



ESCAMBIA +
SANTA ROSA

2040



Protecting Water Quality and Improving Communities Through Better Land-Use Patterns

1000fof.org/Escambia-SantaRosa2040

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Protecting Water Quality and Improving Communities

Growth is Here to Stay

Like much of Florida, Escambia and Santa Rosa counties are growing fast. Whether it's their spectacular sugar-sand beaches, their bounty of protected wilderness areas, their healthy economies, their historic communities, or their relaxed coastal lifestyles, this part of the Florida Panhandle is an increasingly powerful magnet for new residents from inside and outside the state.

Properly managed, growth holds the promise of broad benefits for the region and its residents. But it also presents challenges — especially if it is not planned for thoughtfully.

Escambia's population is expected to grow more than 9 percent from 2023's 333,452 to 364,200 by 2040, according to projections from the University of Florida's Bureau of Economic and Business Research (BEBR). [Table 1] Santa Rosa's population is expected to grow even faster during that same period — more than 24 percent — from 202,772 in 2023 to 251,500 in 2040. [Table 1] Extrapolating BEBR's projections to 2070 yields a population of 407,104 for Escambia County, a 22 percent increase from 2023, and 321,858 for Santa Rosa County, a whopping 59 percent increase from 2023. [Table 2]

TABLE 1

County	2023 Population Baseline	BEBR (2023) Projection for 2040	Total Population Change	Percent Population Change
Escambia	333,452	364,200	30,748	9%
Santa Rosa	202,772	251,500	48,728	24%

Future population projections for Escambia and Santa Rosa Counties for 2040



This project was supported by funding from the Pensacola and Perdido Bays Estuary Program's Community Grant Program. The content of the report does not necessarily represent the official views of the Estuary Program.

continued

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TABLE 2

County	2023 Population Baseline	BEBR (2023) Projection for 2070	Total Population Change	Percent Population Change
Escambia	333,452	407,104	73,652	22%
Santa Rosa	202,772	321,858	119,086	59%

Future population projections for Escambia and Santa Rosa Counties for 2070

The way these two counties absorb these additional residents will determine the health of their environments, their quality of life and ultimately the strength of their economies.

Status Quo vs. Sustainable

If the two counties continue to follow the same development patterns, maintaining their current population densities as they grow without protecting any additional natural or agricultural land, they will lose more than 20,300 acres to development by 2040, according to the University of Florida’s Center for Landscape Conservation Planning (CLCP) in an analysis conducted for 1000 Friends of Florida. The two counties will lose an additional 6,000 acres to sea level rise during that time. But if Escambia and Santa Rosa counties develop at a modest 30 percent higher density, and preserve natural and agricultural lands with high values for conservation, they will save more than 7,700 acres from development by 2040. [Table 3]

The difference in land permanently lost to development between the business-as-usual growth pattern and the more sustainable, conservation-oriented pattern in Escambia and Santa Rosa counties will only increase by 2070, according to the CLCP, as both absorb tens of thousands of additional residents. [Table 4] What might appear to be a relatively small difference in land use by 2040 will continue to expand through ensuing decades unless the two counties prioritize more financially and environmentally sustainable, urban-focused growth and rural protection.

A national land survey conducted by the National Oceanic and Atmospheric Administration shows that Escambia County added about 5.3 square miles, or more than 3,400 acres, of low-intensity development between 1996 and 2016. During the same period, Santa Rosa County added some 6.5 square miles, or more than 4,000 acres, in that category. Although NOAA has not yet released more recent figures, the trend toward sprawl in both counties is clear.

continued

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TABLE 3

	2023	% of Total Acreage	Trend 2040	% of Total Acreage	Alternative 2040	% of Total Acreage
Developed	202,067	18.64%	222,390	20.52%	214,677	19.81%
Protected Natural Forest & Silviculture	271,215	25.02%	268,810	24.80%	491,467	45.35%
Protected Other	43,817	4.04%	42,303	3.90%	84,137	7.76%
Natural Forest / Silviculture (Unprotected)	342,434	31.59%	328,697	30.33%	111,406	10.28%
Other (Unprotected)	202,901	18.72%	194,234	17.92%	154,747	14.28%
2019 Open Water	21,403	1.97%	21,403	1.97%	21,403	1.97%
Sea Level Inundation: Protected Lands	0	0.00%	3,919	0.36%	4,362	0.40%
Sea Level Inundation: All Other Land Uses	0	0.00%	2,082	0.19%	1,638	0.15%
Total Acreage	1,083,837	100.00%	1,083,837	100.00 %	1,083,837	100.00 %
Total Land Acreage	1,062,434	98.03%	1,056,434	97.47%	1,056,434	97.47%
Total Sea Level Inundation	0	0.00%	6,000	0.55%	6,000	0.55%
Total Open Water including SLR	21,403	1.97%	27,403	2.53%	27,403	2.53%

