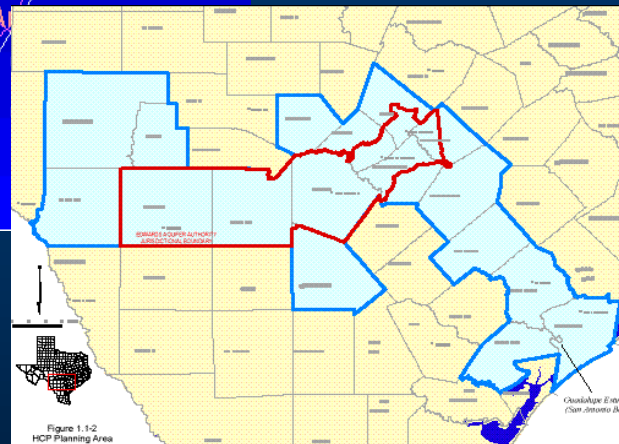
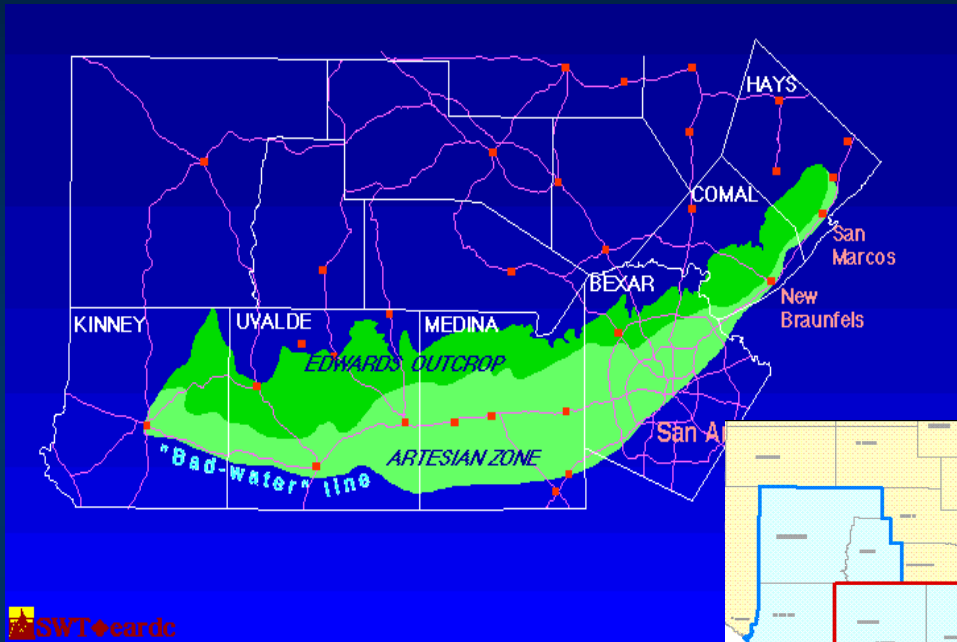


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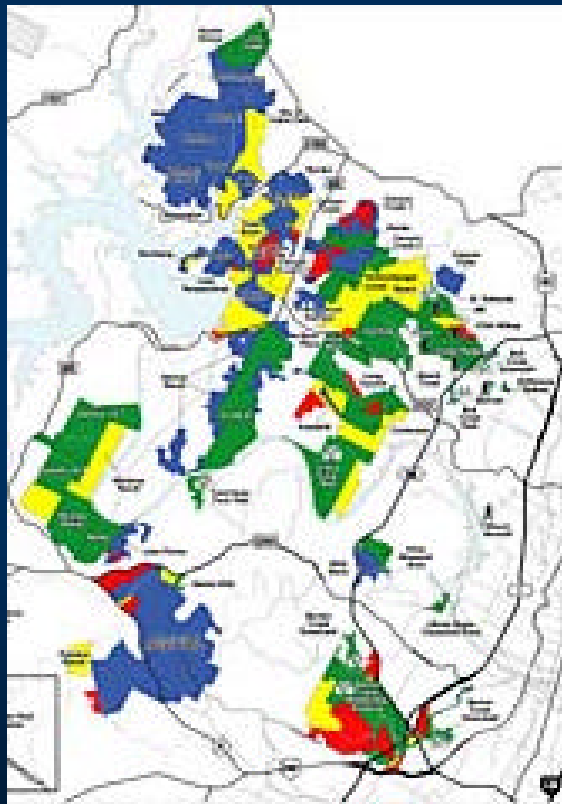
Title Slide



The Balcones Canyonland Conservation Plan (BCCP)



The City of Austin (1992) in Partnership With Other Local Governments Developed, Adopted and Funded a Habitat Conservation Plan to Meet Federal Endangered Species Act Requirements .



BCCP Preserve sites



Black-capped vireo



Golden-cheeked warbler

Landowner Concerns About the Process of Developing and Implementing This Regional Plan Prompted Legislative Action to Provide A “Safety-Valve” to Address Those Concerns In Any Future Regional Habitat Plan

§ 83.020. Grievance With Development of Regional Habitat Conservation Plan

(a) An individual appointed to a citizens advisory committee under Section 83.016(b) may file a grievance with the commission* regarding the development of a regional habitat conservation plan...

