

**Draft PUBLIC FACILITIES ELEMENT
NATURAL GROUND WATER AQUIFER RECHARGE SUB-
ELEMENT
GOALS AND OBJECTIVES
9J-5.011(2)**

The Florida Natural Areas Inventory has prioritized Several premier conservation areas partially or wholly within Lake County, including, but not limited to: the Green Swamp, and the Wekiva/Ocala Greenway and the Wekiva Springshed. ~~Select These fragile ecosystems of Lake County are thus fragile and are~~ closely linked with the ecological sustainability of communities to natural resources within and beyond the county's boundaries, including the surficial and Floridan aquifer. Issues of plant and animal biodiversity and water supply, groundwater and springshed protection are among the most important environmental considerations for the County.

The county is faced with the challenge of balancing development pressures with the preservation of the natural environment. To this end, Lake County will comply with all legislation (federal, state, regional and local) as it pertains to Lake County's environmental sensitive areas. federal, state, and local environmental regulations and legislation.

GOAL NAT 1

~~To Conserve The Quality and Quantity of Potable Water Available to Lake and Surrounding Counties. To maintain an adequate quality and quantity of aquifer recharge to protect potable water supplies, and ensure the protection of natural systems. To coordinate with federal, state, and local agencies to the greatest extent possible in order to promote greater understanding of aquifer recharge, groundwater resources, and springsheds; and to support the development and implementation of comprehensive Plan policies and Land Development Regulations to protect aquifer recharge, groundwater resources, and springsheds using best available information.~~

OBJECTIVE NAT 1.1: CONSERVATION OF THE AQUIFER RESOURCE DATA COLLECTION AND STUDIES

~~The County shall~~ Upon plan adoption, safeguard the quality and quantity of the surficial and Floridan aquifers, to protect and enhance the capabilities of the ground water recharge areas for the present and future water supply of Lake County and ensure protection of natural systems including springs and wetlands. Lake County shall coordinate with federal, state, and local agencies to study, map, and describe aquifer recharge areas, the vulnerability of groundwater resources, springsheds, and karst features.

Policy NAT 1.1-1: Significant Aquifer Recharge Map and Definition

Lake County shall ~~amend its Comprehensive Plan and Land Development Regulations based on the adopted~~ significant aquifer recharge area and significant recharge area map(s) created by the St. Johns River and Southwest Florida Water Management

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Districts for Lake County, pursuant to Sections 373.095 (3) and 373.0937, Florida Statutes. coordinate with the St. Johns River Water Management District, Southwest Florida Water Management Districts and Florida Department of Environmental Protection to identify map areas of high and significant recharge. Significantly aquifer recharge within Lake County shall be defined as an annual recharge rate of greater than 13 inches per year with rapid soil permeability, as mapped by the St. Johns River Water Management District pursuant to the Bluebelt Act (Section 193.625, Florida Statutes). high aquifer recharge shall be defined as an annual recharge rate of greater than 8 inches per year, as mapped by the St. Johns River Water Management District.

Policy NAT 1.2-3 1.1-2: Floridan Aquifer Vulnerability Assessment (FAVA)

Map

Lake County shall prepare a Floridan Aquifer Vulnerability Assessment (FAVA) Map on a county wide scale to determine areas within the county vulnerable to contamination of the Floridan aquifer coordinate with the Florida Geological Survey, Water Management Districts, and the Department of Environmental Protection to prepare a Florida Aquifer Vulnerability Assessment (FAVA) Map on a county-wide scale to determine areas within the county vulnerable to contamination of the Floridan aquifer

Natural processes or human activities can introduce contaminants to ground water either through pollution of surface-water bodies or by infiltration through soils and sequences of sediments and rocks that overlay Florida's aquifer systems.

This map shall be prepared using technology developed by the Florida Geological Survey and designed to provide a detailed distribution of relative vulnerability based solely on natural properties of hydrogeology. The map shall not include anthropogenic factors such as land use and contaminant loading. An aquifer vulnerability model prepared using Lake County county-specific data, would help determine which areas within the county were the most and least vulnerable and allow for establishment of appropriate development standards, including the identification of primary, secondary, and tertiary protection zones as appropriate.

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Some of the Applications of the FAVA map would include, but are not limited to well-head protection, springshed protection, source-water protection, watershed and ecosystem comprehensive planning, land-use planning/zoning, land conservation and as a component of ground-water susceptibility models.

