

APPLICATIONS



NOAA Coastal Services Center
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Habitat Priority Planner → Preserving Water Quality

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Introduction

In rural areas, residents often rely on high-quality drinking water from private wells. The groundwater drawn from these wells is replenished through the surrounding land area, and freshwater wetlands can be an important habitat for groundwater recharge.

This document illustrates an example spatial approach to identify freshwater wetland areas in coastal South Carolina that can help preserve water quality. In addition to helping maintain safe drinking water, conserving these lands can help steer the direction of development in this rural area. The information and table below show the process steps needed to conduct spatial analysis using the Habitat Priority Planner for the objectives described. Developing a clearly defined goal and objectives helps *spatial analysis* run more smoothly and ensures that the appropriate *datasets* are identified.

Goal

Identify and conserve large patches of freshwater wetlands that impact drinking water wells and can be linked with protected lands.

Objectives

- Identify freshwater wetlands.
- Identify large wetland habitats with less edge.
- Identify wetland habitats that contain drinking water wells.
- Identify wetland habitats that are near currently protected lands.

Spatial Analysis Steps Using the Habitat Priority Planner

1. Use the Habitat Classification module to run a Simple Classification on the base dataset, Land Cover.
2. Use the Habitat Priority Planner's Habitat Analysis module to select a series of analyses that will help identify habitat areas that fit the criteria:
 - Perimeter to Area Ratio
 - Identify freshwater wetland patches that are large with less edge.
 - Presence/Absence
 - Identify freshwater wetlands that contain Drinking Water Wells.
 - Distance To
 - Identify freshwater wetlands that are close to Protected Lands.

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3. Use the Data Explorer module to narrow down from all available habitats to those that meet the specific criteria:
 - Select patches with a perimeter area ratio ranging from 0.01 to 0.03, which represents large freshwater wetlands with less edge.
 - Select patches where Drinking Water Wells are present.
 - Select freshwater wetlands that are within 500 feet of currently Protected Land.

Describe Objectives	Data	Analysis (HPP Module 1 & 2)	Selection Criteria (HPP Module 3)
Freshwater Wetland	CCAP land Cover Data	Simple Classification	
Large habitats with less edge	Classified Habitats	Perimeter-to-Area Ratio	0.01 to 0.03 feet per acre
Contain Drinking Water Wells	Wells	Presence/Absence of wells	Presence = true
Near Protected Lands	Protected Lands	Distance to Protected Lands	Within 500 feet

Results

From the original 6,283 acres, the final output from the Habitat Priority Planner shows 1,078 acres of large freshwater wetlands that contain drinking water wells and can be linked with currently protected lands.