**** Texas Parks and Wildlife Commission***

§ 83.020. Grievance With Development of Regional Habitat Conservation Plan

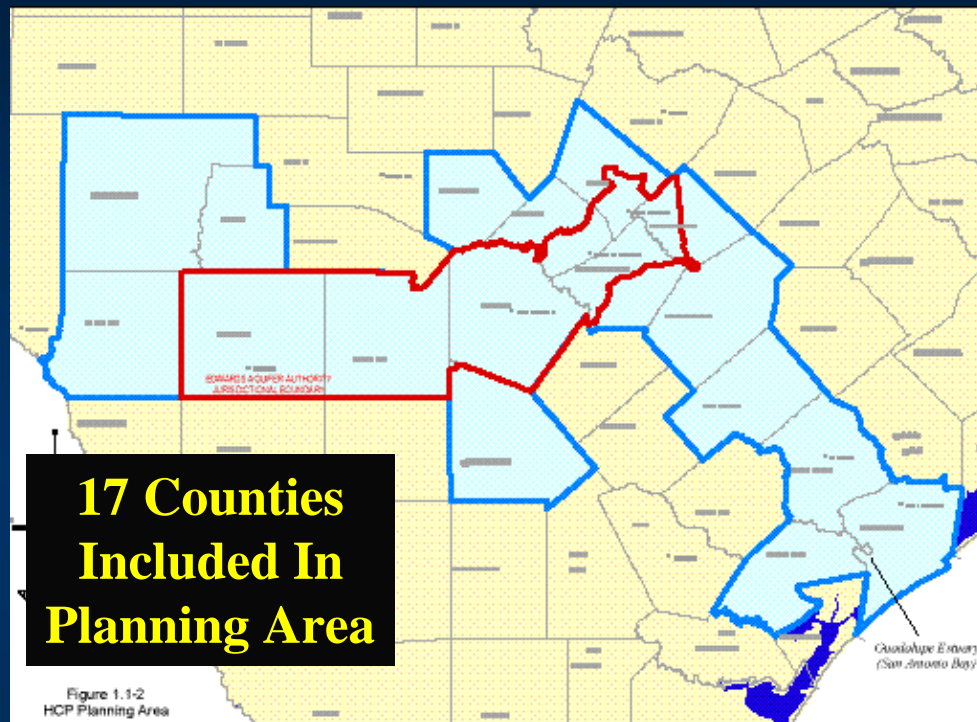
(c) The commission *shall* review a grievance filed under this section to determine whether the plan is being developed in compliance with this subchapter. If the commission finds that the grievance does have merit, the commission must hold a public hearing in accordance with Chapter 551, Government Code.... On conclusion of testimony, the commission *shall* vote on whether to approve or dismiss the grievance...

§ 83.020. Grievance With Development of Regional Habitat Conservation Plan

(d) If the commission approves the grievance, the commission *shall* instruct the plan participant or participants to amend the plan so that it will comply with this subchapter. The plan participant *may not* submit an application for a federal permit until the commission is satisfied that its instructions to amend the plan to comply with this subchapter have been carried out.

The First Regional Habitat Plan That Is Subject to Provisions of § 83.011-020, Is the Edwards Aquifer Regional Habitat Plan....

§ 83.015 Directs The Formation of a Biological Advisory Team (BAT) Chaired by TPWD:
Dr. David Bowles



§ 83.016 Directs the Establishment of A Citizen Advisory Committee (CAC) Of Which 33% of Membership Must Be Agricultural Landowners and One Member From TPWD - *Dr. John Herron*

In May 1993 the Texas Legislature Passed Senate Bill 1477 Which Replaced the Edwards Underground Water District With the *Edwards Aquifer Authority*.



The Bill Authorized the New Agency To:

Issue Permits and Regulate Groundwater Withdrawals From the Edwards.

Assign Ownership of Water to People Who Had Been Using It for Many Years.

Set a Cap on Permits at 450,000 Acre-feet Annually, to Be Reduced to 400,000 Acre-feet by 2007.

