



SPRINGS PROTECTION ELEMENT

GOALS, OBJECTIVES, AND POLICIES

Element Guide:

- Objective 1 Springs Protection Zone**
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~~Goal 1: Protect 1st and 2nd magnitude springs and springshed areas as fragile resources necessary for sustaining the community's quality of life.~~ Protect, restore, and enhance Levy County's springs, springsheds, aquifer recharge areas, karst systems, wetlands, surface waters, and connected groundwater resources as fragile and defining natural resources necessary for sustaining water quality, public health, rural character, recreation, wildlife habitat, economic vitality, and the community's long-term quality of life.

Objective 1: Springs Protection Zone (SPZ)

~~Protect 1st and 2nd magnitude springs through the designation of the Fanning, Fanning/Manatee, and Manatee Springsheds as the Springs Protection Zone (SPZ) as depicted in the Levy County Springs Protection Element Map and the implementation of the following policies.~~ Protect first and second magnitude springs, Outstanding Florida Springs, springsheds, Priority Focus Areas, karst features, aquifer recharge areas, and connected surface waters through the continued designation and implementation of the Springs Protection Zone (SPZ), as depicted in the Levy County Springs Protection Element Map, together with coordinated land use planning, development review, stormwater management, wastewater treatment, conservation design, and intergovernmental coordination.

Policy 1.1 Evaluate the commercial and industrial zoning districts within the SPZ and limit those land use activities that pose a significant threat to the springs. Land use activities that pose a threat to springs shall include, but not be limited to, the following activities:

- a. All industrial uses;
- b. Quarrying, mining and processing of raw materials;
- c. Gas stations;
- d. Spray fields, land spreading of biosolids; and
- e. Concentration of onsite sewage treatment and disposal units of intensity greater than one dwelling unit per three acres.



Policy 1.2 Where avoidance of impacts through the limitation of land use activities is not feasible, implement strategies and design standards in the land development regulations that will minimize the impact of use and development within the SPZ.

Policy 1.3 Mitigation of development impacts may include design techniques, location requirements, additional buffering requirements, conservation design, stormwater treatment, wastewater treatment, nutrient reduction, monitoring, or other site design standards.

Policy 1.4 The County shall maintain and update the Springs Protection Element Map as new data on springsheds, Priority Focus Areas, aquifer recharge, karst, or water resource protection become available from FDEP, the water management districts, or other professionally accepted sources.

Policy 1.5 The County shall recognize the SPZ as a planning and resource protection overlay intended to protect springs and groundwater quality and to coordinate decisions on future land use, wastewater, stormwater, open space, conservation, and public facilities.

Policy 1.6 Within the SPZ, the County should encourage land-use patterns that maintain rural character, protect agricultural and forestry lands, preserve open space, reduce impervious surfaces, and avoid development patterns that would increase nutrient loading, untreated stormwater runoff, or direct discharge into karst features.

Policy 1.7 The County should consider the relationship between spring protection and downstream resources, including the Suwannee River, Manatee Springs, Fanning Springs, coastal waters, estuarine habitat, and the Big Bend Seagrasses Aquatic Preserve, when evaluating land use, stormwater, wastewater, and conservation decisions.

Objective 2: Future Land Use Map Amendments

~~Proposed amendments to the Future Land Use Map (FLUM) within the SPZ shall meet the criteria in the following policies:~~ Proposed amendments to the Future Land Use Map (FLUM) within the SPZ, an Outstanding Florida Springs basin management action plan area, or a mapped Priority Focus Area shall be evaluated for consistency with the following policies and with other applicable provisions of the Comprehensive Plan.

Policy 2.1 Demonstrate that the proposed land use category is the least intensive category that will meet a demonstrated need of the use; and

Policy 2.2 Demonstrate that the proposed land use category will be developed consistent with conservation or clustering design techniques.

Policy 2.3 Proposed FLUM amendments within the SPZ should demonstrate that the proposed density, intensity, and development pattern can be supported by wastewater, stormwater, potable water, transportation, and public facilities in a manner that protects springs, groundwater, karst features, wetlands, and surface waters.

