

50 CFR Part 17**Endangered and Threatened Wildlife and Plants; Listing of the San Marcos Salamander as Threatened, the San Marcos Gambusia as Endangered, and the Listing of Critical Habitat for Texas Wild Rice, San Marcos Salamander, San Marcos Gambusia, and Fountain Darter**

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service determines the San Marcos salamander (*Eurycea nana*) to be a Threatened species and the San Marcos gambusia (*Gambusia georgei*) to be an Endangered species, and determines the Critical Habitat of the Texas wild rice (*Zizania texana*), San Marcos salamander (*Eurycea nana*), San Marcos gambusia (*Gambusia georgei*), and fountain darter (*Etheostoma fonticola*). All four species are known only from the San Marcos River in San Marcos, Texas. This action is being taken due to decline in population sizes of the species, low population numbers, and various threats to the species, such as the possibility of lowered water tables, pollution, bottom plowing, and cutting of vegetation. This rule provides the full protection of the Endangered Species Act of 1973, as amended, to these species, with the single exception that the San Marcos salamander has been listed with special rules (§ 17.43) which allow taking in accordance with Texas State law.

DATES: This rule becomes effective on August 14, 1980.

ADDRESSES: Questions concerning this action may be addressed to: Director (OES), U.S. Fish and Wildlife Service, Department of the Interior, Washington, D.C. 20240. Comments and materials relating to the rule are available for public inspection by appointment during normal business hours at the Service's Office of Endangered Species, Suite 500, 1000 N. Glebe Road, Arlington, Virginia.

FOR FURTHER INFORMATION CONTACT: Mr. John L. Spinks, Jr., Chief, Office of Endangered Species, U.S. Fish and Wildlife Service, Washington, D.C. 20240 (703/235-2771).

SUPPLEMENTARY INFORMATION:**Background**

On August 2, 1977, the U.S. Fish and Wildlife Service published a notice in the *Federal Register* (42 FR 39119-39120) to the effect that a review of the status of 10 amphibians was being conducted. The San Marcos salamander (*Eurycea nana*) was included as part of the review. As a result of the notice of review, responses were received from the State of Texas and professional biologists. The comments and supportive documents were reviewed and a summary was presented in the *July 14, 1978*, proposed rule to list this species as Threatened with special rules which would allow taking under State law (see the *Federal Register* 43 FR 30316-30319). These special rules have been promulgated because take is not seen as a threat to the continued survival of the species, since the animals are safeguarded by the owners of Spring Lake and through efforts of the Texas Parks and Wildlife Department.

The San Marcos gambusia (*Gambusia georgei*) was proposed for listing as Endangered, with a segment of the San Marcos River as its Critical Habitat, on *July 14, 1978* (43 FR 30316-30319). On *March 6, 1979*, the Service withdrew all pending Critical Habitat proposals in compliance with the Endangered Species Act Amendments of 1978 (44 FR 12382-12384). Critical Habitat was repropoed for these two species, in conformance with the requirements of the 1978 Amendments, on *March 19, 1980* (45 FR 17888-17891).

Texas wild rice (*Zizania texana*) and the fountain darter (*Etheostoma fonticola*) were listed as Endangered on *April 26, 1978* (43 FR 17910-17917) and on *October 13, 1970* (35 FR 16047), respectively. Critical Habitat for the latter two species was proposed for the first time on *March 19, 1980* (45 FR 17888-17891).

The present rule finalizes the listing of the San Marcos salamander (*Eurycea nana*) as Threatened, and of the San Marcos gambusia (*Gambusia georgei*) as Endangered; and determines the Critical Habitat of the San Marcos salamander, San Marcos gambusia, Texas wild rice (*Zizania texana*) and fountain darter (*Etheostoma fonticola*).

In conjunction with the *March 19, 1980*, proposal of Critical Habitat, the Service held a public meeting on *April 8,*

1980, and a public hearing on *May 12, 1980*, in San Marcos, Texas, to explain the proposal, answer public questions, and to solicit additional information on the biology of the four species and the economic effects of a Critical Habitat designation on Federally authorized and funded projects in the area. All public comment periods were closed on *May 19, 1980*.

The greatly restricted distribution of these four species and apparent intolerance of habitat conditions outside the immediate vicinity of this spring system gives evidence to their vulnerability. Increased groundwater utilization in the near future and the probability of contaminants increasing in almost direct ratio to expanding real estate development activity over aquifer recharge zones constitute serious potential threats to the continued existence of the species. A series of drought years approaching 1956 drought conditions, when coupled with the effects of increasing human impact, could precipitate extirpation of these species from major segments if not all of their currently known range.

The biology of these four species was reviewed in the original proposals as well as in the proposals of Critical Habitat. Persons who desire to review these data should consult these documents. The threats to the species and their environment are further specified in these proposals and in the Critical Habitat section of this rule.

Summary of Comments and Recommendations

Section 4(b)(1)(C) of the Act requires that a summary of all comments and recommendations received be published in the *Federal Register* prior to adding any species to the list of Endangered and Threatened Wildlife and Plants.

Proposed Listings with Critical Habitat

In the *July 14, 1978*, *Federal Register* (43 FR 30316-30319) the Service proposed to list the San Marcos salamander (*Eurycea nana*) and the San Marcos gambusia (*Gambusia georgei*) with Critical Habitat. The Critical Habitat portion of this proposal was withdrawn on *March 6, 1979* (44 FR 12382-12384) and repropoed on *March 19, 1980* (45 FR 17888-17891).

Comments received through *June 15, 1980*, on the proposed listing of the San Marcos salamander as Threatened with special rules and the San Marcos gambusia as Endangered are

summarized below. A total of 9 comments were received, 1 from a Federal agency, 2 from conservation organizations, and 6 from individuals.

The Bureau of Reclamation (now Water and Power Resources Service) indicated that according to their studies the San Marcos spring flow should not become intermittent until the year 2005. They also indicated that pumping from the aquifer at depths greater than the spring outlets could maintain the spring flow indefinitely. They suggested that if the Service determines Critical Habitat it should develop a management plan which considers augmenting spring flow through pumping. They also suggested that the Service conduct additional studies on the San Marcos gambusia. The Service has contracted for additional studies on the San Marcos gambusia regarding its existence and distribution in the San Marcos River.

The New York Zoological Society and the Lone Star Chapter of the Sierra Club both supported the listing and the Critical Habitat delineation. Three biologists familiar with the San Marcos River ecosystem responded supporting the proposed listing and delineation of Critical Habitat. One biologist suggested that a recovery plan be developed for the San Marcos gambusia.

Three individuals responded in support of the proposal and one opposed. The individual who opposed the proposal did not provide any biological data to support his position. He felt that the water should be used for humans and not Endangered species.