Areas Most Vulnerable to Contamination include primary and secondary protection zones within springsheds, and karst features such as springs and sinks. The Wekiva Aquifer Vulnerability Assessment (WAVA) map produced by the Florida Geological Survey shall be used to identify primary and secondary zones of protection within the Wekiva Study Area.

Policy NAT 1.1-3: Most Effective Recharge Areas Within the Wekiva Study Area

Lake County shall utilize the best available information from the St. Johns River Water Management District to identify and protect Most Effective Recharge Areas within the Wekiva Study Area described in Chapter 369, Part III, Florida Statutes. The U. S. Soil Conservation District defines Most Effective Recharge as 10-20 inches; however, until such time that the St. Johns River Water Management District maps Most Effective Recharge Areas for the Wekiva Study Area, all Type "A" Soils shall be considered Most Effective Recharge pursuant to Section 11.3.1 of the Applicant's Handbook: Management and Storage of Surface Waters.

Policy NAT 1.1-4: Study of Land Use Impacts

Lake County shall assist the St. Johns River and Southwest Florida Water Management Districts in the preparation of reports as appropriate to evaluate the impacts of various land uses on hydrogeologic resources, including but not limited to recharge areas, groundwater, springs, wetlands, environmentally sensitive conservation areas and land surrounding Outstanding Florida Waters. These reports shall be based on the conclusions of studies completed by appropriate Federal, State, and local agencies.

Policy Nat 1.1-5: Intergovernmental Coordination and Technical Assistance

Lake County shall collaborate with and provide technical assistance to Federal, State, and local authorities in order to study surficial and Floridan aquifers and springshed systems, and to determine the most appropriate actions for protecting these

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resources. Authorities that the county shall cooperate with include but are not limited to the Florida Department of Environmental Protection, St. Johns River and Southwest Florida Water Management Districts, U. S. Geological Survey, Florida Geological Survey and U.S. Soil conservation Service.

OBJECTIVE NAT 1.2: MONITORING PROGRAMS AND SUPPORT

Lake County shall coordinate with federal, state, and local agencies to establish and maintain monitoring programs and provide filed support associated with the study of aquifer recharge, groundwater vulnerability, springsheds, and karst features.

Policy NAT 1.2-1: Aquifer Monitoring

Lake County shall establish, in cooperation with Florida Department of Environmental Protection, the St. Johns River and Southwest Florida Water Management Districts, U.S. Geological Survey, and Lake County Water Authority, a thorough aquifer monitoring program. The County shall coordinate with the local governments and agencies including but not limited to the Florida Department of Environmental Protection, Water Management Districts, U.S. Geological Survey, and Lake County Water Authority, to develop a comprehensive aquifer monitoring program. This program, using historic groundwater quality information as a base for ambient conditions, shall regularly monitor groundwater to determine the extent of future contamination, nutrient loading, or change in the potentiometric surface.

Policy NAT 1.2-2: Spring and Stream-to-Sink Monitoring

Lake County shall cooperate with local governments, agencies, and interest groups (such as the Water-Action-Volunteer Program), to monitor the quality and quantity of water flowing from springs and within spring runs, and also the quality and quantity of water entering aquifer through stream-to-sink features.

Policy NAT 1.2-3: Identification of Karst Features

Lake County shall assist governmental agencies and research groups, including but not limited to the U.S. Geological Survey, Florida Geological Survey, Florida Department of Environmental

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Protection, and Water Management Districts, to identify and monitor karst features.

GOAL NAT 2

To maintain an adequate quality and quantity of aquifer recharge to protect potable water supplies, and ensure the protection of natural systems.

OBJECTIVE NAT 2.1: CONSERVATION OF THE AQUIFER RESOURCE

The County shall ~~Upon plan adoption,~~ safeguard the quality and quantity of the surficial and Floridan aquifers, ~~in order~~ to protect and enhance the capabilities of the ground water recharge areas for the present and future water supply ~~and ensure protection of natural systems.~~ of Lake County ~~and ensure protection of natural systems including springs and wetlands.~~ The following policies shall apply generally within Lake County.

Policy NAT 2.1-1: ~~Required Use of~~ Water Conserving Plumbing Fixtures

The County shall require the use of ~~water conserving~~ low-flow plumbing devices and fixtures in all new development in new construction and renovations in accordance with the Florida Standard Building Code.

