



Indian River County 2030 Comprehensive Plan

Chapter 3D

Natural Groundwater Aquifer Recharge Sub-Element

**Indian River County Community Development Department
Adopted: October 12, 2010**

GOAL, OBJECTIVES AND POLICIES

GOAL

To protect the function of natural groundwater aquifer recharge areas, to prevent the contamination of groundwater and to extend the life span of the county's aquifers through water conservation.

OBJECTIVE 1 Protection of Water Quality

Through 2020, there will be no instances of contamination of groundwater aquifers or public supply wells within the county. For the purpose of this objective, water quality will be based on primary and secondary maximum contaminant levels (MCLs), as defined by the FDEP in Chapter 17-550, F.A.C.

Policy 1.1: By 2010, the county shall update the Surficial Primary Recharge Overlay District (SAPROD) map using a geographic information systems (GIS) format.

Policy 1.2: By 2012, the county will assist the SJRWMD and FDEP in developing a Wellhead Protection Area (WHPA) map for Indian River County by providing the following information:

- the location of existing public wellheads;
- the proposed location of future public wellheads; and,
- potential conflicts between existing and future land uses and public wellhead protection areas.

The WHPA map will be compatible with the county's G.I.S. database.

Policy 1.3: The county shall continue to prohibit the location of septic systems within two hundred feet of a public water supply well, unless otherwise approved by the FDEP or HRS.

Policy 1.4: The county, through its stormwater permitting processes, shall ensure that stormwater management structures, except those located within the SAPROD, are designed to function as aquifer recharge areas.

Policy 1.5: The county shall continue to protect existing and future public water supply wells from contamination by continuing to implement Chapter 931 of the County's land development regulations and by prohibiting any non-residential land use which stores, handles, or produces a toxic degradation or petroleum-based product, or any substance regulated under 40 CFR 302, 40 CFR 122.21, and/or Chapter 487, F.S. from locating within 1,000 feet of a public water supply well. The minimum radial separation distances for land uses and structures from public wellhead regulated areas are as follows:

- 200 feet for on-site disposal systems, unless approved by the FDEP or DHRS;
- 300 feet for wet retention/detention areas, unless approved by the SJRWMD;
- 500 feet for landfill and/or transfer stations, above ground or underground storage tanks, feed lots and animal facilities, and WWTP effluent discharges, unless approved by the FDEP;
- 1,000 for any mining and/or excavation of waterways or drainage facilities which intersect the water table.

Policy 1.6: The county shall prohibit new developments or changes of uses that produce hazardous materials from locating on the Atlantic Coastal Sand Ridge or the Ten Mile Ridge areas of Indian River County.

Policy 1.7: The county shall continue to prohibit injection wells for the disposal of wastewater.

Policy 1.8: The county, in cooperation with the Indian River Soil and Water Conservation District (IRSWCD), shall discourage the use of flood irrigation with water from the Floridan aquifer by providing incentives for low volume irrigation systems.

OBJECTIVE 2 Preserving the Quantity of the Surficial Aquifer

Through 2025, there will be no reduction in the availability of groundwater from the surficial aquifer. For the purpose of this objective, water quantity will be based on SJRWMD's most recent regional groundwater model.

Policy 2.1: The county shall implement water conservation measures, as designated in the policies under Objective 4 of the Potable Water Sub-Element and Objective 4 of the Sanitary Sewer Sub-Element, to protect the surficial aquifer from depletion.

Policy 2.2: The county shall use natural groundwater aquifer recharge areas for passive parks and open space.

Policy 2.3: To ensure preservation of the surficial aquifer, the county shall continue to issue permits for all proposed excavation/mining projects in the unincorporated county that are exempt from SJRWMD permitting requirements. For proposed excavation/mining projects that are located along the Atlantic Coastal Sand Ridge and are exempt from SJRWMD permitting requirements, the county shall prohibit the following:

- excavation within 1,000 feet of a public supply wellfield;
- excavation within 1,000 feet of any platted subdivision not serviced by potable water; and,
- excavation that results in an average elevation less than 25 feet above mean sea level.

Policy 2.4: The county shall preserve the aquifer recharge function of palustrine wetlands by adopting the Comprehensive Wetlands Management Program, as described in the Conservation Element.

Policy 2.5: The county will require all wet detention/retention ponds with a surface area greater than one (1) acre be designed to utilize stormwater runoff for irrigation.

Policy 2.6: By 2011, the county shall contact the U.S. Geological Survey and request an updated county-wide geohydrologic survey.

OBJECTIVE 3 Preserving the Quantity of the Floridan Aquifer

Through 2025, there will be no reduction in the availability of groundwater from the Floridan aquifer. For the purpose of this objective, Floridan aquifer quantity will be based on SJRWMD's most recent regional groundwater model.

