and the economy. Do you have Edwards Aquifer water rights? If so, you can make some money by allowing EAA to acquire some of that water. Learn more at: www.eahcp.org/index.php/flow_protection/vispo.
- Extended drought conditions in South Texas always produce historically low Edwards Aquifer levels in Bexar, Medina and Uvalde Counties, and minimal-to-no spring flows in

New Braunfels and San Marcos. However, the Voluntary Irrigation Suspension Program Option (VISPO) component of the Edwards Aquifer Habitat Conservation Plan plays a key role in preserving the Edwards Aquifer water despite these extreme dry periods. Under VISPO, water that is acquired by the Edwards Aquifer Authority cannot be pumped for an entire year. Not pumping that water from wells helps keep water flowing at the springs, and gives the region more opportunities for rain to replenish the Edwards.

HCP Regional Statements

- The Edwards Aquifer is a shared resource. Farming communities in Uvalde and Medina Counties use the aquifer water to raise crops. San Antonio in Bexar County is the largest municipal user of the aquifer. Comal and Hayes Counties are home to the Comal and San Marcos Springs. Then, there are water users downstream who rely on springflow.
- The Edwards Aquifer Authority was created to balance all Edwards water user interests through fair water management programs and regulations. The creation of the EAA prevented federal intervention as the region came together and explained how we would manage the Edwards resource on a shared basis.
- The drought of record occurred in the 1950s when the Edwards Aquifer levels reached all-time lows and the springs in Comal County stopped flowing for about six months. Fortunately, we've never witnessed that same problem at the San Marcos Springs. However, the Edwards Region is much more populated than it was in the 1950s, and we know that another drought of record will happen.
- We do have a responsibility to everyone living and working here to be prepared for short and extended dry periods.
- Water agencies in the Edwards Aquifer region have worked diligently and spent hundreds of millions of dollars to provide safe and dependable water supplies for their customers. But, when these types of dry periods occur in our area, every resident and business owner should do a little extra to conserve water. (Add water conservation tips.)
- There is never a good reason to waste water.
- There is a delicate human and environmental balance we've achieved in our HCP work. While everyone knows no one can control the weather, we can be ready with programs to address severe droughts when they occur. We must ensure that families and businesses have water for everyday life, but we also need to do our best to protect endangered species also relying on Edwards Aquifer water and habitats per federal law.
- The EAA has a critical period (drought) management system which requires certain percentage reductions in water use from the Edwards Aquifer when each drought stage triggers. These regulations apply to the entire region. But each water supplier determines how it will meet the water reduction requirements of each stage. That provision ensures water suppliers retain management of their systems, and encourages them to diversify their water sources over time, reducing dependence on the Edwards Aquifer to meet future water needs. (Add facts from water suppliers.)