Policy NAT ~~1.1-6~~ 2.1-2: Golf Course Ordinance

Lake County shall comply with the adopted Golf Course ordinance as it applies to reuse and drought management.

Policy NAT 2.1-3: ~~Hydrologic Reports~~ Determination of Land Use

The Lake County Land Development Regulations shall include the requirement of a hydrogeologic report for all areas of the County now classified as areas of significant recharge by the Water Management Districts. As significant recharge areas are identified and adopted by the Water Management Districts consistent with Policy NAT 1.1 1, the Comprehensive Plan and Land Development Regulations will be amended accordingly. The hydrogeologic report will determine the recharge potential of the site and the Land Development Regulations shall stipulate the recharge requirements based on proposed land uses and site hydrogeology. The hydrology of a site should be utilized to

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determine land use as opposed to land use determining hydrology. This entails discouraging any land use that would significantly later ground water levels, recharge, water quality; or have an adverse effect on the environment.

Policy NAT ~~1.1-11~~ 2.1-4: ~~Educational Enhancement~~ Education

Lake County, through the Public Outreach Program of Environmental Services, shall participate in enhancing the function and quality of the education of its citizens about:

- 1) the current water conservation policies,
- 2) fragility of the aquifer,
- 3) methods to reuse and conserve water,
- 4) well-abandonment problems and rules, ~~and~~
- 5) benefits of drought resistant plants (xeriscape™); and
- 6) methods of reducing pollution and nutrient loading through an education program that consists of, at a minimum, brochures, a speakers bureau, and slide show.

OBJECTIVE NAT 2.2: PROTECTION OF HIGH RECHARGE AND AREAS OF AQUIFER VULNERABILITY

Lake County shall recognize the need to provide special protection of high recharge areas and areas most vulnerable to aquifer contamination, including karst features. The county shall protect both the quality and quantity of groundwater in these areas to sustain potable water supplies and ensure preservation of natural systems such as springs, spring runs, wetlands and communities they support. The following policies pertain to areas of high recharge and areas most vulnerable to aquifer contamination, including but not limited to the Wekiva Study Area.

Policy NAT 2.2-1: Secure Aquifer Recharge Land Around Sensitive Karst Features

Where feasible, Lake County shall purchase or secure conservation easements on high and significant aquifer recharge lands, on areas of aquifer vulnerability, and on lands that contain sensitive features such as sinks or springs. The county shall actively pursue property acquisition to preserve natural recharge while also providing a direct benefit to the public.

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Policy NAT 2.2-2: Site Specific Review

Lake County shall, at the applicant's expense, seek a site specific determination by an independent, state-licensed geologist to determine whether a site lies within a bona fide high or significant aquifer recharge area, an area that is most vulnerable to contamination, or a Most Effective Recharge Area pursuant to St. Johns River Water Management District Rule 40C-41.063.

Policy NAT ~~1.1-8~~ 2.2-3: Provide Net Retention for Aquifer Recharge

~~Consistent with Policy 7 2.2 of the Conservation Element, significant aquifer recharge areas that are considered appropriate for development, based on hydrogeologic condition and existing land use shall be developed so as to continue to maintain pre-development net retention.~~ Development within an area of high or significant recharge or in an area most vulnerable to contamination areas shall be required to maintain pre-development net retention in a manner that protects ground and surface water quality. The use of porous pavement and concrete, turf blocks and innovative technologies shall be encouraged as a method for fulfilling this policy. Exemptions ~~shall~~ may be given for agricultural activities utilizing Best Management Practices adopted by FDEP, USDA, SCS, and IFAS that protect ground and surface water quality. ~~The use of porous pavement, concrete, turf blocks and other innovative technologies shall be encouraged as a method of protecting aquifer recharge.~~ Notwithstanding this policy, the county shall require compliance with all agency rules adopted within the Wekiva Study Area.

Policy NAT 2.2-4: Recharge Characteristics for Development

For a development site located in an area of high or significant recharge, the County shall require that post-development recharge volume conditions approximate pre-development recharge volume conditions. Within the Wekiva Study Area, the County shall require that the first three inches of water be retained on site, or as an alternative, that a hydrogeological survey be conducted to demonstrate that post-development recharge volume is equal to or greater than pre-development recharge volume, consistent with St. Johns River Water Management District rules.