Acreage and land use comparisons between current (baseline) development and the Trend and Alternative future development scenarios for Santa Rosa and Escambia Counties combined.

TABLE 4

County	2023 Gross Development Density	Acres Needed to Accommodate 2070 Population	30% Higher Gross Development Density (Alternative)	Acres Needed to Accommodate Projected Population
Escambia	2.95	24,967	3.84	19,205
Santa Rosa	2.11	56,439	2.74	43,415

Acres needed to accommodate 2070 future development for Escambia and Santa Rosa Counties

continued

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Higher density can be achieved in the two counties by encouraging urban infill and redevelopment through local planning and land development policies, and by discouraging low-density, car-dependent sprawling development far outside urban cores. Mixed-use development — combining homes, offices and retail establishments — will allow more residents to meet their daily needs by walking, biking or a short transit ride.

The course of growth in both counties will be somewhat challenged by the fact that their urban areas border waterways, and sea level rise will increase the vulnerability in those areas to storm surge and flooding. Infill or redevelopment should be designed to withstand those vulnerabilities.

More high-value natural and agricultural lands can be protected by maintaining and strengthening planning and land development policies intended to preserve them, and by committing funds locally to land conservation. Those local funds can be used to leverage matching dollars from state land conservation programs, including Florida Forever and the Rural and Family Lands Protection Program, as well as federal and private programs, including land trusts. Meanwhile, policies encouraging mixed-use urban infill and redevelopment will decrease the pressure for development of natural and agricultural lands, creating more time and opportunities for those lands to be acquired for protection.

The Value of Natural and Agricultural Land

If natural and agricultural lands are paved rather than protected, the wide range of valuable environmental and economic benefits they provide will be lost. These benefits, known as ecosystem services, include recharging the underground water supply, reducing nutrient pollution in surface waters from stormwater runoff, mitigating flooding by absorbing stormwater, preserving wildlife habitat, enhancing biodiversity, sequestering carbon, sustaining agriculture and its economic and lifestyle benefits, and expanding outdoor recreational opportunities for residents and tourists alike.

Forested lands, whether natural or for silviculture, are especially valuable for their benefits to water quality and quantity. They naturally purify water and gradually release it into waterways and the atmosphere. They also reduce erosion and sediment in waterways. Losing forested land means losing those benefits.

continued

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TABLE 5

	2023	% of Total Acreage	Trend 2040	% of Total Acreage	Alternative 2040	% of Total Acreage
Developed	109,006	25.47%	113,960	26.63%	111,279	26.00%
Protected Natural Forest & Silviculture	31,082	7.26%	30,666	7.17%	153,975	35.98%
Protected Other	12,521	2.93%	12,211	2.85%	30,380	7.10%
Natural Forest / Silviculture (Unprotected)	174,922	40.88%	172,129	40.22%	50,149	11.72%
Other (Unprotected)	88,993	20.80%	86,118	20.12%	69,301	16.19%
2019 Open Water	11,408	2.67%	11,408	2.67%	11,408	2.67%
Sea Level Inundation: Protected Lands	0	0.00%	726	0.17%	775	0.18%
Sea Level Inundation: All Other Land Uses	0	0.00%	714	0.17%	665	0.16%
Total Acreage in Escambia County	427,932	100.00%	427,932	100.00 %	427,932	100.00 %
Total Land Acreage	416,524	97.33%	415,084	97.00%	415,084	97.00%
Total Sea Level Inundation	0	0.00%	1,440	0.34%	1,440	0.34%
Total Open Water including SLR	11,408	2.67%	12,848	3.00%	12,848	3.00%

Acreage and land use comparisons between current (baseline) development and the Trend and Alternative future development scenarios for Escambia County.