Policy 3.1: The county shall protect and preserve open space in the west portion of the county, which has been identified as a natural groundwater aquifer recharge area for the Floridan aquifer, by designating those areas for agricultural use with a very low residential density, as depicted on the future land use map.

Policy 3.2: The county shall coordinate with the SJRWMD and the IRSWCD to encourage the use of low volume irrigation systems to prevent over pumping from the Floridan aquifer.

Policy 3.3: The county shall continue to require that new developments install a minimum of 50% water-conserving xeriscape plant material, as specified in the Landscape ordinance.

Policy 3.4: The county shall reuse 100% of treated wastewater effluent for irrigation to prevent over pumping of the Floridan aquifer.

Policy 3.5: The county shall, depending on funding availability, renew its annual contract with the SJRWMD to identify and plug or repair abandoned free flowing artesian wells.

Policy 3.6: The county shall implement the policies of Potable Water Sub-Element Objective 8.

OBJECTIVE 4 Intergovernmental Coordination

By 2012, Indian River County will have written intergovernmental coordination agreements with local governments and state agencies to ensure protection of the natural groundwater aquifer system.

Policy 4.1: The county shall cooperate with agencies, such as the SJRWMD and the FDEP, in performing assessments of groundwater resources, and shall review any recommendations for incorporation into the land development regulations. County support shall include, but not be limited to, providing information, providing staff assistance, and implementing recommendations.

Policy 4.2: The county shall assist the SJRWMD with updating SJRWMD's water supply assessments by providing water use data relating to agricultural irrigation, recreational irrigation, and public supply.

Policy 4.3: The county will assist the SJRWMD in coordinating with the other counties to the west and northwest of Indian River County to protect the natural groundwater aquifer recharge areas of the Floridan aquifer by maintaining a very low land use density in these areas, compatible with densities identified in the Indian River County future land use map.

Policy 4.4: The county shall continue to utilize existing interlocal agreements with other local governments, as identified in table 11.3 of the Intergovernmental Coordination Element, to ensure maximum efficiency of water management, by combining resources and eliminating duplication.

OBJECTIVE 5 Capital Improvements

By 2015, the County shall protect a minimum of 1000 additional acres of aquifer recharge areas for the surficial aquifer through conservation easements and fee simple acquisition compared to 2009 baseline data.

Policy 5.1: The county will maintain a 5 year schedule of capital improvement needs for public facilities, to be updated annually in conformance with the review process for the Capital Improvements Element of this plan.

Policy 5.2: The county shall pursue state and federal sources of funding available for the preservation and protection of environmentally sensitive areas, such as natural groundwater aquifer recharge areas.

Policy 5.3: The county shall evaluate and rank proposed capital improvement projects for the acquisition and preservation of the natural groundwater aquifer recharge areas according to the following guidelines:

- **Level One - Whether the acquisition is needed to protect public health, to protect the function of aquifer recharge, and to fulfill the county's legal commitment to provide water services.**
- **Level Two - Whether the acquisition will improve the existing condition and prevent or reduce future capital costs.**

Policy 5.4: The county shall continue to monitor water quality at county water treatment and wastewater treatment plants.

PLAN IMPLEMENTATION

An important part of any plan is its implementation. Implementation involves execution of the plan's policies by taking actions and achieving results.

For the Natural Groundwater Aquifer Recharge Sub-Element, implementation involves various activities. While some of these actions will be ongoing, others are activities that will be taken by certain points in time. For each policy in this element, Table 3.1 identifies the type of action required, the entity or entities responsible for taking the action, the timing, and whether or not the policy necessitates a capital expenditure.

To implement the Natural Groundwater Aquifer Recharge Sub-Element, several types of action must be taken. These include, but are not limited to: revisions to land development regulations and ordinances, intergovernmental coordination, and provision of funding.

Overall plan implementation responsibility will rest with the planning department. Besides its responsibilities as identified in Table 3.1, the planning department has the additional responsibility of ensuring that other entities discharge their responsibilities. This will entail notifying other applicable departments of capital expenditures to be included in their budgets, notifying other departments and groups of actions that must be taken, and assisting other departments and agencies in their plan implementation responsibilities.

EVALUATION & MONITORING PROCEDURES

To be effective, a plan must provide a means for implementation and a mechanism for assessing the plan's effectiveness. Generally, a plan's effectiveness can be judged by the degree to which the plan's objectives have been met. Since objectives are structured, to be measurable and to have specific timeframes, the plan's objectives are the benchmarks used as a basis to evaluate the plan.

Table 3.2 identifies each of the objectives of the Natural Groundwater Aquifer Recharge Sub-Element and the measures used to evaluate progress in achieving the objectives. Table 3.2 also identifies an anticipated date of completion for each objective.

The planning department staff will be responsible for monitoring and evaluating the Natural Groundwater Aquifer Sub-Element. This will involve compilation of information, when available, regarding groundwater quantity and quality.

