Watershed showdown

Rules to limit urban runoff revive debate

By Robert Cullick
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A proposed ordinance to limit water pollution caused by urban runoff throughout most of Travis County has reignited a debate over whether the most sensitive watersheds should be protected by limiting growth in those areas.

Debate over the proposed Comprehensive Watershed Ordinance has centered on whether sand-and-gravel filter basins for storm water are as effective in combating pollution from urban runoff as limitations on the number of structures — and people — in an area. One backer of low-intensity development in sensitive regions calls the filter systems "a technological quick-fix" that may prove ineffective.

The Austin City Council's answer to the question will partially determine the urban form of the city, the profitability of high-priced land developments near Lake Austin and Lake Travis and, possibly, the vitality of area creeks and the Colorado River.

The council is considering rules that control development to prevent pollution from urban runoff in all watersheds in the city's 1,240-square-mile jurisdiction. The city already has rules that protect watersheds along the Colorado River upstream from Austin that generate drinking water for the city, but does nothing for downstream areas. The new rules extend regulations to areas downstream of Austin and tighten some of the rules for upstream areas.

The new rules also streamline present ordinances to shrink the combined documents from 250 pages to 50 pages.

Instead of being treated individually, the watersheds are grouped together in four categories, depending on their environmental sensitivity and contribution to the city drinking water supply.

A different level of control would be adopted for each category. The controls would specify minimum buffer zones around creeks, lot size, and how much of the lots could be paved and whether filters would have to be used.

Setbacks from creeks, limits to paving, and reduction of housing density are said to help in varying degrees to reduce pollutants in storm water that washes off city buildings and roadways.

The proposed rules were written last fall by the city staff at the council's request. Mayor Frank Cooksey scheduled final action by the council for mid-January, only a few weeks after the rules were announced.

The fast pace of that schedule was immediately opposed by council member Mark Rose, who said that without time for review, bitter opposition would arise in the development community. Rose likened the ordinance to "a freight train on a fast track."

Rose asked for a technical review committee, which was appointed by the council. The 15-member group of developers, business people and environmental advocates is reviewing the proposed ordinance and is expected to report its findings in mid-February to the council.

Rose's opposition to density controls as a way to maintain water quality in creeks goes back to 1984, when the previous council considered a proposal by former member Roger Duncan to control the density of housing over the portion of southern Travis County over the Edwards Aquifer. Duncan's theory, shared by the Save Barton Creek Association, an environmental group, was that fewer houses would result in less pollution.

The development community, especially Gary Bradley, strongly opposed the ordinance. Sensing defeat, Duncan tried to table the question at the last minute, but Rose forced the question. Density controls died in a 5-2 vote, with Duncan and Sally Shipman on the losing side.

The debate over density controls has arisen with the new proposal.

"The density control question is one of the key issues," said council member Smoot Carl-Mitchell, "but we've been debating that for 10 years. It's a policy matter." Carl-Mitchell sponsored the resolution that directed the city staff to draft the ordinance.

"The question of density controls versus structural controls depends on who you talk to. Reasonable people will disagree. I want to err on the side of being conservative. Clean water is a critical issue in this community. I think the biggest