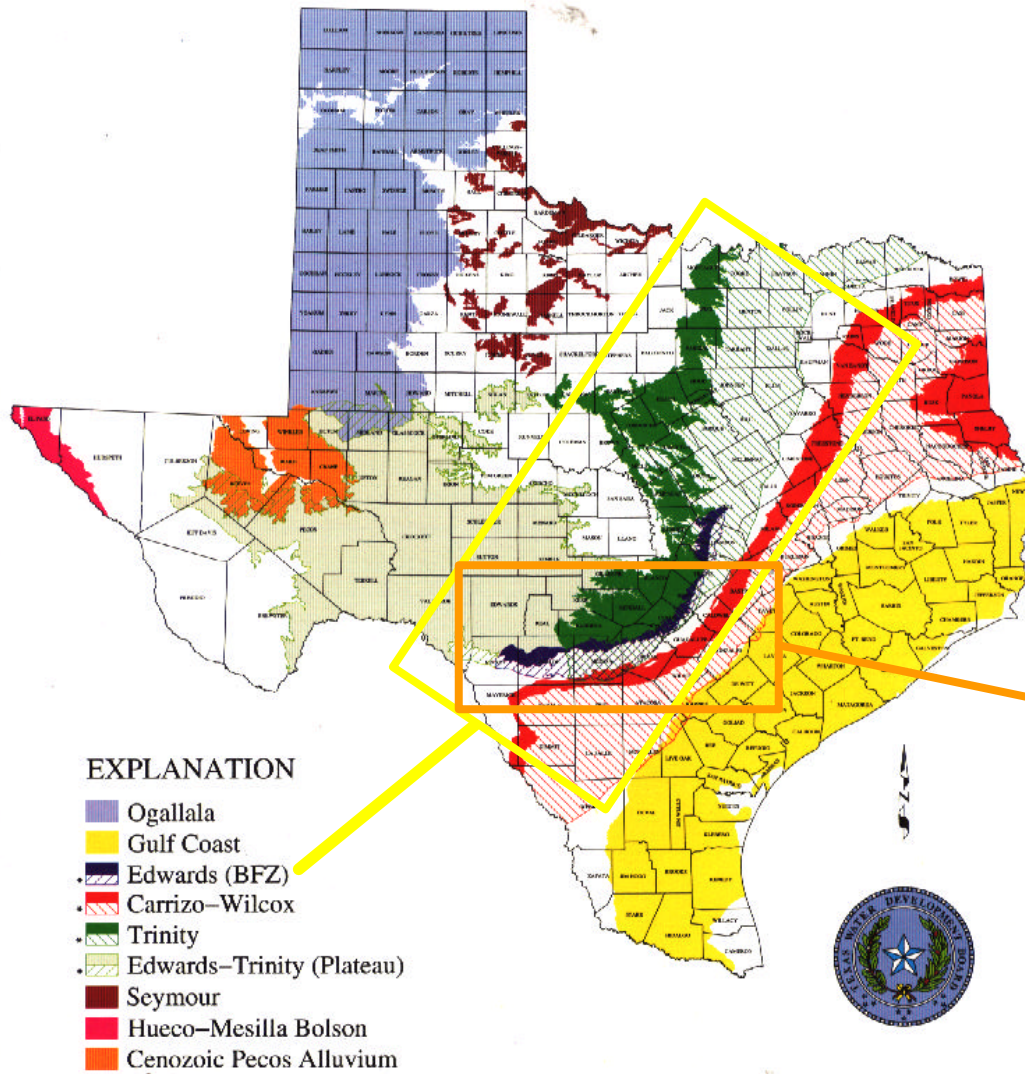
Adopt a Critical Period Management Plan to Reduce Pumping During Droughts.

Address the Question of Preserving Endangered Species Habitats by Requiring the Authority to Provide Continuous Minimum Spring Flows.

MAJOR AQUIFERS OF TEXAS



The Edwards Is an Extensive, but Segmented Aquifer



It Is the Southern Segment That Is the Focus of the RHCP

OUTCROP (That part of a water-bearing rock layer which appears at the land surface.)

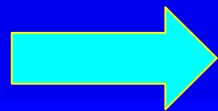
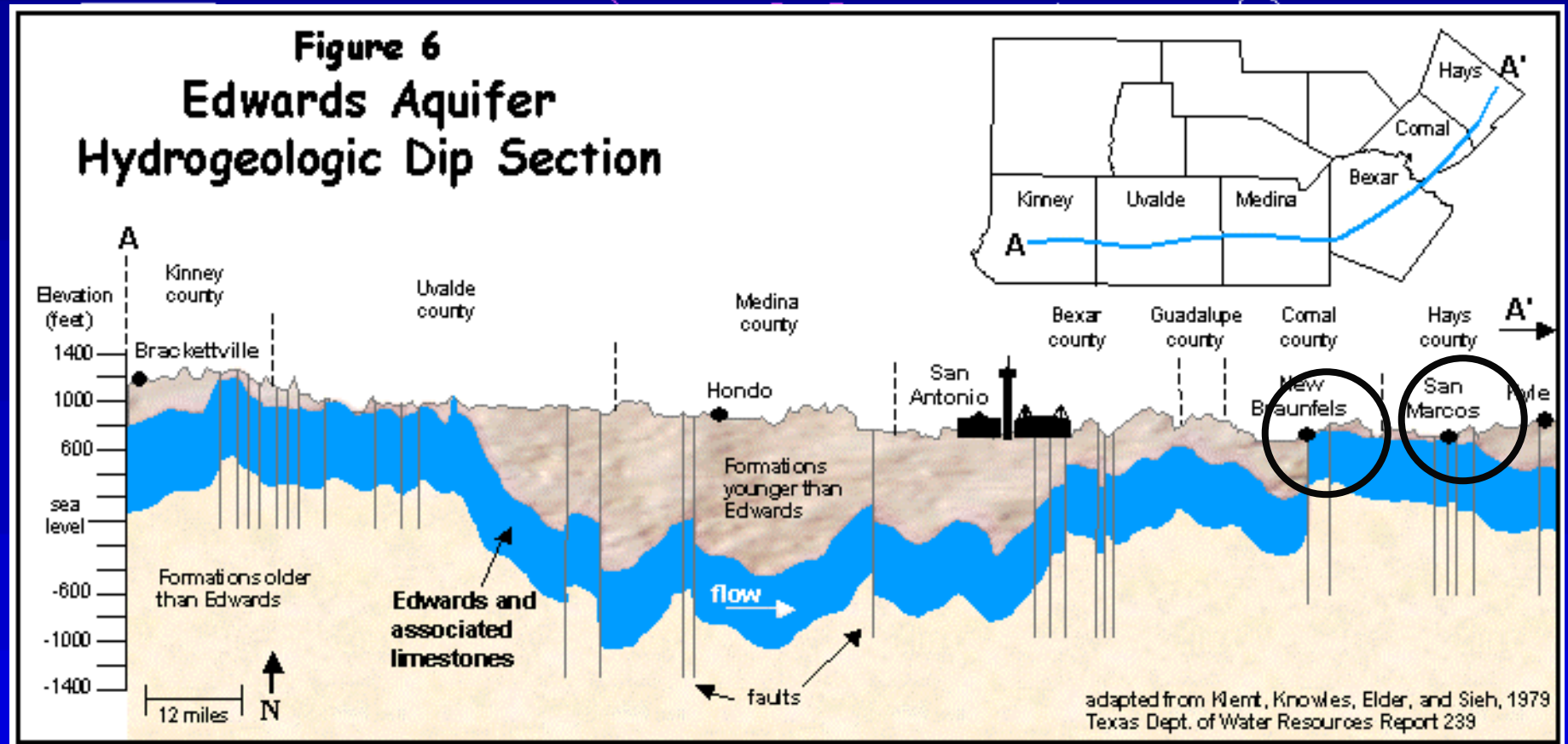
• DOWNDIP (That part of a water-bearing rock layer which dips below other rock layers.)



