HILL COUNTRY: GUADALUPE BASS

Guadalupe bass are native to streams originating on Texas' Edwards Plateau that include the subbasins of the Brazos, Colorado, Guadalupe and San Antonio Rivers. In 1989, the Texas Legislature designated the Guadalupe bass as the official state fish in the wake of two decades of decline in their native waters. Their decline is linked to the loss and degradation of habitat and reduced streamflows related to the demands of a growing human population and hybridization with smallmouth bass. Smallmouth were introduced by the Texas Parks and Wildlife Department in the streams and rivers of the Edwards Plateau in the 1950s to increase fishing opportunities for anglers. In doing so, state biologists introduced a non-native species that outcompeted and hybridized with Guadalupe bass, nearly disappearing from much of its historical range.

To combat their decline, the Texas Parks and Wildlife Department initiated the Guadalupe Bass Restoration Initiative to help ensure self-sustaining populations throughout most of its historic range. The first step was to stop stocking smallmouth in Hill Country waters, which it did in 1990. Then, in an attempt to reverse the trend of hybridization with smallmouth, biologists began stocking rivers with Guadalupe bass and since 1992 has stocked more than 2.3 million Guadalupe bass fingerlings in the Guadalupe, Blanco, Llano and San Antonio river sheds.

Guadalupe bass spawning begins as early as March and continues through May and June. Like all other black bass, Guadalupe bass build gravel nests for spawning, preferably in shallow water. When a male has successfully attracted a female to the nest she may lay 400 to over 9,000 eggs. The female is then chased away and the male stands guard over the incubating eggs.

To continue their recovery, biologists and landowners are working together to keep smallmouth bass out of Hill Country streams, improve instream habitat and upland management practices, and control invasive plants that can damage rivers and riparian areas.

[Activity A - Food Chain Lesson](#): (low rigor) Remembering, Understanding
List, find, name, identify, locate, describe, memorize, define, interpret, summarize, explain, infer, paraphrase, discuss

Relevant TEKS:
1.9C Gather evidence of interdependence among living organisms such as energy transfer through food chains or animals using plants for shelter.
2.9C Compare the ways living organisms depend on each other and on their environments such as through food chains.

3.9B Identify and describe the flow of energy in a food chain. (partial)

4.9B and 5.9B Describe the flow of energy through food webs. (partial)

[Activity B - Invasive Species Lesson](#): (moderate rigor) Applying, Analyzing
Use, diagram, draw, apply, solve, calculate, categorize, examine, organize, compare/contrast

Relevant TEKS:
1.9B Analyze and record examples of interdependence found in various situations. (partial)

2.9A Identify the basic needs of plants and animals

2.9B Identify factors in the environment, including temperature and precipitation, that affect growth and behavior such as migration, hibernation, and dormancy of living things

5.9A Observe the way organisms live and survive in their ecosystem by interacting with the living and nonliving components.

5.9C Predict the effects of changes in ecosystems caused by living organisms, including humans, such as the overpopulation of grazers or the building of highways.

[Activity C - Human Impact Lesson](#): (high rigor) Evaluating, Creating
Judge, critique, defend, criticize, design, build, plan, construct, produce, devise,invent

Relevant TEKS:
K.1B, 1.1B, 2,1B, 3,1B, 4,1B, 5,1B Demonstrate how to use, conserve, and dispose of natural resources and materials such as conserving water and reusing or recycling paper, plastic, and metal. (or a close variation)

3.9A Observe and describe the physical characteristics of environments and how they support populations and communities of plants and animals within an ecosystem.

5.9A Observe the way organisms live and survive in their ecosystem by interacting with the living and nonliving components.

5.9C Predict the effects of changes in ecosystems caused by living organisms, including humans. (partial)

GRADES 3-6
ACTIVITIES

Relevant TEKS:

Activity A: (low rigor) Remembering, Understanding
List, find, name, identify, locate, describe, memorize, define, interpret, summarize, explain, infer, paraphrase, discuss

Activity B: (moderate rigor) Applying, Analyzing
Use, diagram, draw, apply, solve, calculate, categorize, examine, organize, compare/contrast

Activity C: (high rigor) Evaluating, Creating
Judge, critique, defend, criticize, design, build, plan, construct, produce, devise,invent

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GRADES 7-12
ACTIVITIES

Relevant TEKS:

Activity A: (low rigor) Remembering, Understanding
List, find, name, identify, locate, describe, memorize, define, interpret, summarize, explain, infer, paraphrase, discuss

Activity B: (moderate rigor) Applying, Analyzing
Use, diagram, draw, apply, solve, calculate, categorize, examine, organize, compare/contrast

Activity C: (high rigor) Evaluating, Creating
Judge, critique, defend, criticize, design, build, plan, construct, produce, devise,invent