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Policy NAT ~~4-1-15~~ 2.2-5: Overlay Design Criteria

The County shall develop and enact into the Future Land Use Element and Land Development Regulations, an overlay classification which sets ~~alternative~~ specific design criteria and standards to protect the function of the high aquifer recharge areas ~~or in an~~ and protect areas most vulnerable to contamination.

The following shall be addressed in regulating development and creating land development regulations:

1. requirements to minimize impervious surfaces (including foot pads) considering open space incentives, pervious parking areas, and maintenance of existing native vegetation and/or use of native or water wise plant materials suitable for on-site ecological and soil conditions;
2. incentives to utilize on-site retention of rain and storm water for active and passive irrigation;
3. incentives to implement “right plant – right place” and water wise landscaping standards;
4. minimum open space standards;
5. design standards for natural water retention areas;
6. establish standards to ensure water quality;
7. protection of the aquifer from saltwater intrusion;
8. activities regarding the use of pesticides and fertilizers, including but not limited to enforcement of the adopted Golf Course Ordinance;
9. requirements that protect sensitive karst features such as springs and sinks as undeveloped open space with ample buffering and native vegetation; and
10. requirements regarding the use and maintenance of onsite sewage treatment and disposal systems (OSTDS).

Policy NAT ~~4-1-16~~ 2.2-6: Requirements for Proposed Developments within High and Significant Recharge Areas ~~or in an Area Most Vulnerable to Contamination~~

The County shall require that all development within high or significant recharge areas or in an area most vulnerable to contamination comply with the following measures, unless there is conflict with code provisions for buffers between developments, site stormwater requirements, and parking: ~~or other improvements:~~

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1. stormwater retention facilities shall be located in those areas with the highest rate of percolation, **except in areas that contain sensitive karst features such as sinks which provide direct conveyance to the aquifer;**
2. natural vegetation and/or use of water wise plant materials suitable for on-site ecological and soil conditions shall be used for required buffers, open space area shall be maintained in its natural state and protected from disruption during site construction; and
3. pervious parking materials, grass parking areas, and smaller parking stalls shall be permitted where it can be demonstrated to adequately serve the need of on-site use and result in greater recharge than under current code requirements.

Policy Nat ~~1-1-18~~ 2.2-7: ~~Correction of Failing Septic Tank~~ **Program**

In order to reduce the impact of septic tanks on sensitive groundwater resources, ~~The Lake County and~~ shall coordinate with the Department of Health ~~shall to~~ establish **and implement an evaluation mechanism to correct failing septic tanks including, but not limited to, septic tank inspection, repair, alteration, maintenance and/or pumping, and siting requirements, **a dedicated septic tank maintenance program** in the Green Swamp Area of Critical State Concern, ~~and~~ the Wekiva River Protection Area, **the Wekiva Study Area** and in Areas Most Vulnerable to Contamination. **This program shall include but not be limited to septic tank inspection, repair, alteration, maintenance, regular-scheduled pumping, and siting requirements.****

Policy NAT ~~1-6-2~~ 2.2-7: ~~Irrigation Rain Sensors~~

The County shall require irrigation rain sensors on all new irrigation systems in accordance with the Florida Standard Building Code.

Policy NAT ~~1-6-4~~ 2.2-8: ~~Golf Courses~~

In order to ensure the development of environmentally friendly golf course construction, the county shall require golf course developers to meet requirements of the Audubon International Signature Program and enroll in their monitoring and evaluation program. **This policy shall**

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apply to all new golf courses constructed within the Wekiva River Protection Area, Wekiva Study Area, and Green Swamp Area of Critical State Concern.

Policy NAT 1-6.5-2.2-9: Sinkholes

The county shall require that if a development occurs on a property containing a sinkhole or a stream or creek connecting to a sinkhole, the applicant must preserve a minimum 100-175 foot natural buffer shall be preserved on either side of the sinkhole, stream or creek, and necessary stormwater treatment occur outside of the natural buffer to contain nutrient and pollution runoff to ensure that there will be no encroachment on the creek.

Policy NAT 2.2-10: Homeowner Information

As a condition of development approval, the county shall require that when development occurs within or adjacent to environmentally sensitive areas (including high recharge areas), homeowner's documents will be required to address the nature of the sensitivity and how to protect the natural features of the site. The County shall also require that the developer prepare and provide for distribution, brochures to enhance public awareness of these resources.