Miles
0 25 50 75 100

January 1994

EDWARDS AQUIFER LOCATION MAP



General Flow of Water

**The RHCP Is an Application
For a Section 10 Permit (EAS). If
Granted by the U.S. Fish and
Wildlife Service, It Would Allow
For Incidental Take of Several
Endangered and Threatened
Species That Depend on Water in,
Or Discharged From, the Southern
Portion of the Edwards Aquifer**

Texas blind salamander

Pecks cave amphipod

San Marcos salamander

Fountain darter

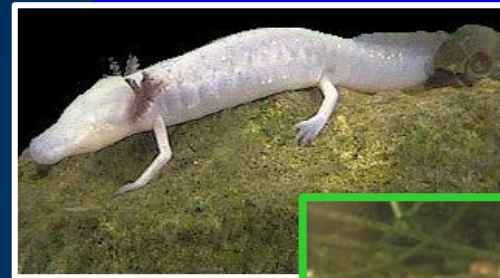
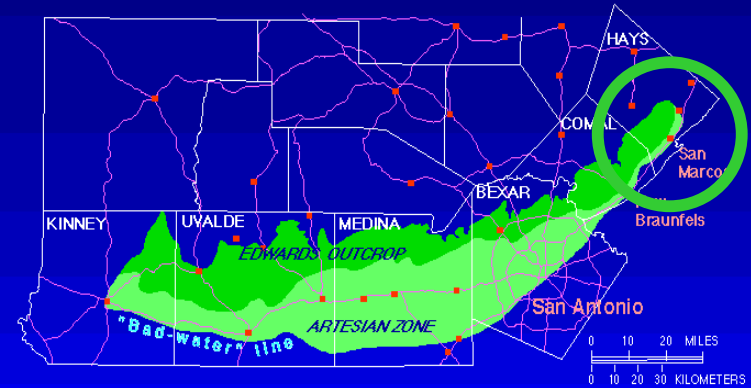
Comal Springs riffle beetle

Comal Springs dryopid beetle

Texas wild rice

Cagle's map turtle

EDWARDS AQUIFER LOCATION MAP



Aquifer



Springs

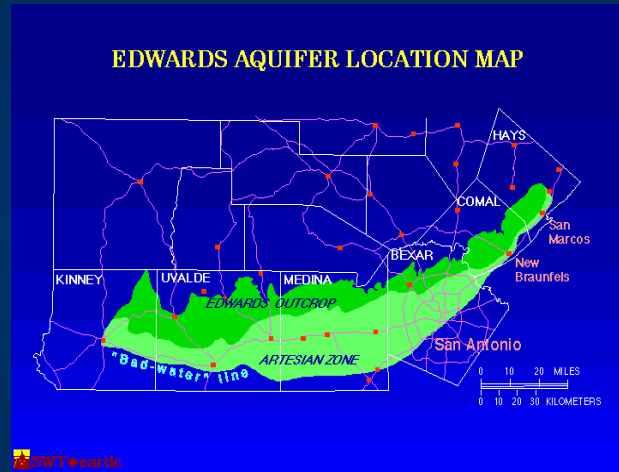


Rivers

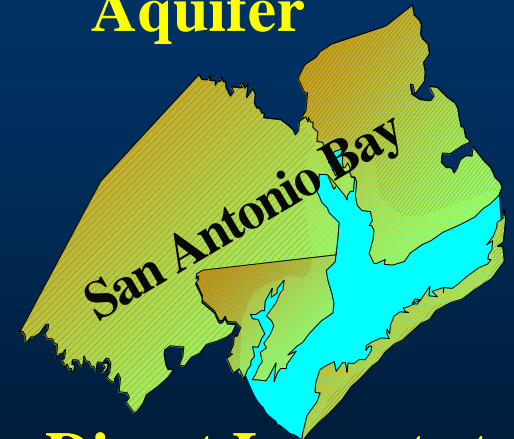
The Biological, Hydrological and Political Issues Associated With the Edwards Aquifer RHCP Will Likely Be Some of the Most Complex and Difficult Natural Resource Management Issues Ever Faced in Texas...