Tables 5-6 include figures that show how many acres of land in Escambia and Santa Rosa counties are forested — more than half the area of the counties — and how most of that land is currently unprotected. Forests cover nearly half Escambia’s 416,524 land acres, and almost two-thirds of Santa Rosa’s 645,910 land acres. The map in Figure 1 graphically displays how much of the region is covered by forests, and how less than half that land is protected. NOAA's national land survey shows Escambia County lost more than 45 square miles, or more than 29,000 acres, of forested land between 1996 and 2016. Santa Rosa County lost nearly 77 square miles, or nearly 50,000 acres, of forested land during the same period, according to NOAA.

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TABLE 6

	2023	% of Total Acreage	Trend 2040	% of Total Acreage	Alternative 2040	% of Total Acreage
Developed	93,061	14.19%	108,430	16.53%	103,398	15.76%
Protected Natural Forest & Silviculture	240,133	36.61%	238,144	36.31%	337,492	51.45%
Protected Other	31,296	4.77%	30,092	4.59%	53,757	8.20%
Natural Forest / Silviculture (Unprotected)	167,512	25.54%	156,568	23.87%	61,257	9.34%
Other (Unprotected)	113,908	17.37%	108,116	16.48%	85,446	13.03%
2019 Open Water	9,995	1.52%	9,995	1.52%	9,995	1.52%
Sea Level Inundation: Protected Lands	0	0.00%	3,193	0.49%	3,587	0.55%
Sea Level Inundation: All Other Land Uses	0	0.00%	1,368	0.21%	973	0.15%
Total Acreage in Escambia County	655,905	100.00%	655,905	100.00 %	655,905	100.00 %
Total Land Acreage	645,910	98.48%	641,350	97.78%	641,350	97.78%
Total Sea Level Inundation	0	0.00%	4,560	0.70%	4,560	0.70%
Total Open Water including SLR	9,995	1.52%	14,555	2.22%	14,555	2.22%

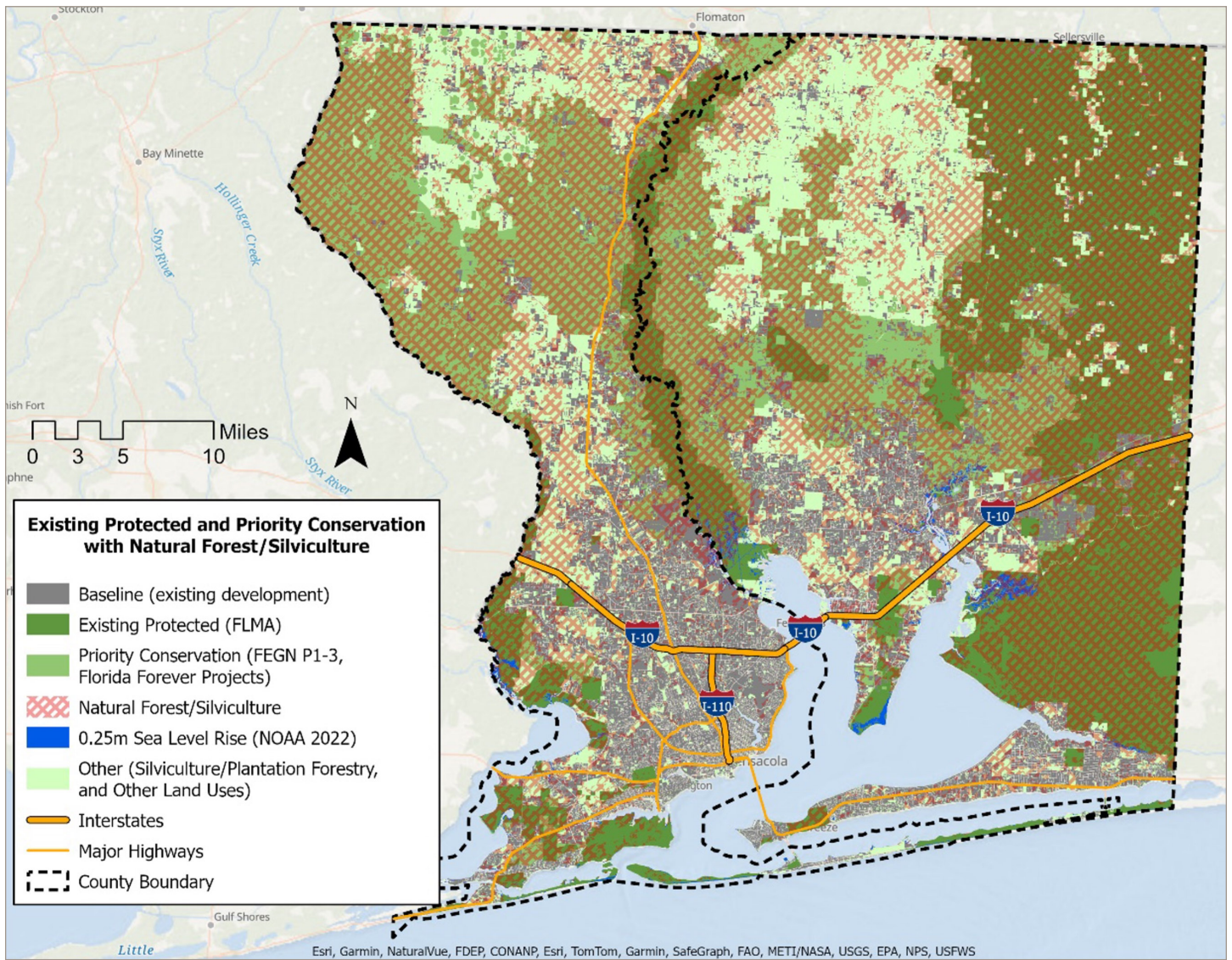
Acreage and land use comparisons between current (baseline) development and the Trend and Alternative future development scenarios for Santa Rosa County.