Designation of Critical Habitat for Four Species

Comments were also received regarding the proposal of Critical Habitat for the San Marcos salamander, San Marcos gambusia, Texas wild rice, and fountain darter. All public comments submitted between March 19, 1980, and June 15, 1980, were considered. These comments are summarized below.

A total of 24 comments were received in writing by the Service regarding the proposal of Critical Habitat. In addition, 15 comments were presented at the public hearing on May 12, 1980. Of all comments, 15 were opposed to the Critical Habitat proposal, 16 supported the proposal, and 8 addressed specific concerns but did not state support or opposition to the proposal.

There were five comments which added new information with regard to the biology of the San Marcos river and the species in question. Two of the commentators supported the proposal of Critical Habitat, 2 were opposed, and one did not state support or opposition.

With regard to the Texas wild rice, Dr. William H.P. Emery of Southwest Texas State University reports that "preliminary estimates place the 1980 'area of vegetative dominance' at 750 m². This is down from 1131 m² measured in 1976 and also from the measured area in 1978 which was 980 m²."

Dr. Emery further states: "While I support the critical habitat designation, together with all proposals that offer hope of retarding the rapid decline of these species, I do not believe that additional regulations alone will solve the threatened species problem. Much, much more is required than simple legislative acts and legal regulations.

"I believe that the FWS should seriously consider if 'rule making' by itself is sufficient to save the threatened species. Certainly the data currently at hand based on the status of Texas wild rice would tend to indicate that neither the Endangered Species Act, nor the designation of Texas wild rice as an endanger (sic) species has helped to stem the populations (sic) decline. I believe a recovery team might provide a positive aid to the plants (sic) population, while alerting landowners and officials that the Fish and Wildlife Service was truly concerned with saving the threatened plants of this species.

"I would also suggest that the 'local fears' and opposition to the current proposal arises directly from a poor job of public education. Much more effort should be expended to cultivate public awareness before the promulgation of additional rules regarding the threaten (sic) species and their habitats."

With regard to establishment of Texas wild rice populations in areas outside of the species' historical range, Dr. Emery states: "I believe that the concept of translocation of endangered species only within the 'historical range of the species' is detrimental to the survival of Texas wild rice. Texas wild rice is endemic to a small segment of the San Marcos River lying within the city limits of San Marcos. It cannot possibly survive the pollution, the weed cutting, the river improvement projects, the silt deposition, the recreational activities, the pumping of water, and dozens of other biological and physical factors that are impacting the native wild rice population as the human population of this area increases. Survival of the species may well depend on location of a wild rice population in some location outside the San Marcos area. I have already demonstrated that such translocations are possible. Some of the translocated plants having survived more than 3 years at their new locations.

"New habitats, at least for the Texas wild rice, should be given full consideration."

Dr. Emery also feels that FWS Office of Endangered Species personnel should:

- (a) (Recognize) the species they are assigned to protect and monitor.
- (b) They should, on occasion, have these personnel making on site inspections, of the endangered species populations.

(c) They should address themselves promptly to citizen's complaints to determine whether the complaints are valid or invalid."

Dr. Samuel S. Sweet, University of California, Santa Barbara, noted his support of the Critical Habitat proposal, and called the attention of the Service to the "probable occurrence of *Eurycea nana* in Comal Springs, Comal County," which he considers conspecific with the San Marcos Springs population despite slight differentiation between populations. He notes that "this population is in good condition, and that it is less threatened with disruption than is the San Marcos Springs population."

Dr. Camm C. Swift, Natural History Museum, Los Angeles County, California, notes the occurrence of a disjunct population of fish, *Notropis chalybaeus*, in the upper San Marcos River. He points out that though the species is not threatened due to its occurrence in Louisiana and extreme eastern Texas, "its disjunct distribution in the San Marcos is part of the evidence for the distinctness and isolation of this river's fauna."

One person at the public hearing stated that the gambusia is not limited to the San Marcos River, but could be found in many places, including Alabama, Georgia, and other areas in Texas.

The Guadalupe-Blanco River Authority states that "other studies have found greater populations of certain species of concern to the Fish and Wildlife Service in evidence."

Several commentators offered opinions, but it was not clear whether they supported or opposed the Critical Habitat proposal:

Herbert K. Durand notes that "many plants that are rare or endangered can be ameliorated by propagation and transplant to new areas," and wonders if the Department could "protect the current seed crop and obtain seeds for experimental transplant to other areas for close observation and increase." He also suggests that commercial production of Texas wild rice "may be a good way to preserve this southern ecotype."

Another person at the public hearing urged the organizations, agencies, and personalities involved in this matter to use "careful thought and the weighing of all the facts and all of the considerations" in dealing with "one of this planet's most precious resources" (the San Marcos River).

Dr. Glenn Longley, Southwest Texas State University states: "I do feel that this proposal will serve to bring the status of these species to the attention of those water managers in the region. I think that a logical approach to maintaining habitat in the San Marcos River would be to make contingency plans for supplementing the flow by pumping when water levels in the springs fall below historic low levels. Studies should be conducted on the adaptability of these species to artificial flow conditions and possible transplantation to other springs in their historic range.

"As a biologist who has worked on the San Marcos River and on 'Endangered Species' in this area, I would support the idea that the San Marcos gambusia is in the greatest danger of becoming extinct. The Texas wild rice has been cultivated artificially at Southwest Texas State University and is planted in other springs in the region. The San Marcos salamander and the fountain darter are threatened at this time only by the potential stoppage of spring flow."

Sixteen comments were submitted in support of the proposed Critical Habitat designation. These comments generally addressed the unique nature of the species and of the San Marcos River itself and of the necessity of preserving these elements for their own well-being as well as for the survival of the entire area.

Mr. Scott McGehee, Director of Operations of Aquarena Springs (which owns Spring Lake) stated the interest of his company "in helping to prevent the extinction of the four endangered species which are found in our area." He further states that: "We are very protective of all flora and fauna that has its habitat in our lake area. Since the area is privately owned, we are able to prevent most activities which endanger the ecology of the lake. The greatest danger to these species is people pollution, primarily diving. Although it is a great sport and excellent recreation, it is our biggest threat. Not only do the divers disturb the bottom mat but they also enter and leave the water in areas where the wild rice grows. There are several state and local laws that make skindiving illegal in our area; enforcement of these is poor to none at best.

"In our efforts to maintain the lake, we do trim and cut plant life. We cut quite often and try to keep the cuttings down to as small a quantity as possible. If the lake was not cut, the plant life would soon form a mat on the surface and would turn the bottom (which is where most of these species dwell) into a virtual desert or wasteland. We do avoid the areas in the lake where the Texas wild rice is growing.