Policy NAT 2.2-11: Wekiva Study Area

Lake County shall support the protection of water quantity, quality, and hydrology within the Wekiva Study Area pursuant to Chapter 369, Part III, Florida Statutes, and shall amend the Comprehensive Plan and Land Development Regulations as appropriate to address statutory requirements and to facilitate the implementation of agency rules. Notwithstanding policies within this element, the County shall support and require compliance with rules adopted by the St. Johns River Water Management District, Department of Environmental Protection, and Department of Health.

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**OBJECTIVE NAT ~~1-2-2.3~~ 2.3: PREVENTION OF CONTAMINATION OF
AQUIFER RESOURCES FROM COMMERCIAL, BUSINESS AND
INDUSTRIAL USE**

Deleted: ,T

The County shall ~~investigate underground storage tank regulation violations~~ evaluate proposed commercial ~~and small~~ business, and industrial land use to achieve ~~timely response to enforcement situations and~~ a higher degree of protection for the County's ground water resources.

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Policy NAT ~~1-2-1 2.3-1~~ 2.3-1: Comprehensive Plan and LDR Updates

Lake County shall amend its Comprehensive Plan and update its Land Development Regulations, using information collected by the DEP and other agencies during future ground water quality studies, to protect the aquifer. These updates shall address but not be limited to:

1. public wellfield siting, per the adopted Wellhead Protection Ordinance;
2. siting of industrial land uses which use hazardous materials or generate hazardous waste;
3. siting of additional household hazardous waste collection facilities for households and conditionally exempt small quantity generators of hazardous waste;
4. protection of the aquifer from saltwater intrusion;
5. activities regarding the use of pesticides and fertilizers, including but not limited to enforcement of the adopted Golf Course Ordinance.

Policy NAT ~~1-2-2 2.3-2~~ 2.3-2: Continued Enforcement of Regulations

Lake County shall continue to cooperate with State and Federal agencies in enforcing regulations pertaining to the protection of the surficial and Floridan aquifers from regulated materials and wastes, including those material governed and/or equal, but receiving special exemption under, the Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), and/or other Federal, State and Local codes requiring the management of materials that may be harmful or dangerous

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~~to the environment. such contaminants as hazardous and biological wastes, and petroleum products including, but not limited to: fuel oils, transportation fuels, machinery fluids and their wastes.~~

Policy NAT ~~1.2-4~~ 2.2-3: Development of Local Regulations

Lake County shall develop local regulations for inclusion into the Land Development Regulations, including a Lake County scale version of the State's FAVA map, to augment State and Federal regulations pertaining to the protection of the surficial and Floridan aquifers, ~~as previously noted in Policy NAT 1.2-4.~~ **for commercial, business, and industrial use.**

Policy NAT ~~1.2-5~~ 2.3-4: ~~Regulated and/or Hazardous Waste Disposal~~ **Disposal of Regulated and Hazardous Waste**

Lake County shall cooperate with all State and Federal authorities in the regulation and disposal of regulated and/or hazardous wastes as defined in 9J5.003 (38) F.A.C. by participating in programs at the local level.

Policy NAT ~~1.2-5A~~ 2.3-5: Regulation of Hazardous Wastes in Significant Aquifer Recharge Areas and in an Area Most Vulnerable to Contamination

Lake County shall prohibit the disposal of hazardous wastes in all areas of the County. Small quantity generator (<1000 kg per month) businesses that use hazardous materials or generate waste shall be regulated so as to ensure that proper handling and disposal practices are adhered to. The location of new businesses that use hazardous materials or generate hazardous waste shall be restricted within significant aquifer recharge areas and in an Area Most Vulnerable to Contamination. Large quantity generators (>1000 kg per month) shall be prohibited in significant aquifer recharge areas and in an Area Most Vulnerable to Contamination.

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Policy NAT ~~4-2-6~~2.3-6: Compliance With Local Regulations to Provide Enforcement Capabilities

The County will provide enforcement capabilities and procedures to achieve a higher degree of protection for the County's ground water resources.