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FIGURE 1



Current silviculture and natural forest lands compared to priority conservation lands as identified for this project

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Additional agricultural land in the counties includes nearly 133,000 acres for grazing and more than 66,000 acres for other farming purposes. [Table 7] Most of that land is also currently unprotected. As 1000 Friends of Florida and the CLCP noted in their January 2024 Agriculture 2040/2070 report, a statewide look at the impact of growth on the future of agriculture in Florida, the loss of pockets of agricultural land to development leaves surrounding farms more vulnerable economically, increasing the likelihood of cascading fragmentation to the point of no return for agriculture. However, both Escambia (300 acres) and Santa Rosa (2,400 acres) saw slight gains in agricultural land between 1996 and 2016, according to the NOAA national land survey.

TABLE 7

County	Grazing Land	Other Agriculture
Escambia	27,256	19,785
Santa Rosa	105,587	46,811

Existing acres of grazing and other agricultural land in Escambia and Santa Rosa Counties

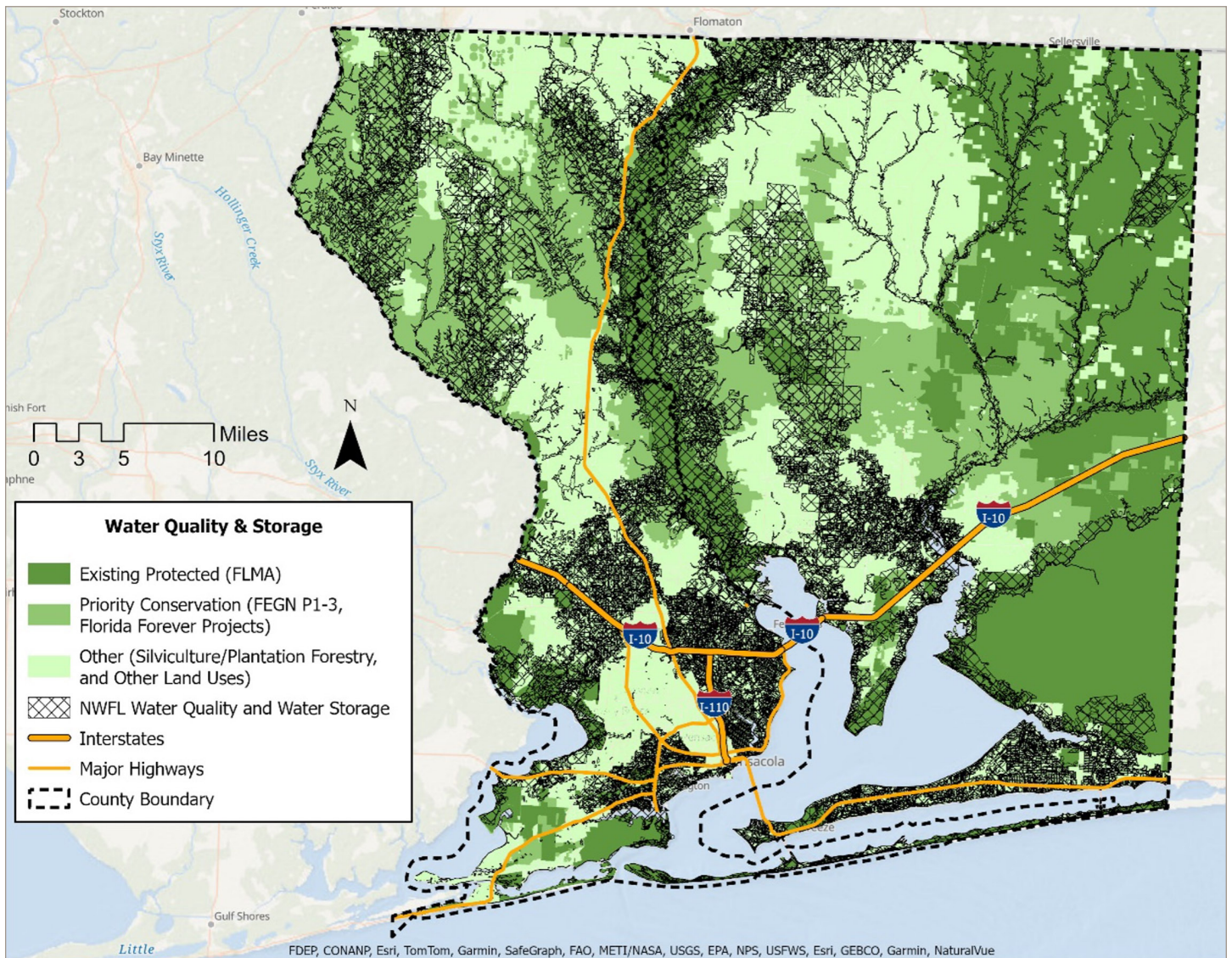
In another analysis conducted for 1000 Friends of Florida, the University of Florida’s Center for Coastal Solutions (CCS) identified land in the two counties that is important for water quality by identifying undeveloped and minimally developed parcels within 200 meters of waterways known to be impaired by pollution. CCS selected areas important for water storage by identifying undeveloped and agricultural parcels that were within existing FEMA flood hazard areas or were classified as wetlands or floodplains. [Figure 2]

A large portion of the undeveloped property critical for water quality and storage in the two counties is forested acreage, adding to the imperative for protecting as much forest land as possible from development. However, ruling out infill development on these parcels within urban areas creates more pressure for development on natural and agricultural land in rural areas, with much worse negative impacts for water quality, as discussed in greater detail below.

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FIGURE 2