"In recent years outdoor recreation has increased tremendously. Many of the areas which are the niches for the endangered species are also ideally suited for swimmers in the San Marcos River. The shallower areas are destroyed as people enter and leave the water for swimming, boating, and skindiving. Since these are basically public areas, this problem will be hard to solve."

Several of the commentators supporting the Critical Habitat proposal felt that maintaining high quality water flow from San Marcos Spring would benefit not only the four species in question, but the human population of the area as well.

Dr. Robert J. Edwards, University of Texas at Austin states: "It would indeed be tragic for this unique part of our national heritage to be lost because of the insensitivities and greed of so few. The fact remains that the well-being of the city of San Marcos (and the rest of the cities bordering the Edwards Underground Aquifer) is intimately tied to the well-being of the aquifer. When the water is gone, the healthy economies of the area will also suffer a similar fate."

Dr. Clark Hubbs, University of Texas at Austin, commented along similar lines: "I am deeply troubled by the opposition to the proposed Critical Habitat designations for the Texas wild rice, San Marcos salamander, San Marcos gambusia, and fountain darter (March 19, 1980; 45 FR 17888-17891 as amended by 45 FR 27457-27458). Much of that opposition stems from the philosophical position that economic growth must take precedence over the integrity of biological systems. That philosophy overlooks the inevitable need to maintain a viable environment and comments such as those contrasting the welfare of a million humans with that of a river forget that eventually the environmental resources will be exhausted and the welfare of two million humans would then be impacted. Those hard decisions will eventually have to be made and deferral will not make that decision any easier.

"The central issue of all of the debate is whether it is best to insure a minimum flow rate in the San Marcos River.

Those individuals opposing critical habitat designation do that on the assumption that the demise of the river is a foregone conclusion. I have been extensively involved with studies of biological interactions in the San Marcos, initiating in 1938 and see no reason for the necessity to assume the river is to cease flowing. A variety of options are available in the Texas Water Development Board's report which is the basis of much of the pessimistic viewpoint. In addition to those alternatives, the Soil Conservation Service subsequently has proposed a flood control project that when activated will substantially increase aquifer recharge. When that project is completed the pessimistic view will be inappropriate.

"As I stated above, I have been involved in many studies of the biota of the San Marcos River. I have also had occasion to make similar observations on the biology of other waters and am convinced that the San Marcos is among our most unique ecosystems (world-wide). As a biological (and recreational) resource it has enormous financial and aesthetic value. That value cannot be overlooked in your consideration. No opponent has addressed the question 'Why is the city of San Marcos there?' The answer is self evident."

Mr. Rick Ward, student body representative at Southwest Texas State University makes the following comments concerning the statements made at the public hearing on May 12, 1980: "In representing my organization last Monday night, I was somewhat amazed at the general opposition to establishment of critical habitat areas on the river. The prepared statements by area groups such as the Guadalupe-Blanco River Authority, the Edwards Underground Water District, and the Nueces River Authority did not surprise me. These groups are obviously only interested in their continued water supply from the Edwards Aquifer, and not the well-being of the San Marcos River. The local residents' opposition to the establishment of critical habitat areas continues to baffle me. Their concern apparently arises from the fact that recreational use on the river could be limited. This possibility also concerned myself at first, and this I contribute to a lack of facts that were available to the public before the hearing on May 12. The question and answer meeting held one month before this hearing was not publicized to my knowledge and so factual information was scarce. After hearing Dr. James Johnson's [U.S. FWS] proposal, however, it became apparent to me that

the protection of the listed species and their habitat was the only concern of the Fish and Wildlife Service. They have no intention of limiting individual enjoyment of this resource by tourists or local residents.

"The only reason for opposition to the proposal which I repeatedly heard that night, was the economic impact of Federal regulation. This is always a major concern with any new action in our society today and deservedly so. It is my belief, however, that we cannot allow a setting aside of resource protection standards until more favorable economic conditions prevail. It is time we realized that environmental protection is a social responsibility to ourselves and not just an economic luxury.

"There seems to be a general belief that if present use of Edwards Aquifer Water continues, the San Marcos River will cease flowing as we know it within 20 to 40 years. Many people at the hearing seemed willing to accept this fact as if nothing could be done about it. Hopefully by establishing the river as a critical habitat, Federal regulation will provide for a longer life for both the species and the San Marcos River."

Opposition to the Critical Habitat proposal addressed three basic issues:

1. Opposition to proposal because of resulting Federal restrictions on recreation and tourism in the area.
2. Opposition to proposal due to lack of economic impact information.
3. Opposition to proposal due to resulting Federal restrictions on groundwater pumping from aquifer to maintain high quality spring flow.

With regard to the proposal's impact on recreational use of the San Marcos River, one person at the public hearing stated his strong opposition to anything "that would have any bearing on our recreational use (of the San Marcos River) in the City of San Marcos."

Beth Morrisset, San Marcos Chamber of Commerce, stated the opposition of the River Awareness Task Force and the Executive Committee of the San Marcos Chamber of Commerce to the Critical Habitat proposal, based on the proposal's projected significant impact on the tourist industry and on recreational use of the river by the Southwest Texas State University and the citizens of San Marcos: "We want to be certainly assured that by this designation the economic and recreational attributes of this portion of the San Marcos River would not be detrimentally affected. We are very much concerned that the possibility exists that the FWS may acquire land or interests for the conservation of the endangered species and that this action

may adversely affect the recreational use of the San Marcos River.

"If, in the long term effect, the possibility that by lowering the water level in the Edwards Aquifer drastically and the destruction of essential habitat is caused; then we urge strong conservation of the water use from the Edwards Aquifer be enforced by the Regional Water Resource Agencies or other agencies as deemed necessary."

In the opinion of one commentator at the public hearing: "This river ought to be designated as a critical habitat for the students of SWT and for the citizens of San Marcos and for all the tourists who come here to use the river. Now it is obvious to anybody who goes down to the San Marcos River that it is being taken care of, that there is continued concern shown by this school and by canoe rentals along the river to keep it clean and to try to maintain the natural habitat. Now I believe we haven't abused our rights to use the river and that they should not be taken away from us, so I suggest that the government who is already spending too much money researching, spend more money into cleaning up this river—channel the funds into supplementing some river clean-ups that we hold every season and make this river a place that both the people can enjoy as well as the Texas wild rice and the salamander. I think we can all live in this river together and I think if we all try to pitch in and help its going to work out, but I don't think there is a person in this room that seriously believes that the preservation of those two or three animals and the Texas wild rice precludes the enjoyment of the river by all of the citizens here and the tourists that come here because we only have about 20 years left that the river is going to flow. We might as well enjoy it."

Eleven commentators expressed the opinion that the economic impacts of maintaining sufficient spring flow to maintain Critical Habitat were not properly addressed in the economic and environmental assessment portions of the proposal.