Policy NAT ~~4-2-7~~2.3-7: Coordinate Facilities producing, using, handling and storing regulated materials ~~Storage Tanks~~ with Land Use

The County shall utilize the information provided by the inventory of facilities producing, using, handling and storing regulated materials ~~storage tanks~~ in making land use decisions to avoid incompatible development in areas with high ground water pollution potential.

Policy NAT 2.3-7: Landfill Monitoring

The County shall continue the present well monitoring program at the county's landfill to determine groundwater and surface water pollutant levels and shall expand the number of monitoring wells concurrent with any expansion of the landfills and any future establishment of landfills/monofills. Monitoring networks shall be properly maintained and upgraded in conjunction with technological advances.

GOAL NAT 2-3

Springshed recharge areas "upstream" from the spring discharge are vital areas to protect. The comprehensive plan should identify the areas of high recharge to our springs and provide the guidance that leads to their long term protection. To ensure adequate protection of springshed areas vital to the health of Florida springs, Lake County shall recognize high recharge areas and karst features that contribute to spring flow and establish specific policies that provide for the long term protection of this resource. The following objectives and policies apply to springshed systems within the county, including but not limited to the Wekiva Study Area.

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OBJECTIVE NAT 2-1-3.1: LAND USE AND DEVELOPMENT STANDARDS

The county shall assign future land uses and establish development standards that are protective of springsheds through appropriate revision of the Comprehensive Plan and Land Development Regulations. In areas of undeveloped high ground water recharge within the identified springsheds, existing low density and intensity land uses shall be preferentially maintained as the best option for protection of the water quality and quantity.

Policy 2-1-1-3.1-1: Primary Zones of Protection Identification of Springshed Protection Zones

Undeveloped areas of high ground water recharge within a springshed shall be included within delimited primary zones of protection. The county shall recognize primary and secondary springshed protection zones identified by the Department of Environmental Protection Wekiva Aquifer Vulnerability Assessment (WAVA) for the Wekiva Study Area, and shall cooperate with state and local agencies to identify primary and secondary protection zones within other springshed areas of the county.

Policy 2-1-2-3.1-2: Protocol for Determining Suitability

The county shall develop protocol for determining suitability, with respect to spring system protection, of a particular site for proposed land uses during review of land use change (comprehensive plan amendment) or rezoning.

Policy 2-1-3-3.1-3: Zone of Protection Ordinances

The county shall develop and implement zone of protection ordinances and land development regulations to protect spring recharge basins and areas that drain into sinkholes and other karst features. Regulations shall be developed in coordination with an using best available information from the Department of Community Affairs, Department of Environmental Protection,

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Water Management Districts, Department of Health, and Lake County Water Authority; and shall be based at a minimum upon the following criteria:

- a. Aquifer geology within the springshed;
- b. The potential to contaminate or contribute nutrient loading to groundwater and spring systems;
- c. The capacity to contain or eliminate the hazard of contamination or nutrient loading to groundwater and spring systems; and
- d. The objective of maintaining pre and post development recharge volume.

Policy ~~2-1-4~~ 3.1-4: Intergovernmental Coordination

Develop regional approaches and measures in cooperation with municipal governments, the Lake County Water Authority, and state agencies necessary needed to protect and restore ground water and springs through intergovernmental coordination element of the comprehensive plan.

OBJECTIVE ~~2-2-3.2:~~ STORMWATER PROTECTION STRATEGIES

In developed portion of identified high ground water recharge within a springshed, the County will establish specific stormwater protection strategies.

Policy ~~2-2-1-3.2-1:~~ Springshed High Recharge Areas

The County will actively pursue the following actions within developed areas of springshed high recharge areas:

- Institute stepped-up stormwater management practices and use of karst-specific and low impact design options through design and redesign of county operated stormwater management facilities and through added treatment criteria for new development or redevelopment areas;

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- Heighten public education targeted to homeowners regarding proper lawn and landscaped area fertilization and irrigation;
- Emphasize use of natural xeriscape™ approaches to lawn and landscape design; Employ active street sweeping;
- Establish water conservation programs; and
- Foster local stewardship "adopt a springs" type programs and other incentive and volunteer springshed awareness and protection programs.

Policy 2.2-2 3.2-2:

Stormwater Management in Sensitive Karst Areas

- Adopt the SJRWMD's sensate karst procedure, or equivalent, for the design and construction of stormwater management systems in karst areas.
- Provide pre-treatment, in the form of swales, berms, ponds, or dry basins, to runoff that currently discharges directly into sinkholes, solution pipes, or springs.
- In the most sensitive karst areas, consult DEP, IFAS, and DACS to review the use of agricultural chemicals to ensure that recommended application rates are protective of water quality in areas where ground water is particularly vulnerable.