While monitoring will occur on a periodic basis, formal evaluation of the Natural Groundwater Aquifer Recharge Sub-Element will occur every five (5) years in conjunction with the Evaluation and Appraisal of the Comprehensive Plan. Besides assessing progress, the Evaluation and Appraisal Report (EAR) will also be used to determine if the Natural Groundwater Aquifer Recharge Sub-Element's objectives and policies should be maintained, revised or deleted. In this way, the monitoring and evaluation of the Natural Groundwater Aquifer Recharge Sub-Element will provide a means of determining the degree of success of the plan's implementation, as well as, providing a mechanism for evaluating needed changes to the Sub-Element.

**TABLE 3.1
NATURAL GROUNDWATER AQUIFER RECHARGE SUB-ELEMENT
IMPLEMENTATION MATRIX**

Policy	Type of Action	Responsibility	Timing	Capital Expenditure
1.1	Update SAPROD map to G.I.S. format	Community Development	2010	NO
1.2	Assist in developing WHPA map	Community Development/Utilities Dept./SJRWMD/DEP	2012	NO
1.3	Restrict location of septic tanks	DEP/DHRS	Ongoing	NO
1.4	Stormwater management structure design	Public Works	Ongoing	NO
1.5	Continue enforcing LDR Chapter 931 to protect public supply wellheads	Community Development	Ongoing	NO
1.6	Restrict hazardous materials in NGAR areas	Community Development	Ongoing	NO
1.7	Prohibit new injection wells	Community Development	Ongoing	NO
1.8	Discourage flood irrigation	IRSWCD	Ongoing	NO
2.1	Implement Objective 4 of the Potable Water Sub-Element and Objective 4 of the Sanitary Sewer Sub-Element	Community Development/City of VB Utilities/SJRWMD	Ongoing	NO
2.2	Use NGAR areas for parks and open space	Community Development/ Public Works	Ongoing	NO
2.3	Continue to issue permits for proposed mining projects exempt from SJRWMD regulations	Community Development/ Public Works	Ongoing	NO
2.4	Adopt Comprehensive Wetlands Management Program	Community Development	Ongoing	NO
2.5	Require all stormwater ponds over 1 acre to utilize runoff for irrigation	F.S. 298 Districts/ SJRWMD/IRSWCD/ Public Works	Ongoing	YES
2.6	Obtain updated county-wide geohydrolic survey	Community Development/ Public Works	2015	YES
3.1	Preserve open space in the western county	Community Development	Ongoing	NO
3.2	Encourage use of low volume irrigation	IRSWCD/SJRWMD	Ongoing	NO
3.3	Require 50% xeriscape for new developments	Community Development	Ongoing	NO
3.4	Reuse 100% of treated wastewater effluent	IRC Utilities Dept/ City of VB Utilities	Ongoing	YES
3.5	Plug/repair abandoned flow wells	Community Development/SJRWMD	Ongoing	YES
3.6	Implement policies of Potable Water Sub-Element Objective 8	Community Development/ Public Works	Ongoing	YES
4.1	Coordinate/Provide assistance	SJRWMD/DEP/IRC	Ongoing	NO

4.2	Provide water use data to the SJRWMD	SJRWMD/Utilities Dept.	Ongoing	NO
4.3	Intergovernmental coordination	SJRWMD	Ongoing	NO
4.4	Inter local agreements	BCC/SJRWMD/ Municipalities	Ongoing	NO
5.1	Maintain 5 year schedule of capital improvements	Utilities Dept/ Finance Dept.	Annual	YES
5.2	Pursue state and federal funding sources	Community Development	Ongoing	NO
5.3	CIP Evaluation/Prioritization	Utilities Dept/ Finance Dept.	Ongoing	NO
5.4	Monitor water quality at county water treatment and wastewater treatment plants	DEP/SJRWMD/DHRS/ Utilities Dept.	Ongoing	NO

BCC: Board of County Commissioners
DEP: Florida Department of Environmental Protection
SJRWMD: St Johns River Water Management District
IRSWCD: Indian River Soil and Water Conservation District
DHRS: Florida Department of Health and Rehabilitative Services (Environmental Health)

**TABLE 3.2
NATURAL GROUNDWATER AQUIFER RECHARGE SUB-ELEMENT
EVALUATION MATRIX**

<u>OBJECTIVE</u>	<u>MEASURE</u>	<u>TIMEFRAME</u>
1	No instances of contamination of groundwater aquifers or public supply wells, based on primary and secondary MCLs, as defined by the FDEP	2020
2	Availability of groundwater from the surficial aquifer	2025
3	Availability of groundwater from the Floridan aquifer	2025
4	Inter-governmental coordination mechanisms	2012
5	Amount of natural groundwater aquifer recharge areas preserved	2015

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