Policy 2.4 If a proposed FLUM amendment would increase residential density or nonresidential intensity within the SPZ, the County may consider potential impacts on nutrient loading, septic suitability, wastewater treatment, stormwater runoff, aquifer recharge, karst vulnerability, flood-prone lands, and the availability of central wastewater facilities.



Policy 2.5 FLUM amendments within the SPZ should incorporate conservation design, open space preservation, clustering, buffers, low-impact development, retention of native vegetation, and other design techniques that avoid or minimize adverse impacts on springs and springshed resources.

Policy 2.6 The County shall coordinate proposed FLUM amendments within the SPZ with municipalities, FDEP, the Suwannee River Water Management District, the Southwest Florida Water Management District, where applicable, and other agencies, as necessary, to evaluate impacts on springshed protection, wastewater, stormwater, and water resources.

Policy 2.7 The rural land use suitability and natural resource protection policies of the Future Land Use Element shall be considered when reviewing proposed FLUM amendments within the SPZ.

Objective 3: Development Design Standards

~~Development within the SPZ shall meet the design standards as set forth below:~~ Development within the SPZ shall meet the design standards set forth below and shall be planned, designed, and reviewed to avoid or minimize impacts to springs, spring runs, karst features, aquifer recharge, wetlands, surface waters, and groundwater quality.

Policy 3.1 Residential development within the SPZ, resulting in 25 dwelling units or more, shall be clustered, based on conservation subdivision design standards, with the exception of development within the Agricultural / Rural Residential or Forestry / Rural Residential. Conservation subdivision designs shall include:

- a. Clustering of units on small lots;
- b. Establishment of open space, which shall be connected whenever possible;
- c. Central water and sewer treatment facilities that can be connected to the regional system within a Municipal Service District as soon as available;
- d. Minimal site disturbance; and
- e. Consideration of conflicts with abutting land containing active agricultural or forestry uses.

Policy 3.2 Development shall be set back from springs, spring runs, and karst features as shown below:

Feature	Minimum Setback (feet)
Springs	300
Spring runs	150
Sinkholes with a direct connection to the aquifer	200, measured from the drainage divide
Other sinkholes	100, measured from the drainage divide
Caves	300, measured on the surface from the outside wall of the cave system
Other karst features with a direct connection to the aquifer (swallet or stream to sink)	200, measured from the drainage divide

Variances from the prohibitions against construction of structures within the above development setbacks from springs, spring runs and karst features may be allowed only when, owing to the special shape, size, or physical features, the setback would result in the preclusion of all reasonable use of the subject property. When a variance is permitted, encroachment into the setback will be limited to the minimum needed to allow for reasonable use of the parcel.

Policy 3.3 The required setback described in Policy 3.2 shall retain all natural vegetation within



the setback area.

Policy 3.4 Where development is adjacent to karst features, springs, spring runs, wetlands, surface waters, or other water resource features, the County should maintain or require a natural, undisturbed vegetated buffer that complies with adopted Land Development Code standards and applicable state law. A minimum twenty-five (25)-foot buffer with an average width of fifty (50) feet should be considered, where appropriate, to protect water quality and maintain natural filtration functions.

Policy 3.4 5 Where a lot of record is too small to accommodate development in compliance with the setbacks set forth in Policy 3.2, an allowable use may be established provided that the building and associated paved areas are located the maximum distance possible from the karst features identified in Policy 3.2, and further that a swale and berm are located between the development and the karst feature. The swale and berm shall be designed to direct drainage away from the karst feature.

Policy 3.5- 6 Development shall use joint or shared access to the maximum extent feasible in order to minimize impervious surfaces.

Policy 3.6- 7 Non-residential development shall use shared parking to the maximum extent feasible in order to minimize impervious surfaces. All parking lots with 100 or more spaces shall be designed with a minimum of twenty (20) percent of the parking spaces constructed on pervious surfaces.

Policy 3.7 8 Design of parking lots, sidewalks, buildings, and other impervious surfaces shall minimize connections between impervious surfaces through techniques shown on a site plan such as:

- a. Directing flows from roof drains to vegetated areas or to rain barrels or cisterns for reuse of the water;
- b. Directing flows from paved areas to vegetated areas;
- c. Locating impervious surfaces so that they drain to vegetated buffers or natural areas; and
- d. Breaking up flow directions from large paved surfaces.