One person at the public hearing stated: "We're very concerned that the Fish and Wildlife Service would not take the time to develop in great detail the economic impacts that are very obvious whenever you begin to infer that you are going to maintain a steady state flow in springs or sufficient flows so that species could be preserved. Certainly, I think we are all concerned about endangered species and yet in the final analysis, before we take any actions whether it is to preserve or whether to simply recognize that we are going to loose some species, adequate

studies must be made, the law has now provided for that and I think it is critical that those studies be made before this proceeds further, so I would implore that you proceed with those studies and if it is to proceed beyond that, that those studies be brought back to the people in this area for review and comment before final decisions are made by the Secretary."

A statement submitted by the Guadalupe-Blanco River Authority addresses the same issue: "Our review indicates that 'the environmental impacts of the proposed action' and 'the alternatives of the action' contained in the draft are inadequate. The basic assumption, necessary to protect the species identified by the Fish and Wildlife Service, is that San Marcos spring flow must be maintained to protect the habitat. Historical spring flow and projections of future withdrawals from the Edwards Aquifer which is the source of the springs, indicate extended periods of no discharge from the springs in the future. The impact of limiting withdrawals from the Edwards Aquifer on the regional economy and on surface water resources were not addressed as is required in Pub. L. 93-205, as amended.

"Based on numerous studies by the Authority, the Texas Department of Water Resources, the U.S. Water and Power Resources Service and others, water supply to meet future municipal, industrial, and agricultural needs in the Guadalupe River Basin and adjacent river basins will require the full use of the Edwards Aquifer and the development of all surface water sources to supplement existing ground water resources. The commitment of a major portion of the Edwards Aquifer water supply to habitat maintenance in the San Marcos springs area would have a drastic effect on those people presently dependent on the Aquifer, would require the immediate development of additional surface water resources and would preclude future economic development and growth of the region."

The U.S. Water and Power Resources Service also commented on this point: "Reduced and/or intermittent flows of the springs feeding the San Marcos River or the Edwards Aquifer are described as potential threats to the Texas wild rice, San Marcos salamander and gambusia, and the fountain darter. It would be appropriate for the environmental assessment and economic analysis to address more fully the long-term impacts of maintaining a constant flow in the San Marcos River, particularly as this may necessitate the

artificial maintenance of stream flows. The impacts of critical habitat designation upon the future utilization of waters from the Edwards Aquifer, which is presently providing municipal, industrial, and irrigation water for the area, need to be assessed."

The Texas Department of Water Resources, San Antonio City Water Board, San Antonio River Authority, Guadalupe-Blanco River Authority, Edwards Underground Water District, and Mr. William P. Clements, the Governor of Texas, feel that the economic effect of the proposed Critical Habitat would be substantial, thereby constituting a "significant" rule, requiring an environmental impact statement and regulatory analysis. The Edwards Underground Water District identifies those who will be affected by the Critical Habitat proposal:

1. All who pump water from the Edwards Aquifer.
 - a. Pumping for municipal/industrial use.
 - b. Pumping for agricultural use.
 - c. Pumping for maintenance of fresh water flow in rivers.
2. All municipal governments receiving Federal funds.
3. Federal agricultural agencies.
4. Military bases.
5. Water resource development projects, both upstream and downstream of the Edwards Aquifer.
6. All discharges of waste water in the drainage area of the recharge zone.

Eight commentators expressed opposition to the Critical Habitat proposal based on their concern that Federal restrictions on groundwater pumping would be imposed with the Critical Habitat designation.

This concern arose due to the lack of discussion in the March 19, 1980, proposal of regulatory mechanisms to maintain spring flow. As stated by the Edwards Underground Water District, the Guadalupe-Blanco River Authority, the San Antonio River Authority and the San Antonio City Water Board: "Throughout the FWS proposal presented in the *Federal Register*, the necessity of maintaining spring flow for all four species is stated repeatedly. Yet, the procedure or regulatory mechanism for accomplishing this flow maintenance is never addressed. Unless the FWS proposes the control of pumping for all current uses (which we would vigorously oppose) and/or increase recharge by increasing rainfall, there is nothing that they can do to insure the maintenance of water levels and the resulting spring flow at San Marcos.

"The Regional Water Resource Agencies are working to increase recharge, improve water use efficiency,

and develop supplementary water sources. This leads to the conclusion that if the FWS does *not* intend to somehow regulate pumping, the proposed Critical Habitat designation is unnecessary and ineffective, and therefore, should not be made."

The Nueces River Authority is also opposed to the concept of Federal regulation of underground water pumping: " * * * it is quite possible that FWS could effectively regulate pumping from the Edwards Aquifer by convincing other Federal agencies to withhold funding and financial support programs throughout the Edwards Aquifer region from any farmer, rancher, businessman, industry, or municipality which uses Edwards Aquifer water and receives Federal funds from any source until these people are persuaded to reduce pumping from the aquifer on the basis that these Federal programs encourage pumping from the Edwards Aquifer which in turn conflicts with spring flow at San Marcos."

One commentator at the public hearing stated: "I am opposed to this designation by U.S. Parks (sic) and Wildlife because somehow we seem to forget about the human species from time to time and under this proposal limit his available water supply. Even though the Edwards Underground Water District and individual counties comprising the Edwards Underground Water District have spent millions of dollars to preserve, protect and recharge the Edwards Underground Reservoir. This was taxpayers money. I sometimes get the impression we are unconscientiously (sic) drifting in towards the Hindus religion—worshipping a plurality of gods, looking at cows as sacred animals and regarding certain rivers and pools of water as sacred."

Five commentators remarked that sufficient regulatory mechanisms exist in the area of concern to protect water quality and quantity.

Robert Farrington, Jr., of the Greater San Antonio Chamber of Commerce stated in this regard: "The Chamber has long been interested in insuring that San Antonio and the surrounding area has an adequate quality and quantity of water. Current local, Federal, and state regulatory mechanisms to protect the water supply of well over one million persons. However, designation of a Critical Habitat for San Marcos Springs would jeopardize the delivery of water to our area citizens and businesses."

The Edwards Underground Water District further expanded on this theme: "In 1959, the Texas Legislature empowered the Edwards Underground Water District with the responsibility to

conserve, preserve, protect, and increase the recharge of and prevent the waste and pollution of the underground water." The protection of the water in the Edwards Aquifer, both quality and quantity, has consistently been the primary activity of the Edwards Underground Water District.

"The Edwards Underground Water District, along with other local and state water resource agencies are vitally interested in protecting the quality and quantity of the water within the Edwards Aquifer and insuring an adequate water supply for all persons and purposes of the region. Because of our concern for the water supply, we are opposed to the proposed Critical Habitat designation.