Endangered Species Associated With Every Aspect of Issue

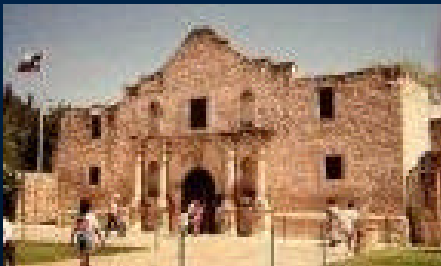


All the Major Hill Country Rivers Flow Over and Recharge the Aquifer



Direct Impacts to Bays & Estuaries

The Edwards Remains The Sole Water Source For San Antonio



All of Texas Largest Springs Have Their Origins From the Edwards...



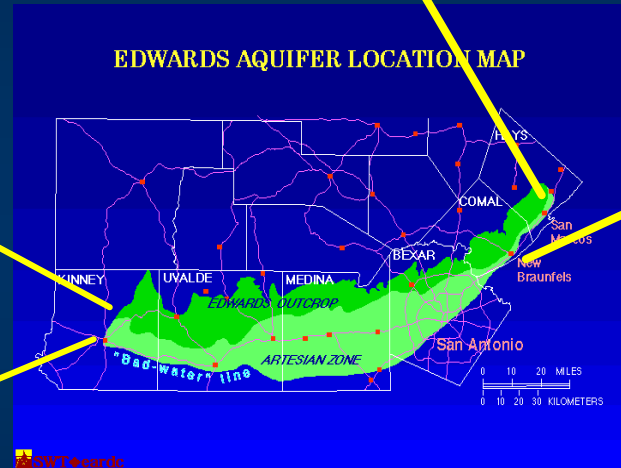
San Felipe
Del Rio



San Marcos
San Marcos



Comal
New Braunfels



Las Moras Springs
Brackettville



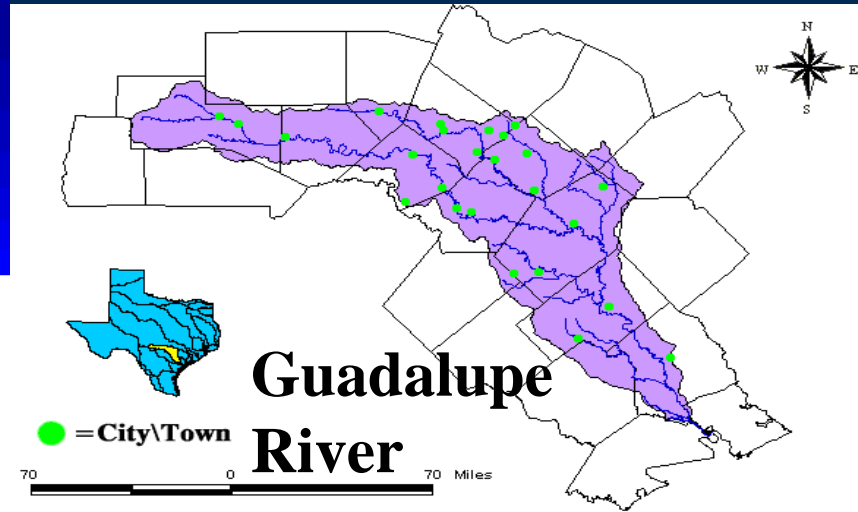
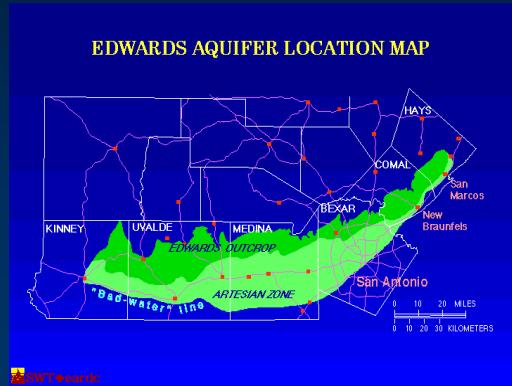
Fountain darter



Texas Wild Rice

All of Which Have Endangered Species Associated With Them

**Under Normal Conditions The Aquifer provides
30% of the Instream Flow In the Guadalupe River
And During Drought up to 70%**



***Cagle's Map
Turtle***



**The Guadalupe River and Its
Tributaries - Blanco, San
Marcos and Comal Rivers Have
Many Demands on the
Water They Carry...**