Policy 3.8- 9 Porous pavement materials, pervious concrete, and pervious asphalt should be used to minimize the amount of impervious surface within new development and redevelopment.

Policy 3.9- 10 Landscaping standards within the SPZ shall limit plant materials to native, naturalized, or Florida-Friendly species in order to avoid or minimize the use of irrigation and fertilizers. Landscaping standards should also require retention of existing native species rather than planting new vegetation.

Policy 3.10 11 The minimum open space ratio for all development, with the exception of Agricultural / Rural Residential and Forestry / Rural Residential categories within the SPZ, is twenty (20) percent. All open space shall be contiguous with protected open space on adjacent parcels to the maximum extent feasible.

Policy 3.11 12 Drainage for streets and roads within the SPZ shall be through roadside swales and berms whenever possible. Curb and gutter design shall be discouraged.

Policy 3.12 13 In order to minimize the contribution of nitrates to groundwater with its resultant effects on increased growth of vegetation in the spring and river and loss of water clarity, and to foster long-term stewardship of the springs, special design and best management practices (BMPs) shall be instituted for all development in the SPZ.

Policy 3.13 14 Commercial and industrial development shall be designed to minimize site disturbance by limiting clearing to the minimum area necessary to accomplish development.

- a. Avoid or minimize the removal of existing trees and vegetation;
- b. Minimize soil compaction by delineating the smallest disturbance area feasible; and
- c. Maximize disconnection of impervious surfaces to reduce water runoff flows and increase opportunities for infiltration.

Policy 3.15 Development within the SPZ should be designed to avoid the direct discharge of



untreated stormwater into sinkholes, swallets, stream-to-sink features, solution pipes, springs, spring runs, wetlands, or other direct connections to the aquifer.

Policy 3.16 Outdoor storage, fueling, chemical handling, waste storage, vehicle maintenance, and similar activities within the SPZ should be designed and located to prevent spills, leaks, contaminated runoff, or other pollutant discharges from entering stormwater systems, karst features, surface waters, or groundwater.

Objective 4: Site Plan and Plat Review

All development in the SPZ, with the exception of Agricultural / Rural Residential and Forestry / Rural Residential land use categories shall undergo site plan or subdivision plat review in accordance with the following policies prior to receiving development approval. Development in the SPZ, with the exception of Agricultural / Rural Residential and Forestry / Rural Residential land use categories unless otherwise required by the Land Development Code or applicable law, shall undergo site plan or subdivision plat review in accordance with the following policies prior to receiving development approval.

Policy 4.1 An analysis of the site to determine the location and nature of sinkholes and other karst features of the property, such as stream-to-sink and other direct connections to the aquifer, is required to be submitted with a subdivision plat or site plan to evaluate the vulnerability of the development sites to leaching of nitrates into groundwater and subsequent transmission to Fanning Springs and Manatee Springs.

Policy 4.2 All development shall conform to the best management practices as stated in the Guidelines for Model Ordinance Language for Protection of Water Quality and Quantity Using Florida Friendly Lawns and Landscapes. (Florida Department of Environmental Protection, September 2, 2003).

Policy 4.3 Site plan and plat review within the SPZ should include an evaluation of stormwater treatment, wastewater treatment, septic suitability, open space, buffers, karst features, impervious surface, native vegetation retention, fertilizer and irrigation practices, and consistency with applicable springs protection and water resource policies.

Policy 4.4 When site conditions indicate the presence of sinkholes, depressions, caves, swallets, solution pipes, stream-to-sink features, or other karst features, the County may require additional documentation prepared by a qualified professional to determine whether the feature is directly connected to the aquifer and whether additional protection measures are necessary.

Policy 4.5 For development within the SPZ, the County should coordinate site plan and plat reviews with the applicable water management district, FDEP, Florida Department of Health, or other agency with permitting requirements to avoid duplicative review while ensuring that springs protection standards are addressed.