"One of the factors used to determine whether a species is endangered or not is the presence or absence of regulatory mechanisms adequate to prevent the decline of a species or degradation of its habitat. An abundance of local, state, and Federal regulatory mechanisms address the protection of the water quality of the Edwards Aquifer. While not regulatory in nature, the Edwards Underground Water District is in the continuous process of developing and carrying out projects to increase the recharge to the Edwards Aquifer. All local water resource agencies have stressed the importance of proper water conservation and the need to develop supplemental water supplies for this region. Even with all of these efforts there can be no firm guarantee that at some point in the future, the water level in the Edwards Aquifer will not drop to the point that the San Marcos Springs stop flowing."

Two people commented generally on undefined impacts on federal funding of unspecified projects. A flood control project for the San Marcos area was cited. The Service assumes that the commentator was referring to the Upper San Marcos River Watershed Plan which was the subject of a Section 7 consultation, as discussed below. The second commentator proposed three hypothetical situations, and inquired as to the resulting Federal involvement.

Three people commented that the designation of Critical Habitat on the San Marcos River was useless, since the water supply was projected to last only another 20 years, and increased human demand on the water supply would use it all anyway: "Now according to the testimony of Mr. Johnson and everyone else in the Edwards Underground Water District that the use of the river is limited, at best, to 20 years at which time demands upon the river by the City of San Antonio and possibly projections about a million and a half people that

will be living on the Edwards Aquifer * * * will make a more significant demand from the Edwards gives you a choice of either providing water for individuals or providing water for the Texas wild rice. Even though you reach a point in time when decisions have to be made, no one can really say that you are going to protect rice, protect darters, salamanders, and gambusia and let the people do without water. The people will take the water, so you are trying to do a fruitless thing. You are trying to limit the use of the river for approximately 20 years when your designation will not mean anything."

One commentor at the public hearing made several additional points:

1. The Greater New Braunfels

Chamber of Commerce never heard of the public meeting and wasn't able to properly prepare.

2. That animal "habitat has to move with the environment, it cannot stay stationary and it cannot be designated and it cannot be depended upon constantly for a source of life for the animal kingdom."

3. That prohibition of mowing Texas wild rice in the San Marcos springs would be detrimental to the springs since "we would choke it up so tight that there would be nothing there in a very short time."

Finally, one commentor at the public hearing questioned the economic value of the Texas wild rice: "I would like somebody to explain to me the economic values of the wild rice that's grown in the San Marcos River. If I had collected every seed that I've seen in that 55 years, you wouldn't have two gallons."

Discussion and Conclusions

The Service acknowledges Dr. William Emery's updated information on the vegetative area occupied by the Texas wild-rice, and agrees that legislation alone will not solve the threatened species problem. Federal listing does, however, make plant species eligible for recovery efforts, and designation of Critical Habitat serves to alert Federal agencies of a significant area which they may not adversely modify by their actions. With regard to the need "to cultivate public awareness before the promulgation of additional rules," the Service attempts to give the public opportunity to ask questions and submit comments through the public meeting, public hearing, and public comment process. The Service also acknowledges Dr. Emery's concern about the welfare of the Texas wild rice in San Marcos. However, the policy of the Service is to reestablish listed species in the wild within their

historical range. The Service believes that every effort must be made to preserve in a wild state all species within their historical ranges. The Service feels that any endorsement of a transplantation policy could be overutilized as a simplistic approach to habitat and species preservation.

The Service acknowledges Dr. Samuel Sweet's information on a population of San Marcos salamanders (or close relatives) in Comal Springs. Because specific information concerning this population is not presently available, consideration of the population will have to be deferred to a later time when additional Critical Habitat areas may be proposed.

Dr. Camm Swift's report of a disjunct population of fish species, *Notropis chalybaeus*, does indeed emphasize the unique quality of this river ecosystem.

In response to the two commentors who know of other populations of the species in question, the Service does not now have sufficient information to ascertain the existence of these populations, but requests supporting biological data so that appropriate action, such as proposal of additional Critical Habitat areas or delisting or reclassification of species, be initiated if warranted.

The Service refers Herbert K. Durand to the response to Dr. William Emery's comment regarding transplantation of Texas wild-rice.

The Service acknowledges that the San Marcos River is "one of the planet's most precious resources", and pledges to carefully examine all considerations in making decisions which will affect the river system.

Dr. Glenn Longley's suggestions to conduct studies on species adaptability, possible transplantation within the species historical range, and to form contingency plans to maintain habitat when water levels are low, are good ones. The Service wishes to note, however, that only the fountain darter has been known historically outside of the Upper San Marcos River. The Service also emphasizes that all four species have been determined to be either threatened or endangered in their native habitat.

The Service acknowledges Aquarena Springs' efforts to conserve the species in question, and would appreciate its continued efforts in this regard. The Service also acknowledges Dr. Robert J. Edwards, Dr. Clark Hubbs, and Mr. Rick Ward for their long letters supporting the preservation of the species and river system, as well as the others who attended the public meeting and/or hearing, or wrote regarding this proposal.

Many of those who spoke in opposition to the proposal did not seriously question the status of the four species or the potential for their decline. Instead, they voiced concern at the impact of the designation of Critical Habitat on their activities and future use of groundwater in the area around San Marcos. Actually, there may be many kinds of actions which can be carried out within the Critical Habitat of a species which would not be expected to adversely affect the species. Indeed, no activity is automatically excluded. This point is poorly understood by much of the public. There is widespread and erroneous belief that a Critical Habitat designation is somewhat akin to the establishment of a wildlife refuge and automatically closes an area to most human uses. A Critical Habitat designation applies only to Federal agencies, and is an official notification to these agencies that their responsibilities under Section 7 of the Endangered Species Act are applicable in a certain area.

The Act provides no legal means of prohibiting the activities of private landowners, such as excluding people from the Critical Habitat who are not involved in direct taking of the species ("taking" prohibitions do not apply to plants). In this regard, the designation of Critical Habitat will not impose restrictions on private recreational use of the San Marcos River. The Service has no intention or authority to limit recreational use of the river, providing it does not involve taking or harassing of the fish or salamander (special regulations have been determined in conjunction with this rule to allow taking of the San Marcos salamander in accordance with Texas State law).

The Service wishes to emphasize that it will work in close cooperation with any agency to minimize impacts of the present rules on future developments in the San Marcos area. No automatic limitations are imposed by a designation of Critical Habitat. It does, however, assist Federal agencies in insuring that their actions are not likely to jeopardize the continued existence of the species.

During the extensive public comment period and associated meetings and hearings, no Federal activities were pinpointed which would be affected by such a designation. In addition, Federal agencies which were contacted were unable to identify any adverse impacts. The Service believes that the four species and the people residing in the area can coexist with minimum adverse impact on future growth.