Industrial



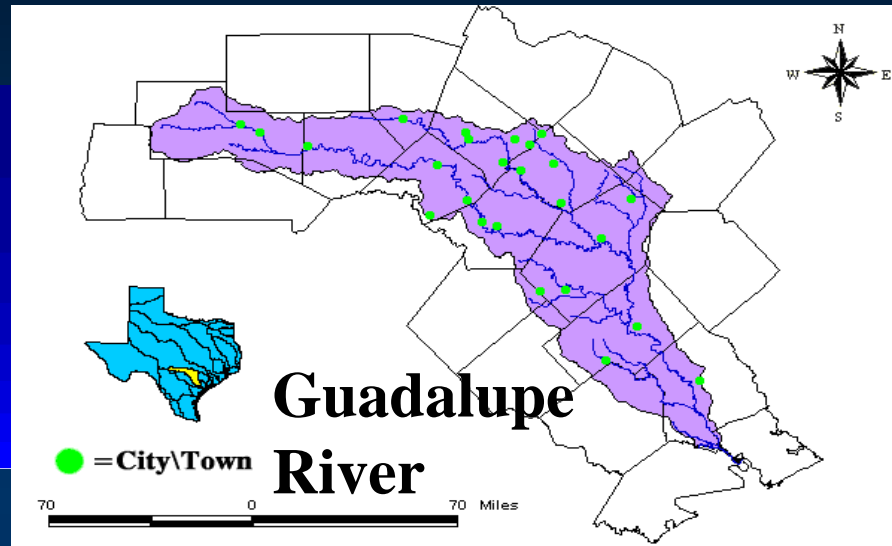
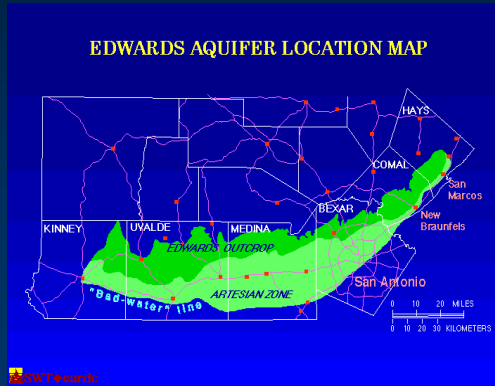
Agricultural



Municipal



The Guadalupe River Is the Primary Source of Freshwater Inflows to San Antonio Bay....

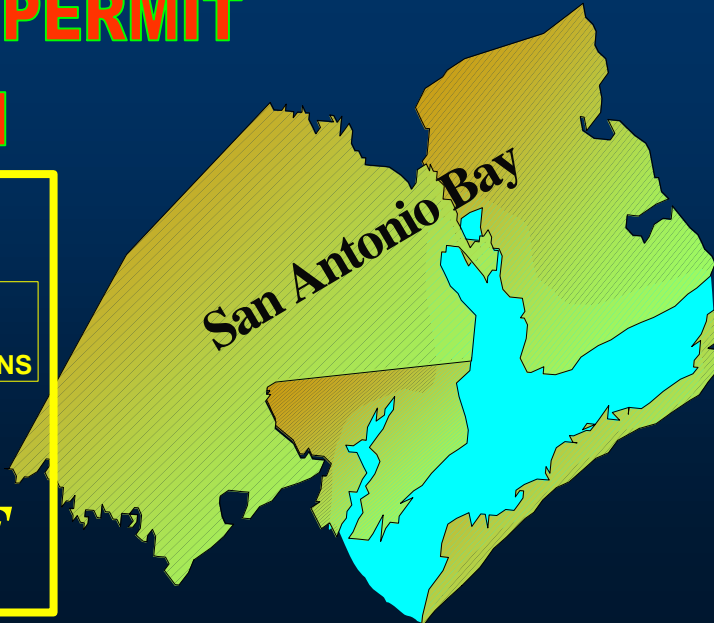
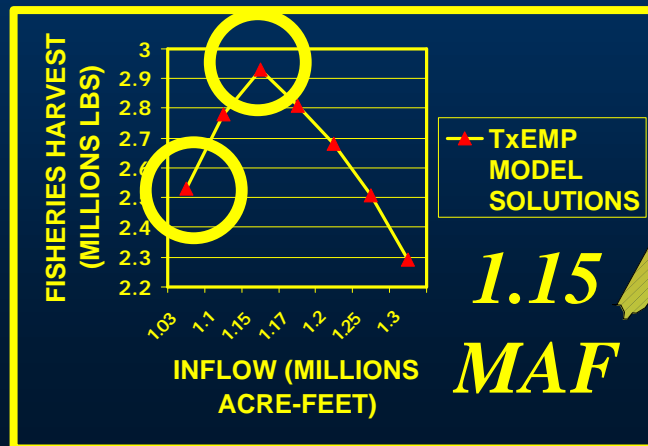