Priority areas for water quality protection and water storage compared with priority conservation lands.

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Protecting the Bays Means Protecting the Economy

Sparing as much natural and agricultural land as reasonably possible from development is critical to protecting the region's environment, beginning with its most valuable assets: Pensacola and Perdido bays. These two estuaries are not only the signature natural resources for Escambia and Santa Rosa counties; they are the foundation of their economies.

A 2022 study conducted by the Florida State University Center for Economic Forecasting and Analysis (CEFA) for the Pensacola & Perdido Bays Estuary Program found that businesses directly impacted by the two estuaries were generating almost \$8 billion a year in direct sales. The two estuaries also raised nearby property values by \$2.7 billion, which generated \$80.7 million in additional consumer spending. CEFA measured an additional \$14.6 billion in indirect and induced economic impacts from the estuaries, raising their overall impact to \$22.6 billion. CEFA also tallied more than 113,000 jobs supported by businesses and consumer spending directly or indirectly tied to the two estuaries. In March 2024, the United States Senate unanimously passed legislation that would designate the Pensacola & Perdido Bays Estuary Program as the first new National Estuary Program in 30 years, a recognition at the highest level of the critical environmental and economic importance of this water system.

But turning too much land into rooftops and pavement to accommodate additional residents in the two counties will increase the runoff into area waterways, including the bays. With increased runoff comes more nitrogen and phosphorous, two nutrients that fuel harmful algal blooms that kill fish, seagrass and other marine life. These devastating natural impacts also damage commercial and recreational activities that depend on healthy bays. But the harmful consequences aren't confined to the water. Measuring chlorophyll, a pigment associated with algal blooms, CEFA found that a 1 percentage point increase in the bays would decrease median home prices in the region by \$1,410, subtracting a total of nearly \$89 million in real estate values.