OBJECTIVE 2.3-3.3:

~~BETTER ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS (OSTDS)~~ ~~SEWAGE TREATMENT AND DISPOSAL WITHIN SPRINGSHEDS~~

Lake County shall regulate sewage systems and the disposal of waste within springsheds.

Policy 2.3-1-3.3-1:

~~Better OSTDS Siting~~ ~~Enhanced Onsite Sewage Treatment and Disposal systems (OSTDS)~~

Within the most vulnerable areas of spring recharge basins, Lake County shall permit only alternative OSTDS technologies, which are currently capable of removing up to 75 percent of nitrogen from OSTDS effluent. Provide incentives that will Lake County

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shall encourage the use of more efficient nitrogen-removal technologies as they become available. This policy shall apply but not be limited to primary and secondary protection zones within the Wekiva Study Area consistent with Department of Health, Department of Environmental Protection, and St. Johns River Water Management District rules.

Policy NAT 3.3-2: Maintenance of Septic Tanks and OSTDS

Lake County shall coordinate with the Department of Health to establish and implement an inspection, maintenance, and regular pump-out program for septic systems and OSTDS located within the most vulnerable areas of springsheds. This policy shall apply but not be limited to primary and secondary protection zones within the Wekiva Study Area consistent with Department of Health, Department of Environmental Protection, and St. Johns River Water Management District rules.

Policy NAT 3.3-3: Central Sewer Systems

Lake County shall require compliance with all Florida Department of Environmental Protection, St. Johns River Water Management District, and Florida Department of Health regulations relating to the siting, operation, and maintenance of central sewer systems within springsheds.

Policy NAT 3.3-4: Disposal of Sludge and Residual Wastewater

Lake County shall prohibit land application of sludge or wastewater residuals in areas most vulnerable to springsheds. Land application of sludge and wastewater residuals shall be prohibited within primary and secondary protection zones of the Wekiva Study Area.

Policy NAT 3.3-5: Rapid Infiltration Basin

Lake County shall prohibit the construction of rapid infiltration basins within ~~primary recharge protection~~ areas of all Federal, State and/or Local designated environmentally sensitive lands and/or conservation areas in order to limit Nitrogen transport to the ~~aquifer~~. the known primary protection zones of springsheds, including but not limited to the Wekiva Study Area.

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Policy NAT 1.1-4: ~~Support Water Management Districts~~

~~Lake County shall assist the St. Johns River and Southwest Florida Water Management Districts in the preparation of a report detailing the impacts of all land uses on recharge areas and land surrounding Outstanding Florida Waters located in Lake County. This report shall be based on the conclusions of other studies completed by appropriate Federal, State, and local agencies. The Lake County Comprehensive Plan shall be amended, and the Land Development Regulations then updated, to implement appropriate recommendations of this report.~~

Policy NAT 1.1-7: Intergovernmental Coordination (moved to Policy NAT 1.1-5)

The County shall continue to collaborate with the Florida Department of Environmental Protection, St. Johns River and Southwest Florida Water Management Districts, U.S. Geological Survey, and U.S. Soil Conservation Service both in studying the surficial and Floridan aquifers and in determining the most appropriate actions to take in order to protect the resource.

Policy NAT 1.1-9: Provision of Technical Assistance (moved to Policy Nat 1.1-5)

Lake County shall provide technical assistance to the appropriate Federal, State and local authorities for use in studying the surficial and Floridan aquifers and determining the most appropriate actions for protecting these resources.