Objective 5: Stormwater Management

~~The volume, recharge, and treatment of stormwater runoff within the SPZ, in all land use categories, with the exception of Agricultural / Rural Residential and Forestry / Rural Residential, shall be designed to provide protection to the springs and springsheds.~~ The volume, recharge, rate, quality, and treatment of stormwater runoff within the SPZ shall be managed to protect springs, springsheds, groundwater, aquifer recharge, karst features, wetlands, and surface waters while minimizing flooding and maintaining natural drainage patterns where feasible.

Policy 5.1 Substantial redevelopment projects shall comply with the standards for stormwater runoff that apply to new development. Substantial redevelopment shall be based upon the value and amount of cumulative improvements to the site.

Policy 5.2 Best Management Practices (BMPs) shall be used in combination as part of a BMP treatment train to protect water quality and minimize flooding within the SPZ. Best management practices shall be used in the design of stormwater management facilities and systems within the SPZ. The following stormwater BMPs shall be instituted to reduce nitrate loading within the SPZ:

- a. All residential development shall use swales with swale blocks or raised driveway culverts whenever possible, except when soil, topography, or seasonal high water conditions are inappropriate for infiltration as determined by a professional engineer licensed in the State of Florida.
- b. Vegetated infiltration areas shall be used to provide stormwater treatment and management on all sites except when soil, topography, or seasonal high water conditions are inappropriate for infiltration as determined by a professional engineer licensed in the State of Florida. Design of the stormwater systems for residential and commercial uses shall use bio-retention areas (below grade vegetated areas) to increase stormwater treatment and reduce stormwater volume. Downspouts for both residential and commercial development shall be directed from the roof to vegetated areas for uptake.
- c. Whenever infiltration systems are not feasible, wet detention systems shall be used for stormwater treatment and management.
- d. Developments within the SPZ shall utilize the Suwannee River Water Management District (SRWMD) or St. Johns River Water Management District karst sensitive criteria, whichever is more stringent. Karst sensitive criteria ~~is~~ are found in the SJRWMD Environmental Resource Permit Applicant Handbook, Volume II, Part V, Section 9.3.6.
- i. Sensitive karst features, including sinkholes with a direct connection to the aquifer and stream-to-sink features, and any man-made alterations to the land that result in a direct connection to the aquifer and stream-to-sink feature, shall not be utilized as stormwater management facilities. Prior to subdivision approval, all depressions will be investigated by a licensed professional using a professionally acceptable methodology for suitability of water retention using generally accepted geotechnical practices with an emphasis on identification of potential connections to the aquifer. If connections are determined to exist, the depression, or man-made alteration to the land, shall not be used for stormwater retention and the area draining to this feature under pre-development conditions shall be preserved through a conservation easement.



- ii. All development approval by the County shall require the applicant to submit to the County a copy of the Environmental Resource Permit (ERP) issued by the appropriate water management district or DEP stormwater permit and the National Pollutant Discharge Elimination System (NPDES) notice of intent to be covered by the construction generic permit prior to any land clearing when required.
- iii. Sensitive karst features will be identified and placed in a conservation easement so that they will be thereafter used solely for passive recreation subject to permitted activities in subparagraph (d) herein. Sensitive karst features in the SPZ are defined as sinkholes with a direct connection to the aquifer and spring-to-sink systems and solution pipes.
- iv. All components of the stormwater treatment and management system shall be in common ownership and shall be maintained by the responsible legal entity identified in the water management district or the DEP stormwater permit.
- v. The studies required in item (d)(i) above shall be used to characterize on-site soils and determine locations of geologic features including sinkholes, solution pipes, depressions, and depth of soil to lime rock. Sensitive karst features like sinkholes with a direct connection to the aquifer and stream-to-sink features shall be protected from untreated runoff.

Policy 5.3 Stormwater systems within the SPZ should be designed to preserve natural drainage patterns, maintain aquifer recharge where appropriate, reduce directly connected impervious area, and avoid untreated discharge to karst features, springs, spring runs, wetlands, and surface waters.

Policy 5.4 The County should encourage low-impact development practices, including bioretention, bioswales, infiltration areas, pervious surfaces, rain gardens, vegetated buffers, tree preservation, native landscaping, cisterns, and other measures that reduce runoff volume and improve water quality.