In reference to those concerned with the economic impact of this action, and with Federal regulation of water in the

Edwards Aquifer, the Service makes the following comments. The Edwards Underground Aquifer covers a huge geographical area and its water is the source of an economy which sustains almost one million people. The Aquifer has not, for reasons seen below, been listed as the Critical Habitat, only the body of the stream.

The Service does not foresee that the listing of Critical Habitat will prevent the expansion and growth of the economy supported by the Aquifer or prevent Federal funds from going into this area. The listing action is not foreseen to lead to far reaching controls upon Edwards Aquifer water users.

The procedure or regulatory mechanisms for maintenance of flow on the San Marcos is not addressed because the spring is determined by water levels in the Edwards Aquifer. These water levels are determined by recharge to the Aquifer, pumping usage, and spring discharge at other locations. Recharge to the Aquifer is determined by rainfall. Pumping usage is determined by rainfall and water needs for agricultural production and for municipal and industrial purposes. Most of these actions proceed without the direct involvement of Federal funds.

The Texas Department of Water Resources has responsibility for assuring that the long-range water supply needs of Texas are met. The Department, from its own statements, has long recognized that the San Marcos Springs area is unique, having unique environment and water resource characteristics, including unique aquatic ecosystems. The Department's long-range planning has taken the spring flow and habitat concerns into account in its water supply projections for the areas, and has recommended to local units of government and the public at large that the area needs to invest in additional surface water supplying facilities to better meet the long-range economic and environmental needs of the area through conjunctive ground-water and surface-water systems. Progress is being made to implement these recommendations.

An abundance of local, State, and Federal regulatory mechanisms address the protection of the water quality of the Edwards Aquifer. While not regulatory in nature, the Edwards Underground Water District is in the continuous process of developing and carrying out projects to increase the recharge to the Edwards Aquifer. All local water resource agencies have stressed the importance of proper water conservation and the need to develop supplemental water supplies for this region. Even with all of these efforts there can be no firm guarantee that at

some point in the future, the water level in the Edwards Aquifer will not drop to the point that the San Marcos Springs stop flowing. Further, despite these local regulatory mechanisms, Critical Habitat designation is necessary to adequately safeguard the habitat of the species.

Only Federal action is impacted by the designation of Critical Habitat. Critical Habitat designation has no implications on private lands except when private individuals use Federal funds or require Federal permits. For example, HEW minority education aid to the University would not be affected should the University choose to use non-Federal funds to clear vegetation in the river. Federal flood control projects on the upper area of the watershed as proposed by SCS are not expected to be affected by the listing. A Federal flood control project on the actual stream would require consultation; however, no such project has been proposed.

From comments received, the impact of the listing of Critical Habitat seems to be misunderstood. Regionwide Federal control of water use is not foreseen. Federal regulation of the watercourse will be affected and this has been accounted for in the economic analysis. The proposed action will also bring the status of the species to the attention of the water managers and hopefully will cause increased awareness of the regional water resources management problem.

Presently no known Federal actions are being undertaken, authorized, funded or proposed which would incur an adverse economic effect as a result of the listing. Owner, managers, and users of the water are not expected to sustain any adverse economic effect.

With regard to the flood control project, the Fish and Wildlife Service has completed a Section 7 consultation with the Soil Conservation Service. It was decided that the proposed Upper San Marcos River Watershed Plan would not jeopardize any listed or proposed species on the San Marcos River.

In reply to the commentator who proposed three hypothetical situations involving projects affecting the Edwards Aquifer which were Federally funded or which required Federal permits, the Service offers the following information. In each case, since Federal permits or funds are involved, the permitting or funding agency must decide whether its actions may affect the listed species or their habitat. If the agency decides that a "may affect" situation exists, it is required to request Section 7 consultation with the Fish and Wildlife Service. If the agency decides its action will not affect listed species or their

habitat, the Fish and Wildlife Service has the option to notify the agency that its action may affect the species or habitat, and request consultation. Section 7 consultations could be requested or required whether or not Critical Habitat were designated.

With regard to the people who commented on the finite supply of water which should be used for human consumption, the Service replies that the communities and economies dependent upon the Edwards Aquifer will suffer as well as the Endangered and Threatened species should this water supply become depleted or seriously polluted.

In reference to those commenting on not hearing about the public meeting, the Service attempts to schedule and to publicly announce meetings and hearings as far in advance as possible.

The Service believes that designation of a "stationary" Critical Habitat is an effective means of notifying Federal agencies of the existence of an Endangered or Threatened species, and thereby a worthwhile aid in species and ecosystem conservation.

The Service refers the person who was critical of the prohibition of mowing of Texas wild rice to the comments offered by Aquarena Springs.

Finally, to the person who requested information pertaining to the economic value of the Texas wild rice, the Service replies that the species is not currently "grown" in the San Marcos River as a crop plant. The plant occurs in nature only in the San Marcos River, and it is a very rare species which is severely declining in numbers. One of the reasons for its decline is its inability, probably due to a combination of factors, to produce seeds. The Service refers the commentator to the text of the March 19, 1980 Federal Register proposal of Critical Habitat for further details on the biology of the Texas wild rice.

After a thorough review and consideration of all the information available, the Director has determined that (1) the San Marcos salamander is threatened with becoming extinct throughout all or a significant portion of its range due to one or more of the factors described in Section 4(a) of the Act, as specified in the proposal of July 14, 1978 (43 FR 30316-30319), (2) that the San Marcos gambusia (*Gambusia georgei*) is in danger of becoming extinct throughout all or a significant portion of its range due to one or more of the factors described in Section 4(a) of the Act, as specified in the proposal of July 14, 1978 (43 FR 30316-30319), (3) that listing these species as Threatened and Endangered, respectively, with the specified Critical Habitats, and (4) that

listing the Critical Habitat of Texas wild-rice (*Zizania texana*) and fountain darter (*Etheostoma fonticola*) will provide these four species with necessary protection to ensure their survival.

Critical Habitat

The Act defines "critical habitat" as (i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of Section 4 of this Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographic area occupied by the species at the time it is listed in accordance with the provisions of Section 4 of this Act, upon a determination by the Secretary that such areas are essential for the conservation of the species.

The Service believes that the entire known ranges of the species under consideration should be designated as Critical Habitat. Each of the species occupies an extremely restricted range, and is, therefore, highly susceptible to changes in habitat. The Critical Habitat areas designated are areas on which are found those evolutionary, ecological, behavioral, and physiological features essential to the conservation of the species. The physical and biological features of this habitat are such as to require special management considerations and protection.