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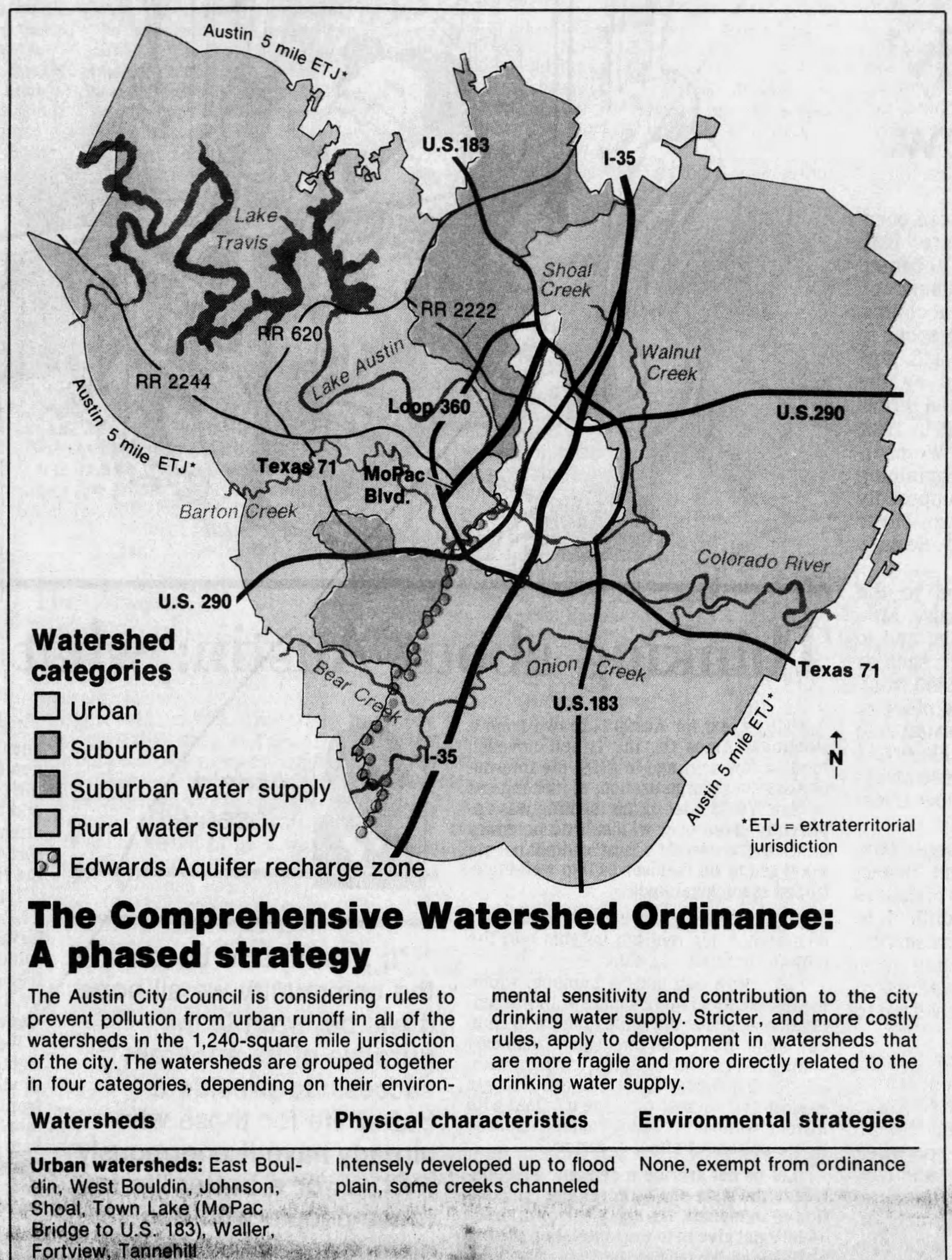

The Comprehensive Watershed Ordinance: A phased strategy

The Austin City Council is considering rules to prevent pollution from urban runoff in all of the watersheds in the 1,240-square mile jurisdiction of the city. The watersheds are grouped together in four categories, depending on their environmental sensitivity and contribution to the city drinking water supply. Stricter, and more costly rules, apply to development in watersheds that are more fragile and more directly related to the drinking water supply.

Watersheds	Physical characteristics	Environmental strategies
Urban watersheds: East Bouldin, West Bouldin, Johnson, Shoal, Town Lake (MoPac Bridge to U.S. 183), Waller, Fortview, Tannehill	Intensely developed up to flood plain, some creeks channeled	None, exempt from ordinance
Suburban watersheds: Buttermilk, Carson, Cottonmouth, Country Club, Decker, Dry, Elm, Gilleland, Harris Branch, Maha, Marble, Onion, South Boggy, Town Lake (Tom Miller Dam to MoPac), Walnut, Little Walnut, Wilbarger, Williamson, Slaughter, Bear, Colorado	Creeks already partially disturbed, intense development underway or planned, public recreation in creeks, but no use as water supply	Protective zones around creeks, limits to amount of lot that can be paved; filters required to clean runoff
Suburban water supply watersheds: Edwards Aquifer-related portions of Slaughter and Williamson, Brushy, Bull, Lake, Rattan	City committed to utility service, moderate-density housing proposed, used as water supply or to replenish Edwards Aquifer	Tighter controls over development in protective zones around creeks; stricter limits on paving as percentage of lot; filters required to clean runoff
Rural water supply watersheds: Lake Austin, Lake Travis and aquifer-related portions of Onion, Barton, Bear, Little Bear	City service not committed, low-intensity development planned, serves as drinking water supply or recharge of Edwards Aquifer	Tight controls over development near creeks, density of development limited; limits on commercial development

Staff Graphics by Mark Freistedt

threat to water quality is urban runoff," Carl-Mitchell said.

Urban runoff is the name given to the rainwater that flows off roofs and paved areas and into creeks. Nationwide studies that included Austin have found that, after a storm, water in urbanized creeks like Waller Creek and Shoal Creek carry as much organic and fecal matter as is contained in raw sewage. In addition, the runoff carries pesticides, garden fertilizers and toxic metals from automobile wastes.

Fish kills, algae blooms and loss of aquatic life have been traced to urban runoff in lakes and rivers across the United States. Few communities attempt to control such pollution. The U.S. Environmental Protection Agency has the authority to control urban runoff pollution, but action by the agency is decades away, federal officials say. No Texas agency has authority to control urban runoff.