Policy 5.5 Stormwater management facilities within the SPZ should include legally enforceable operation and maintenance responsibilities to ensure long-term performance and protect springs and groundwater resources.

Policy 5.6 The County should consider the cumulative watershed impacts of stormwater runoff, nutrient loading, sedimentation, and altered drainage patterns on springs, rivers, estuaries, and coastal waters when evaluating public improvements, private development, and redevelopment in the SPZ.

Objective 6: Wastewater Treatment and Nutrient Reduction

~~All non-residential development and all residential development with a density greater than one dwelling unit per three (3) acres, proposed for location in the SPZ, shall provide a high level of wastewater treatment in accordance with the following policies:~~ Wastewater treatment, onsite sewage treatment and disposal systems, sewer connections, reuse, and nutrient reduction within the SPZ shall be planned and implemented to protect springs, groundwater, aquifer recharge areas, and connected surface waters in accordance with applicable state law and the following policies.

Policy 6.1 Levy County shall implement a program within the SPZ to require installation of a sewage treatment system that achieves a treatment standard for nitrogen of 10mg/l, including performance-based septic tank systems, enhanced nutrient-reducing onsite sewage treatment and disposal systems, or other system that achieves the standard, for effluent disposal, where central sewer is not available.

Policy 6.2 All development within the SPZ shall connect to central wastewater treatment facilities within one year of when facilities become available, as available is defined in Chapter 381.0065, Florida Statutes.



Policy 6.3 Evaluate the potential for installation of lines for reused water for developments that are located within the Municipal Service Districts within the designated SPZ, and implement a program when a reused water system is determined to be feasible.

Policy 6.4 The County shall maintain procedures and land development regulations consistent with applicable state requirements for onsite sewage treatment and disposal systems in Outstanding Florida Springs basin management action plan areas, Priority Focus Areas, and other impacted areas.

Policy 6.5 New development and redevelopment within the SPZ should use central sewer where available or planned. When central sewer is not available, development should comply with applicable onsite sewage treatment and disposal system requirements, nutrient reduction standards, septic suitability, and springs protection policies.

Policy 6.6 The County should coordinate with municipalities, utility providers, FDEP, the Florida Department of Health, and water management districts to identify priority areas for septic-to-sewer conversion, enhanced nutrient-reducing onsite systems, wastewater infrastructure improvements, and grant funding within springsheds and Priority Focus Areas.

Policy 6.7 The County will encourage water conservation, reuse, Florida-Friendly Landscaping, efficient irrigation, and fertilizer reduction practices that reduce wastewater flows, nutrient loading, and groundwater impacts within the SPZ.

Policy 6.8 Conventional onsite sewage treatment and disposal systems should not be relied on to support higher-density or higher-intensity development in sensitive springshed areas where state law, BMAP requirements, Priority Focus Area requirements, or County-adopted springs protection standards require a higher level of treatment.

Objective 7: Intergovernmental Coordination

~~Coordinate with local governments throughout the springs and springshed areas to ensure a consistent approach to springs, springshed, and aquifer protection.~~ Coordinate with local governments, state and regional agencies, municipalities, utility providers, conservation partners, and adjacent jurisdictions throughout the springs and springshed areas to ensure a consistent, watershed-based approach to springs, springshed, groundwater, aquifer recharge, wastewater, stormwater, and natural resource protection.

Policy 7.1 The County shall consider an interlocal agreement that specifies responsibilities for land development regulation, stormwater management, wastewater planning, utility service coordination, and other matters that impact springs and springsheds. The interlocal agreement containing joint strategies for springs protection should be implemented by local governments within a springshed where mutually agreed upon.

Policy 7.2 Levy County shall consider the creation of a joint development review board or other coordination process to be composed of representatives from local governments within the identified springsheds, as well as affected regional and state agencies.

Policy 7.3 The County should coordinate with municipalities, including Fanning Springs, Chiefland, Bronson, and other affected jurisdictions, on land use, annexation, utility service areas, wastewater infrastructure, stormwater management, and development review within springsheds and Priority Focus Areas.