Section 4(b)(4) of the Act requires the Service to consider economic and other impacts of specifying a particular area as Critical Habitat. The Service has prepared an impact analysis and believes that economic and other impacts of this action are not significant in the foreseeable future. The Service is notifying Federal agencies that may have jurisdiction over the land and water under consideration in this action.

Section 4(f)(4) of the Act requires, to the maximum extent practicable, that any rule which determines Critical Habitat be accompanied by a brief description and evaluation of those activities which in the opinion of the Director, may adversely modify such habitat if undertaken, or may be impacted by such designation. Such activities are identified below for these species.

Texas wild rice—The most significant factors presently affecting the continued existence of the Texas wild rice are its extreme vulnerability due to limited range, its apparent inability to reproduce sexually in its native habitat,

and the possibility of hybridization. Any action which would significantly alter the flow or water quality of the San Marcos River could adversely modify the Critical Habitat, since the species is adapted to conditions of clear water, uniform annual flow rate and constant year-round temperature (Beaty, 1975). *Zizania Texana* does not survive in stagnant water (Beaty, pers. comm., 1980). In addition, any actions which would physically alter the Spring Lake-San Marcos River site, such as dredging, bulldozing, or bottom plowing; or physically disturb the Texas wild rice, such as harrowing, cutting, or intensive collecting, would adversely modify Critical Habitat. These disturbances have been identified as contributors to the decline of the existing Texas wild rice population.

San Marcos salamander—Foremost among the factors contributing to this salamander's threatened status is its very limited range coupled with the threat of lowered water tables affecting Spring Lake (Longley, 1978).

The owner of Spring Lake, Aquarena Springs, has taken particular care to safeguard the animals in the Lake and has taken particular care to safeguard the animals in the Lake and has cooperated closely with biologists in the Texas Parks and Wildlife Department to ensure that populations can be maintained. Hence, take is not seen as a threat to the continued survival of the species. The major threats to this species are: (1) Lowering of water tables in the area such that Spring Lake could become either dry or intermittent, thus exposing algal mats, and leading to the destruction of this species' sole habitat; (2) the owners of Spring Lake expressed concern that skin divers could disrupt algal mats and the bottom of the lake. This could expose salamanders to predation by fish and other predatory species.

San Marcos Gambusia—This species; absence from Spring Lake and its very restricted distribution in the San Marcos River is an indication of its sensitivity and habitat specificity. The areas inhabited by the San Marcos Gambusia are open areas away from the stream banks with a minimum of aquatic vegetation over a mud bottom with little current. The habitat is also characterized by thermal constancy. Any actions which would result in an increase in vegetation, disrupt the mud bottom, or alter the temperature regime could easily eliminate the species.

Fountain darter—Specific actions which would reduce or eliminate the fountain darter populations include the destruction or significant reduction of aquatic vegetation in Spring Lake and

the San Marcos River. It has been demonstrated that the preferred habitat of adult and young fountain darters are areas with rooted aquatic vegetation which grows close to the substrate with filamentous algae present (Schenck and Whiteside, 1976).

Other actions which could adversely impact the fountain darter include impoundments, excessive withdrawal of water, and pollution. An impoundment on the lower portion of the San Marcos River apparently eliminated the fountain darter in that section of the river. The Comal River population of fountain darters was extirpated when its habitat was reduced to isolated pools by excessive removal of water. The darter has recently been reintroduced into the Comal River in an attempt to reestablish that population (Schenck and Whiteside, 1976). Pollution in the form of silt from improperly maintained construction activities could temporarily reduce the population in some areas.

Any Federal activity which would significantly reduce the water level or flow, would disturb the river bottom, or would pollute the river may be affected by designation of Critical Habitat. However, no such activity is presently foreseen.

Effects of the Rule

Section 7(a) of the Act provides:

(1) The Secretary shall review other programs administered by him and utilize such programs in furtherance of the purposes of this Act. All other Federal agencies shall, in consultation with and with the assistance of the Secretary, utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species and threatened species listed pursuant to Section 4 of this Act.

(2) Each Federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded, or carried out by such agency (hereinafter in this section referred to as an "agency action") is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with affected States, to be critical, unless such agency has been granted an exemption for such action by the Committee pursuant to subsection (h) of this section. In fulfilling the requirements of this paragraph, each agency shall use the best scientific and commercial data available.

(3) Each Federal agency shall confer with the Secretary on any agency action which is likely to jeopardize the continued existence of any species proposed to be listed under Section 4 or result in the destruction or adverse modification of critical habitat proposed to be designated for such species . . .

Provisions for Interagency Cooperation are codified at 50 CFR Part 402. This rule now requires Federal agencies not only to insure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the Texas wild rice, San Marcos salamander, San Marcos gambusia, or fountain darter, but also to insure that their actions do not result in the destruction or adverse modification of their Critical Habitat.

Private activity, such as recreational uses of the river, will not be affected by the rule except where such uses involve a taking under Section 9 of the Endangered Species Act. Other activities affecting the river will be impacted only if there is Federal involvement in those activities. No such Federal involvement is presently foreseen. The only project which could have possibly been impacted by the rule was the proposed Upper San Marcos River Watershed Plan. Consultation on that plan resulted in a biological opinion of no jeopardy.

With respect to the San Marcos salamander, San Marcos gambusia, and fountain darter, all prohibitions of Section 9(a)(1) of the Act, as implemented by 50 CFR 17.22 and 17.23, would apply. These prohibitions, in part, would make it illegal for any person subject to the jurisdiction of the United States to take, import or export, ship in interstate commerce in the course of a commercial activity, or sell or offer for sale these species in interstate or foreign commerce. (However, special regulations are promulgated which would allow taking of the San Marcos salamander in accordance with Texas State law.) It also would be illegal to

possess, sell, deliver, carry, transport, or ship any such wildlife which was illegally taken. Certain exceptions would apply to agents of the Service and State conservation agencies. The same prohibitions are contained in Section 9(a)(2) pertaining to plants with the exception of the taking prohibitions. The prohibitions are codified at 50 CFR 17.61.

Regulations published in the Federal Register of September 26, 1975 (40 FR 44412), codified at 50 CFR 17.22 and 17.23 and 17.72, provide for the issuance of permits to carry out otherwise prohibited activities involving Endangered or Threatened species under certain circumstances. Such permits involving Endangered species are available for scientific purposes or to enhance the propagation or survival of the species. In some instances, permits may be issued during a specified period of time to relieve undue economic hardship which would be suffered if such relief were not available.

Effect Internationally

The Service will review the status of the San Marcos salamander and the San Marcos gambusia to determine whether they should be proposed to the Secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora for placement upon the appropriate appendix to that Convention, and whether it should be considered under the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere, or other appropriate international agreements.