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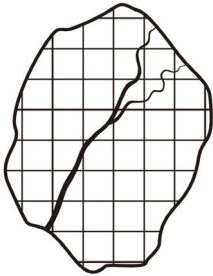
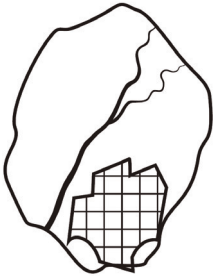
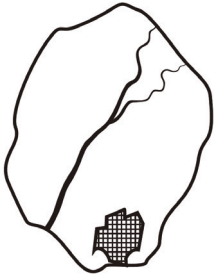
Protecting Water Quality and Improving Communities

Reducing Runoff

An initial projection of more sustainable growth patterns for Escambia and Santa Rosa counties conducted for this study ruled out development on undeveloped and minimally developed parcels within 200 meters of waterways known to be impaired by pollution, including possible infill development in urban areas. However, this parameter led to new growth leapfrogging into undeveloped areas and unimpaired watersheds in the two counties by 2040, which would yield worse overall impacts for water quality, and a greater loss of undeveloped land.

While the relative benefits for water quality of infill development may appear to be counterintuitive, the notion that accommodating population increases through low-density sprawl has less negative impact on waterways has been repeatedly contradicted in numerous studies, including one from the U.S. Environmental Protection Agency. According to that 2006 study, “For the same amount of development, higher-density development produces less runoff and less impervious cover than low-density

EXHIBIT 1: 10,000-Acre Watershed Accommodating 10,000 Houses

Scenario A	Scenario B	Scenario C
		
<p>10,000 houses built on 10,000 acres produce:</p> <p>10,000 acres x 1 house x 18,700 ft³/yr of runoff =</p> <p>187 million ft³/yr of stormwater runoff</p> <p>Site: 20% impervious cover</p> <p>Watershed: 20% impervious cover</p>	<p>10,000 houses built on 2,500 acres produce:</p> <p>2,500 acres x 4 houses x 6,200 ft³/yr of runoff =</p> <p>62 million ft³/yr of stormwater runoff</p> <p>Site: 38% impervious cover</p> <p>Watershed: 9.5% impervious cover</p>	<p>10,000 houses built on 1,250 acres produce:</p> <p>1,250 acres x 8 houses x 4,950 ft³/yr of runoff =</p> <p>49.5 million ft³/yr of stormwater runoff</p> <p>Site: 65% impervious cover</p> <p>Watershed: 8.1% impervious cover</p>

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development; and for a given amount of growth, lower-density development impacts more of the watershed.” The previous page shows a graphic from that study that explains this apparent paradox.

The revised projection in this report for a more conservation-oriented, sustainable growth pattern in Escambia and Santa Rosa counties, which does not rule out infill development in impaired watersheds, promises better overall results for water quality by reducing the spread of low-density sprawl into rural areas.

Measuring Runoff and Nutrient Loads

In its analysis for 1000 Friends, the CCS found that runoff from current developed acres in Escambia and Santa Rosa counties totals 477,855 acre feet, the equivalent of 317,794 Olympic swimming pools. If the two counties absorb the projected number of additional residents while persisting in their current development patterns, they will see a 4 percent increase in runoff, or the equivalent of almost 15,000 more Olympic swimming pools. That increased runoff will dump more than 100,000 pounds a year of additional nitrogen and nearly 20,000 more pounds annually of phosphorous into area waterways, adding to the fuel for algal blooms.