Policy 7.4 Joint Planning Areas, Municipal Service Areas, interlocal agreements, utility service agreements, and related planning tools may be used, where appropriate and mutually agreed, to coordinate land use, wastewater, stormwater, infrastructure investment, and springs protection near municipal boundaries and within utility service areas.

Policy 7.5 The County shall coordinate with FDEP, SRWMD, SWFWMD (where applicable), the Florida Department of Health, FWC, FDOT, adjacent counties, municipalities, and conservation partners regarding BMAP implementation, Priority Focus Areas, wastewater and stormwater improvements, water quality monitoring, land conservation, and public education on springs protection.

Policy 7.6 The County should pursue state, federal, regional, and partnership funding opportunities for springs protection projects, including wastewater improvements, stormwater retrofits, septic-to-sewer projects, enhanced nutrient-reducing systems, land acquisition, conservation easements, habitat restoration, and public education.

Objective 8: Outstanding Florida Springs Priority Focus Areas

~~Levy County will continue to protect the most vulnerable areas of identified Outstanding Florida Springs.~~
Levy County will continue to protect the most vulnerable areas of identified Outstanding Florida Springs, including Manatee Springs and Fanning Springs, through coordination with basin management action plans, Priority Focus Areas, state statutory requirements, and locally adopted springs protection policies.

Policy 8.1 Levy County will coordinate with the Florida Department of Environmental Protection and the water management districts to protect the priority focus areas for identified Outstanding Florida Springs (Manatee and Fanning Springs).

Policy 8.2 Once the priority focus area is established for an Outstanding Florida Spring, Levy County will adhere to the requirements contained in Section 373.811, Florida Statutes, and any applicable successor provisions.

Policy 8.3 The County should consider adopted basin management action plans, nutrient reduction strategies, Priority Focus Area requirements, and the best available water quality data when evaluating land use, wastewater, stormwater, conservation, and infrastructure decisions that may affect Outstanding Florida Springs.

Policy 8.4 The County should coordinate with agricultural producers, forestry operators, landowners, agencies, and conservation partners to promote voluntary best management practices, conservation easements, land stewardship, and nutrient-reduction strategies that support springs protection while recognizing the importance of working lands to Levy County's rural economy.

Policy 8.5 The County will use public education, technical assistance, and outreach to inform residents, landowners, businesses, and visitors about the relationships among fertilizer use, irrigation, septic systems, stormwater runoff, karst features, groundwater quality, and springs protection.

Objective 9 Monitoring, Stewardship, and Adaptive Management

Levy County shall support long-term springs protection through monitoring, stewardship, public education, data updates, adaptive management, and coordination with resource agencies and local partners.



Policy 9.1 The County should periodically review the Springs Protection Element, the Springs Protection Element Map, the SPZ boundary, Priority Focus Areas, BMAP requirements, and related Land Development Code provisions to determine whether updates are needed in response to new data, state requirements, or changed conditions.

Policy 9.2 The County should use the best available data from FDEP, water management districts, the Florida Department of Health, universities, conservation partners, and other professionally recognized sources to inform springs and groundwater protection, wastewater planning, stormwater management, and land use decisions.

Policy 9.3 The County should coordinate springs protection with the Future Land Use, Conservation, Coastal Management, Infrastructure, Intergovernmental Coordination, Recreation and Open Space, and Capital Improvements Elements to ensure consistent consideration of springs, aquifer recharge, karst, wastewater, stormwater, and downstream water resources across the Comprehensive Plan.