National Environmental Policy Act

A final environmental assessment has

been prepared and is on file in the Service's Office of Endangered Species. This assessment is the basis for a decision that this rule is not a major Federal action that significantly affects the quality of the human environment within the meaning of Section 102(2)(C) of the National Environmental Policy Act of 1969.

The primary authors of this rule are Irene M. Storks, Dr. James D. Williams, Dr. C. Kenneth Dodd, Jr., and Dr. O. Ray Stanton, Office of Endangered Species, U.S. Fish and Wildlife Service, Washington, D.C. 20240 (703/235-1975).

Note.—The Department of the Interior has determined that this is not a significant rule and does not require preparation of a regulatory analysis under Executive Order 12044 and 43 CFR Part 14.

Literature Cited

Beaty, H. E. 1975. Texas wild rice. Texas Hort. 2:9-11.
 Beaty, H. E. Ecology Environments Temple, Texas, Personal communication, telephone. January 24, 1980.
 Longley, G. 1978. Status of *Typhlomolge (=Eurycea) rathbuni*, the Texas blind salamander. U.S. Fish and Wildlife Service, Endangered Species Report No. 2. Albuquerque. N.M. 45 pp.
 Schenck, J. R., and B. G. Whiteside. 1976. Distribution, habitat preference and population size estimate of *Etheostoma fonticola*. Copeia 4.

Regulations Promulgation

Accordingly, Part 17, Subchapter B of Chapter I, Title 50 of the Code of Federal Regulations, is amended as set forth below:

1. Section 17.11 is amended by adding, in alphabetical order, the following to the list of animals:

§ 17.11 Endangered and threatened wildlife.

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
Amphibians:							
Salamander, San Marcos.....	<i>Eurycea nana</i>	U.S.A. (Texas)...	Entire.....	T	17.95(d)	17.43(e)
Fishes:							
Gambusia, San Marcos.....	<i>Gambusia georgei</i>	U.S.A. (Texas)...	Entire.....	E	17.95(e)	NA

2. The Service also amends § 17.43 by adding a new paragraph (a) as follows:

§ 17.43 Special Rules—Amphibians.

(a) San Marcos salamander (*Eurycea nana*)

(1) All provisions of § 17.31 apply to this species, except that it may be taken in accordance with applicable State law.

(2) Any violation of State law will also be a violation of the Act.

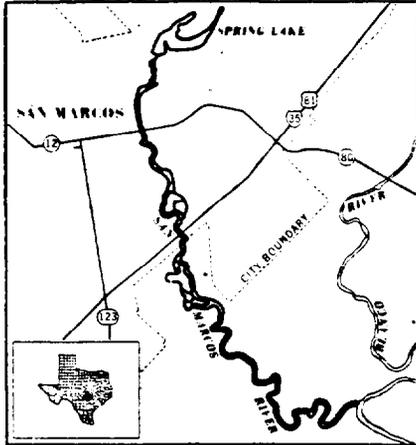
§ 17.96 [Amended]

3. Section 17.96(a), Plants, is amended by adding Critical Habitat of *Zizania texana* (Texas wild rice) after that of Family Oenothera: (Antioch Dunes

evening primrose (*Oenothera deltoides* ssp. *howelli*) as follows:

Family *Poaceae*: Texas Wild-Rice (*Zizania texana*) Texas, Hays County; Spring Lake and its outflow, the San Marcos River, downstream to its confluence with the Blanco River.

TEXAS WILD RICE
Hays County TEXAS

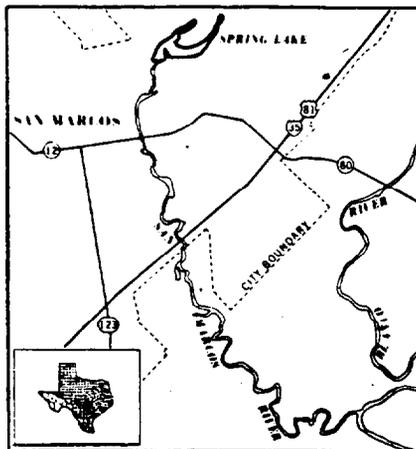


§ 17.95 [Amended]

4. Section 17.95(d), Amphibians, is amended by adding Critical Habitat of the San Marcos salamander before that of the Houston Toad as follows:

San Marcos Salamander (*Eurycea nana*) Texas, Hays County; Spring Lake and its outflow, the San Marcos River, downstream approximately 50 meters from the Spring Lake Dam.

SAN MARCOS SALAMANDER
Hays County TEXAS

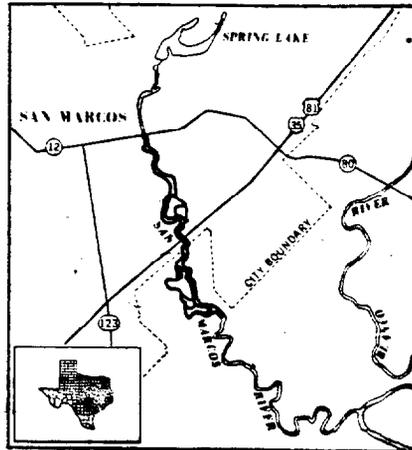


§ 17.95 [Amended]

5. Section 17.95(e), Fishes, is amended by adding Critical Habitat of the San Marcos gambusia after that of the yellowfin madtom as follows:

San Marcos Gambusia (*Gambusia georgei*) Texas, Hays County; San Marcos River from Highway 12 bridge downstream to approximately 0.5 miles below Interstate Highway 35 bridge.

SAN MARCOS GAMBUSIA
Hays County TEXAS

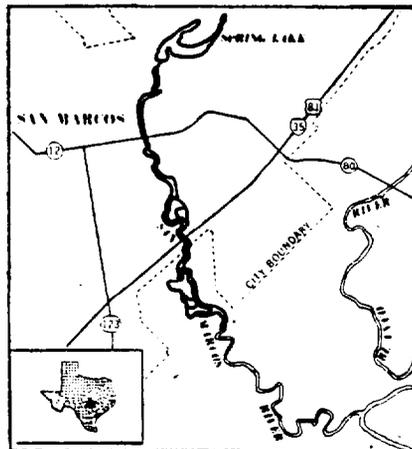


§ 17.95 [Amended]

6. Section 17.95(e), Fishes, is further amended by adding Critical Habitat of the Fountain darter after that of the slackwater darter as follows:

Fountain Darter (*Etheostoma fonticola*) Texas, Hays County; Spring Lake and its outflow, the San Marcos River, downstream approximately 0.5 miles below Interstate Highway 35 bridge.

FOUNTAIN DARTER
Hays County TEXAS



Dated: July 9, 1980.

Robert S. Cook,
Director, Fish and Wildlife Service.

[FR Doc. 80-20842 Filed 7-10-80; 8:45 am]

BILLING CODE 4310-55-M