Brown Shrimp



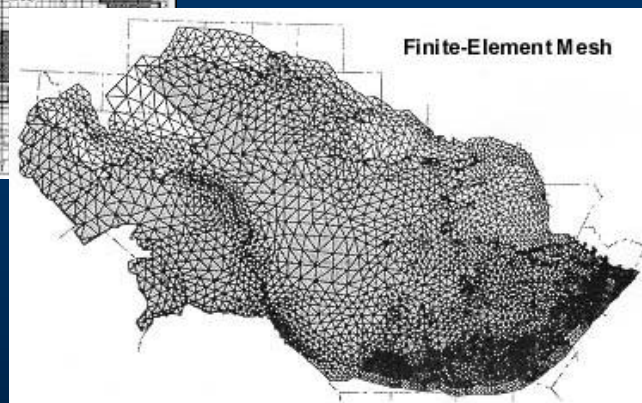
Blue Crab

SMRF WATER RIGHT PERMIT APPLICATION

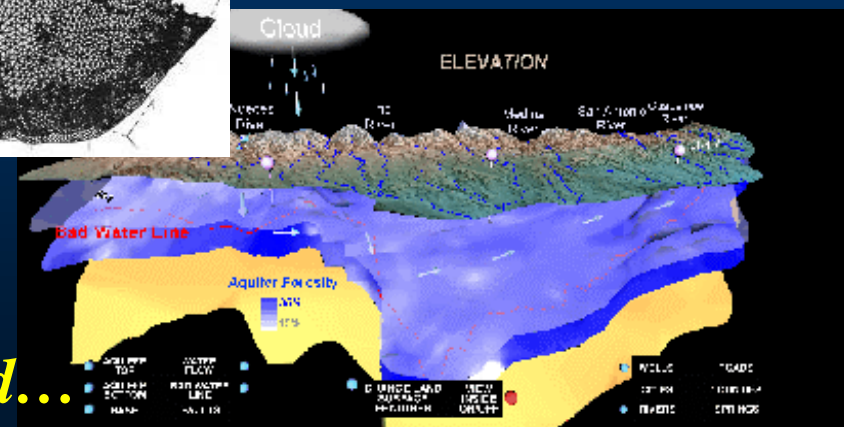


Whooping Crane





*Evolution of Edwards
Aquifer Models: They Have
Become Increasingly Sophisticated...*



SB 1477

Edwards Authority Act Pumping Restrictions

**Permitted Withdrawals
Through 2007: 450,000 AFY**

**Decrease to 400,000 AFY
Thereafter**

**After 2012 Pumping Limited
To ? Quantity Consistent
With Conservation of
Endangered Species**

**Establish a Drought
Management Plan**

**Drought Trigger Reduces
Pumping to 340,000AFY**

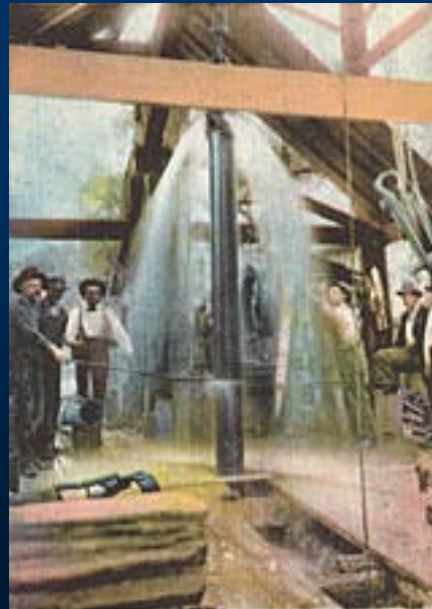
Some Pumping Facts

**Ten Years of Pumping:
327,000 – 494,000 AFY
Median - 411,000 AFY**

**Peak of Pumping:
542,000 AF in 1989**

**Comal Spring Stopped
Flowing in 1990 at a
Pumping Rate of –**

**489,000 AFY and
Diminished in 1996 at
Approx. 400,000 AFY**



RHCP Presents 5 Management Alternatives



San Marcos Salamander

Alternative 5

550,000 AFY Limit

DM/CPMP – 385,000 AFY

Impact: *Comal and Possibly San Marcos Springs Dry In Drought of Record and Most Other Significant Droughts*