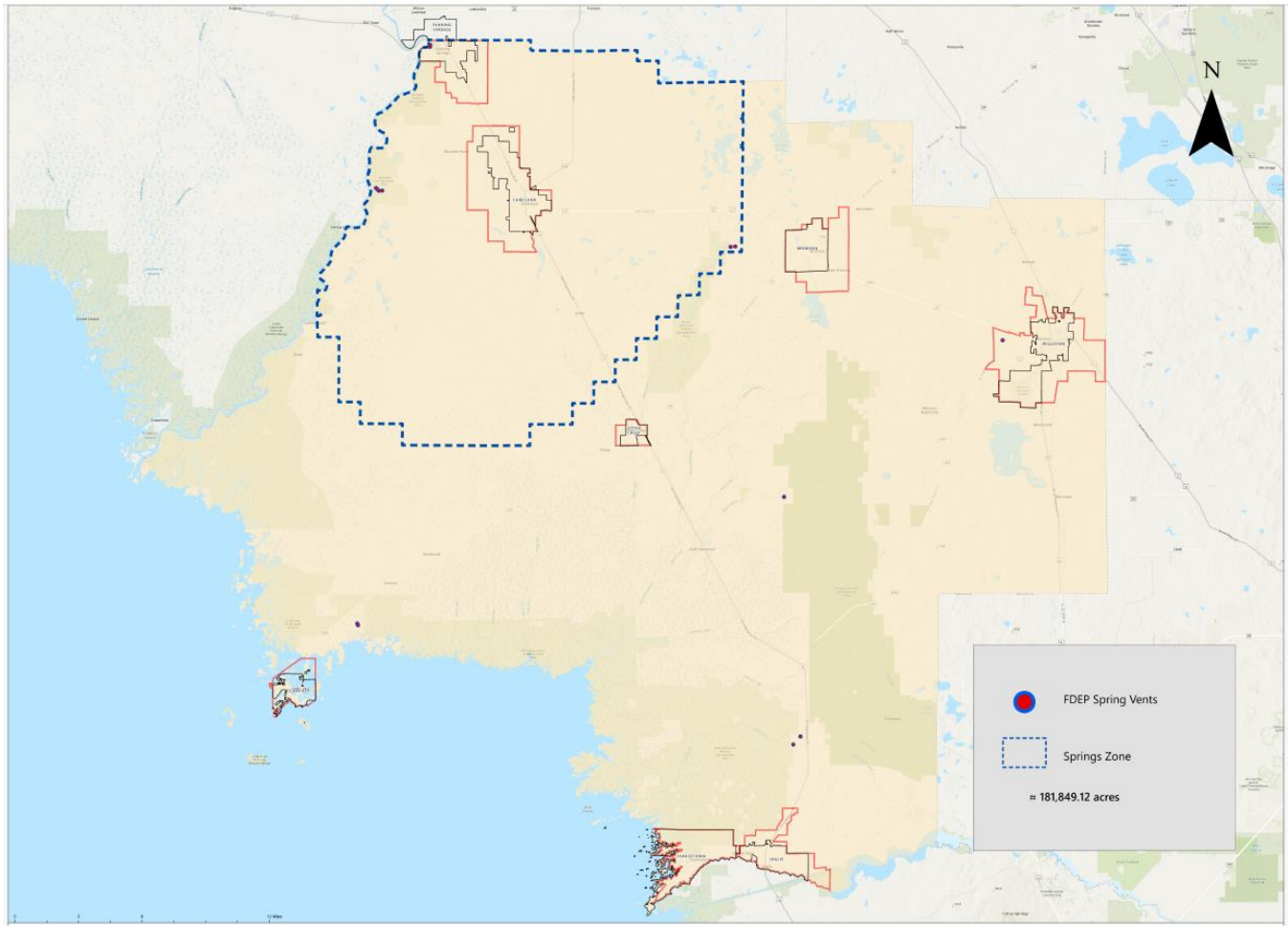
Policy 9.4 The County should evaluate opportunities to integrate springs protection with recreation and ecotourism by supporting low-impact public access, paddling, trails, interpretation, and stewardship programs that safeguard water quality, habitat, and rural character.

County Attorney Review Note

The draft updates above are provided for County staff, BOCC, and County Attorney review. New or revised policies that would create mandatory development standards, new application requirements, wastewater treatment obligations, density limitations, or additional review procedures should be reviewed for consistency with SB 180, Chapter 163, Chapter 373, Section 381.0065, Section 381.00655, Section 373.811, Florida Statutes, vested rights, and other applicable law before inclusion in the formal adoption package.



Levy County Springs Zone and Spring Vents Locations



Source: FDEP and University of Florida – Florida Geographic Data Library