Because the sources of urban runoff are varied, it is considered impractical to limit pollution by writing permits for specific tracts of land. Instead, the federal government has recommended that authorities adopt the best management practices available for specific areas. Those usually are limitations on how land is used or developed.

The Austin ordinance uses four strategies to control urban runoff. Density controls — limits on the number of homes per acre — have become a focus of debate, but they are proposed only for the most remote and most sensitive areas of the county. Other strategies and their expected effect on water quality are:

- Buffer zones around creek beds. By outlawing the channelization of waterways by dredging and paving their beds, the natural ability of the creeks to remove sediment is maintained. Natural vegetation found in creek beds has been shown to be effective "scrubbers" that trap solids and pollutants. More water soaks into nonchannelized creeks, meaning less pollutants are washed downstream.
- Limits on the paved areas of each lot. The environmental theory is that the less pavement there is, the more water will soak into the ground instead of running off. There is evidence, for instance, that a rainstorm over the suburb of Rollingwood produces one-seventh as much runoff as the same amount of rain over the Waller Creek basin, which includes downtown and the University of Texas. Less runoff carries less pollution.
- Structural controls such as filters. Some engineers and developers say storm water that is detained and run through a simple sand filter loses much of its suspended solid matter that causes pollution.

The four categories of watersheds would be urbanized areas, suburban areas downstream from city water plants, suburban areas upstream from water intake pipes, and rural areas.

No action is proposed in urbanized areas, like Shoal Creek and Waller Creek. Curtis Williams, environmental officer for the city Office of Land Development Services, said little can be done for the inner-city creeks because nearly all the land has been developed without environmental controls. Williams said controls for the little new development taking place in those areas would be costly and would do little to help water quality in the creeks, some of which have been channelized to carry water faster.

For suburban areas with creeks draining into the Colorado River downstream from the city water plants, such as Buttermilk, Carson and Cottonmouth creeks, the controls include buffer zones for creeks and filtration for commercial and multifamily sites. These areas include the large watersheds east of Interstate 35 that will be opened to development by the passage of the December 1985 bond election, which authorized more than $100 million to pay for water and sewer lines.

For suburban areas that are upstream from the water intake pipes on Lake Austin and Town Lake, or are in the replenishment zone for the Edwards Aquifer, the controls would be much the same as the controls already in place. These include portions of Slaughter and Williamson creeks. Brushy, Bull, Lake and Rattan creeks would fall under those rules, too.

In the areas designated as rural, with water quality concerns, density standards kick in because filtration ponds are considered impractical in the hilly terrain. For the Edwards Aquifer-related parts of the Onion, Bear and Little Bear creeks, and for the Lake Travis watershed and parts of the Lake Austin watershed, density tentatively would be limited to one house per 2 acres.

The ordinance contains a supposition that some watersheds deserve or need better environmental protection than others and that some pollution management techniques — like density controls — work better than others. The best-working and strictest measures are reserved for the watersheds that most deserve or need them.

As a result, western watersheds could be much less intensively developed than land in the east. For instance, 90 percent of a commercial lot in the suburban watersheds could be used for a building and parking lot. In suburban watersheds that feed the water supply, that figure would drop to 50 percent. Under present rules, the percentage would be 55 percent.

Residential land in the least-protected area could carry 50 percent paving, resulting in very dense development. In the most-protected area, the intensity of construction would be one house per acre or per 2 acres, depending on whether the homes were clustered together or spread on large lots.

Debate over the ordinance is centering on the validity of those suppositions.

"Here's the supposition: The less development there is, the less pollution there is," said Ed Wendler Jr., a developer with a 1,727-acre project in the Lake Austin watershed. "On the face of it, that's correct. But then you ask how much pollution is okay."

Wendler said the increase in density from one home per 2 acres to one home per acre makes a tremendous difference in development, but may make little difference in the pollution added to a creek.

"The economic impact of this ordinance is directly related to density. Some density controls are good. You can go too far to where you are punitive economically," he said. Wendler is on the citizen review task force looking at the ordinance.

"Is it possible to be completely scientific? Evidently not," Wendler said. "Either side can present evidence to say day is night and night is day. The other (environmental) side is arguing they'd rather err on the safe side than to explode the bomb. I don't know how you argue against that except that it's not a fair argument. You could use that argument to not do anything."

Two weeks ago, Wendler won unanimous City Council approval for his West Travis municipal utility district. "It exceeded the (current) Lake Austin watershed ordinance by far. But it doesn't come close to complying with this new ordinance," Wendler said.

Wendler plans to put 1,403 homes on the 1,727 acres, a low-density project. The proposed ordinance, he said, would limit him to 1,060 homes on the same acreage.

Williams said, "I think we need to show that density is a viable method of protecting water quality. Whether density is appropriate as per structural controls is a policy question. We're making the point that there is an appropriate place for density controls and an appropriate place for structural controls."