Policy NAT 1.1-10: ~~Secure Aquifer Recharge Lands~~

~~Where feasible, Lake County shall purchase or secure conservation easements on significant aquifer recharge lands.~~

Policy NAT 1.1-12: ~~Site Specific Review of Significant (>13 inches/year with rapidly permeable soils) Aquifer Recharge Areas and Areas where the Floridan Aquifer is most vulnerable (the tendency or likelihood for contaminants to reach the top of the specified aquifer system after introduction at land surface based on existing knowledge of natural hydrogeological conditions) to contamination.~~

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~~Lake County shall, at the applicant's expense, seek a site specific determination by an independent State licensed geologist to determine whether a site lies within a bona fide significant aquifer recharge area or is most vulnerable to contamination.~~

~~Policy NAT 1.1-14: Comprehensive Ground Water Monitoring~~

~~The County shall cooperate with the cities, agencies and interest groups to develop a comprehensive ground water quality monitoring program. This program, using FDEP ground water quality information as a base for ambient ground water quality, shall monitor the County's ground water to determine the extent of any future ground water contamination. The results of this program will be given to the SJRWMD for incorporation into its management plans for Lake County.~~

~~OBJECTIVE NAT 1.3: LAND USE ISSUES RELATED TO CONSERVATION OF WATER RESOURCES, WETLANDS, FLOODPLAINS, NATURAL HABITATS, NATURAL VEGETATION, ENVIRONMENTALLY SENSITIVE AREAS, AND MINING ACTIVITIES.~~

~~Within federal, state and/or local designated environmentally sensitive lands and/or listed conservation areas, Lake County Shall Protect the Features of the Natural Environment through the Following Policies.~~

~~Policy NAT 1.3-1: Surface and Subsurface Hydrology~~

~~The hydrology of a site should be utilized in determining land use as opposed to land use determining hydrology. This entails discouraging any land use that would significantly alter surface and subsurface ground water levels, recharge, water quality; or have an adverse effect on the environment, unless such impacts can be successfully mitigated in accordance with accepted mitigation policies and practices. Such mitigation shall be subject to approval by Lake County.~~

~~Policy NAT 1.3-2: Reduction of Density of Waterfront Development~~

~~Lake County shall implement policies aimed at controlling the density of waterfront development.~~

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~~**Policy NAT 1.3-3: Protection of the Water Quantity, Water Quality and Hydrology in Federal, State and/or Local Designated Environmentally Sensitive Lands and/or Conservation Areas.**~~

~~Special consideration shall be given to the protection of the water quantity, water quality and hydrology of Federal, State and/or Local designated environmentally sensitive lands and/or conservation areas as defined in Chapter 369, Part III, Florida Statutes. (Moved to Policy NAT 2.2-11)~~

~~**OBJECTIVE NAT 1.4: FEDERAL, STATE AND/OR LOCAL DESIGNATED ENVIRONMENTALLY SENSITIVE LANDS AND/OR CONSERVATION AREAS**~~

~~The County shall require To provide that post development recharge volume conditions within all Federal, State and/or Local designated environmentally sensitive lands and/or conservation areas approximate pre-development recharge volume conditions. (See Objective NAT 2.2)~~

OBJECTIVE NAT 1.6 HIGH RECHARGE AREAS

The policies and Land Development Regulations of the County shall continue to recognize the need to preserve recharge capabilities of the area. Both quality and quantity of water shall be protected to preserve these resources and the natural communities supported by it. The following policies shall pertain to all Federal, State and/or Local designated environmentally sensitive lands and/or conservation areas (Moved to Policy Nat 2.2-1)

Policy NAT 1.6-1: Preservation of Natural Recharge Characteristics

As funds are available the County shall actively pursue property acquisition to preserve the natural recharge characteristics of property while also providing a direct benefit to the public. (Policy NAT 2.2-1)

~~**OBJECTIVE NAT 1.7: DEVELOPMENT WITHIN THE GREEN SWAMP AREA OF CRITICAL STATE CONCERN AS IT RELATES TO THE PROVISION OF PUBLIC FACILITIES**~~

~~Lake County Shall Protect its Aquifer Recharge Areas. Protection of Ground water Resources in the Green Swamp Area of Critical State Concern is Required by the Principles for Guiding Development for the Green Swamp Area of Critical State Concern.~~

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Policy NAT 1-7.1: ~~Protection of Ground Water Resources~~

~~Lake County shall protect its ground water recharge areas from development that would substantially reduce the amount of recharge. Protection of aquifer recharge areas in the Green Swamp Area of Critical State Concern is required by the Principles for Guiding Development for the Green Swamp Area of Critical State Concern.~~

OBJECTIVE NAT 1.8: NATURAL RESOURCE IMPACTS

~~The County shall maintain or improve the quality and function of natural drainage systems, ground and surface waterways, recharge areas and associated natural resources through emphasis on non structural approaches to floodplain management.~~