Alternative 4

500,000 AFY Limit

DM/CPMP – 350,000 AFY

If not Sustainable Return to Existing Law in 5 Years

Impact: *Comal and Possibly San Marcos Springs Dry In Drought of Record*



The "Catfish Farm"
World's Largest Water Well

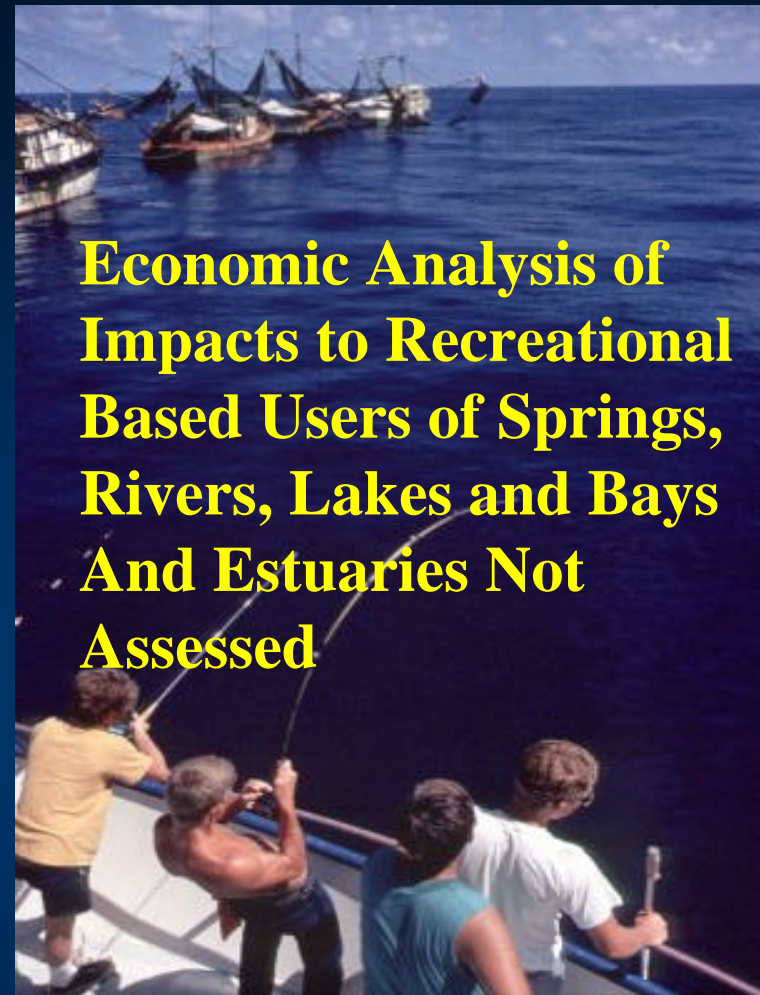
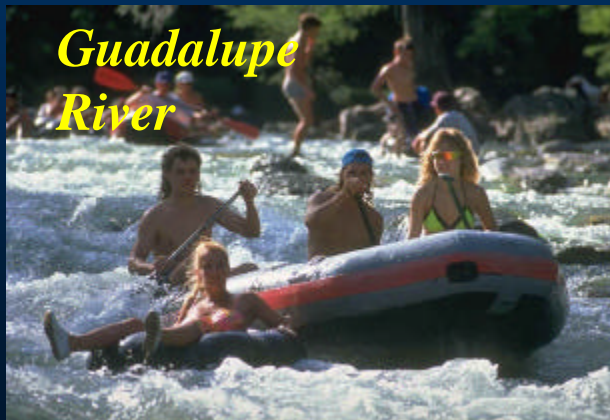
Biological Concerns Regarding the RHCP And Preferred Alternative 5:

Alternative 5 Does Not Minimize Adverse Impacts to Endangered Species

Dependence Upon Captive Breeding As Mitigation – Not Realistic

Adaptive Management Proposed Such As Springflow Augmentation- Not Scientifically Credible

Consideration of Bad Water Line?

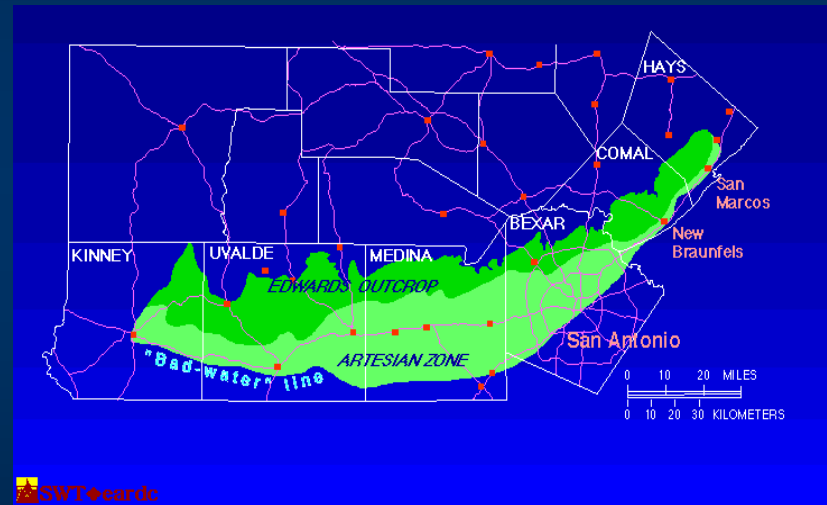


Economic Analysis of Impacts to Recreational Based Users of Springs, Rivers, Lakes and Bays And Estuaries Not Assessed

“...Hydrologic alteration is considerable when pumpage reaches 375,000 acre-feet/year and greater*.”

** An analysis of impacts of Habitat Conservation Plan, Appendix H in draft HCP prepared by Bio West, Inc.*

Can The Texas Parks and Wildlife Commission Expect The Grievance Provisions of Chapter 83 Subchapter B – *Habitat Protection By Political Subdivisions*, to be Invoked by a Member(s) of The Citizens Advisory Committee?



What Steps Are Necessary To Fulfill Obligations Of That Section Of the Parks and Wildlife Code?

RHCP Milestones

- **1993**
 - Senate Bill 1477 passes (Edwards Aquifer Act)--creates Edwards Aquifer Authority (EAA)
- **1996**
 - EAA begins operations
- **1999**
 - Senate Bill 1272 passes (Federal-State Agreements for Protection of Species)--requires establishment of Citizens Advisory Committee (CAC) & Biological Advisory Team (BAT)
 - HCP process begins with public workshop (September)
 - First CAC meeting (November)

EA/HCP Milestones

- **2000**
 - Phase I Technical Report published- Public Process, Data Collection, and Analysis (April)
 - First BAT meeting (August)
- **2001**
 - Initial draft HCP published (January)-- did not include Alternatives 4 and 5.
- **2002**
 - Complete draft HCP given to CAC and BAT (November)
 - Projected public release date (April)

TEXAS

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