But if the two counties pursue a more conservation-oriented approach to growth that slows the loss of undeveloped land, they will reduce the annual increase in runoff by 2040 to less than 3,000 Olympic swimming pools. They will cut the additional nitrogen dumped in area waterways to less than 23,000 pounds, and additional phosphorous to less than 4,000 pounds. [Table 8] This should not come as a surprise; unlike rural development, urban infill and redevelopment does not disturb natural land and eliminate its capacity to store and cleanse water. Historic disruptions in the industrial economy and retail industry have created opportunities for urban redevelopment that will turn vacant land into tax-generating property. But prioritizing infill and redevelopment does not absolve local leaders of their responsibility to maintain or strengthen policies that reduce the negative environmental impact from urban stormwater runoff. And while urban infill development in impaired watersheds should remain an option for the reasons outlined above, land with a specific nexus to protecting water quality — preserving the headwaters of a creek or stream, or in a less developed waterfront area — should remain a priority for preservation.

continued

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TABLE 8

	Developed Acres		Acre-Feet of Runoff		# Olympic Swimming Pools*	Annual Mass Loading (lb/yr)			
	Total	%↑	Total	%↑		TN		TP	
						Total	%↑	Total	%↑
Baseline	202,170		477,885		317,794	2,368,393		417,033	
Escambia	108,848		280,640			1,365,786		242,819	
Santa Rosa	93,321		197,244			1,002,607		174,213	
Trend	202,170	4%	500,065	4%	332,544	2,478,321	4%	436,389	4%
Escambia	113,900		293,666			1,429,179		254,090	
Santa Rosa	97,653		206,399			1,049,142		182,299	
Alternate	204,074	1%	482,387	1%	320,788	2,390,706	1%	420,961	1%
Escambia	109,874		283,284			1,378,653		245,107	
Santa Rosa	94,201		199,102			1,012,053		175,855	

Water quality and runoff (volume) comparisons between the current (baseline) development and the Trend and Alternative future development scenarios for Santa Rosa and Escambia Counties combined. *An Olympic Swimming Pool is equal to 490,000 gallons. This column shows how many Olympic Swimming Pools would be filled by the amount of Acre-Feet Runoff.

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Protecting Water Quality and Improving Communities

More Benefits of Growing From Within

By embracing policies in response to growth that encourage more compact development in urban areas, rather than low-density, automobile-dependent development in rural areas, leaders in Escambia and Santa Rosa counties can provide their constituents an array of benefits. Denser urban neighborhoods oriented toward people rather than cars will attract and support more businesses, creating new opportunities for residents living downtown to walk or bike to work, shopping and restaurants, encouraging healthier lifestyles and reducing daily transportation expenses. More urban development will also create the density needed to support successful public transit systems. By reducing dependence on car travel, it will reduce local air and water pollution. It will generate the resources to enhance and expand other public services. It will increase the efficiency of those services, and slow their cost increases, helping to keep a lid on local taxes.

Policy Recommendations

To invite locally generated ideas for policies that would promote more sustainable, bay-friendly growth in Escambia and Santa Rosa counties, 1000 Friends of Florida convened an advisory group composed of local leaders and planning professionals. The following ideas were derived from suggestions from group members

Short-term

- Complete a crosswalk review of local government comprehensive plans and land development regulations to assess alignment of conservation, transportation, and future land-use objectives.
- Create an interagency working group to develop critical planning criteria relevant to the conservation of Pensacola and Perdido Bay watersheds.
- Establish locally financed land conservation programs to leverage federal, state and private funds to preserve natural and agricultural lands from development, and protect critical lands buffering water bodies.
- Develop a plan to utilize offsite or compensatory treatment of stormwater to promote compact development and create regional amenities.
- With the vulnerability of the region to sea level rise, flooding and other climate-change impacts, make adaptation strategies a regular consideration in any changes to land development regulations.

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Protecting Water Quality and Improving Communities

Short-term (*continued*)

- Reconsider policies that exempt infill projects in Pensacola from stormwater management requirements, to avoid exacerbating shortcomings in the city's aging infrastructure and creating flooding problems.
- Given the positive impact of walkability on the health and safety of communities, update regulations that don't call for sidewalks in developments to include that requirement.

Medium-term

- Amend local government comprehensive plans to align with the goals of the Pensacola and Perdido Bays Estuary Program's Comprehensive Conservation and Management Plan, and amend land development codes to align with the critical planning criteria.
- Prioritize nature-based solutions for stormwater management and flood mitigation in comprehensive plans.
- Adopt form-based codes in key commercial areas to encourage walkable, environmentally friendly, attractive and fiscally sound redevelopment.
- Expand infill development opportunities by allowing accessory dwelling units.
- Reduce land use and stormwater runoff by reducing or eliminating parking requirements.
- Incentivize compact urban development by offering density bonuses.
- Require connected street networks in new developments.

Long-term

- Establish an urban growth boundary for the Pensacola Metropolitan Statistical Area (MSA).