



North Carolina
Coastal Federation
Working Together for a Healthy Coast

November 1, 2016

Dave Hallac
Park Superintendent
Cape Hatteras National Seashore
1401 National Park Dr.
Manteo, NC 27954

Re: North Carolina Coastal Federation Comments on Flood Mitigation Management Planning at Cape Point-Cape Hatteras National Seashore

Dear Superintendent Hallac,

The North Carolina Coastal Federation respectfully submits the following comments for the Cape Hatteras National Seashore's consideration regarding proposed recommendations for limiting impacts from the flooding at the Cape Point Campground and surrounding area. We commend the Park Service for providing an opportunity to submit these comments.

Flooding problems at the campground have been a chronic problem for decades and are likely to become even worse as sea levels rise and more intense rain events occur because of climate warming. It is vital to find the best practical alternative for addressing flooding problems that are long-term in nature, work with natural processes, protect wetlands and water quality, and safeguard public health.

To evaluate alternatives, it would be helpful to better understand the long-term needs and plans by the Park Service to provide campground facilities at Cape Point. The current campground is old and needs upgrades. Can the campground be relocated to higher ground or elevated with fill so that it is not as susceptible to flooding? Given climate warming, the existing location and elevation of the campground may become increasingly vulnerable to flooding despite attempts to protect it. The groundwater table under the campground floats on top of salt water, and will become increasingly higher as sea level rises. The Coastal Resources Commission predicts a rise in sea level of six to eight inches in the next 30 years, and that will cause the water table under the campground to rise by the same amount as well forcing more flooding issues.

In addition, all alternatives need to be evaluated based upon the requirements of the federal Clean Water Act as well as water quality classifications and standards enforced by the N.C. Department of Environmental Quality. Actions taken to reduce flooding in the campground cannot degrade adjacent 404 jurisdictional wetlands, and there should be no



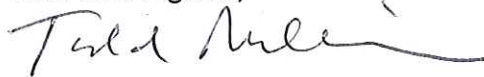
discharges of stormwater to the Atlantic Ocean that is classified for swimming and human contact. Direct discharges of stormwater to swimming waters will cause health advisories and result in a legal impairment that violates the Clean Water Act. Thus, any actions taken to address flooding problems need to protect adjacent wetlands and water quality.

We understand that the Park Service is considering managing groundwater levels under the campground by creating a drainage system that would prevent the water table from reaching its seasonally high levels. Installing water control structures and draining off water during wet periods of the year might accomplish this objective. Since it would be illegal to discharge this drainage water directly to the ocean, the only option for such a system is to infiltrate stormwater into the dune system that is seaward of the campground. The Park Service will need to conduct hydrologic analysis to determine optimal groundwater levels, how much drainage will be required in terms of volumes of stormwater to be drained, model the expected rate and timing of such drainages, and evaluate if property elevations will allow for gravity drainage or would require pumping. The feasibility of pursuing this alternative isn't going to be fully understood until this hydrologic analysis is conducted and reviewed.

In concept, a dune infiltration system may be a good option for this site. Similar systems have been installed at Kure Beach and in Wrightsville Beach with excellent results. This type of system is considered a "non-discharge" alternative, and should be consistent with the Clean Water Act. If moving the campground is not an option, then this system needs to be thoroughly evaluated to determine if it is a practical option. It will be vital to manage groundwater levels at the appropriate height to avoid unacceptable impacts to 404 wetlands that surround the campground.

As more details become available, the federation looks forward to assisting the Park Service find the best practical alternative for mitigating these chronic flooding issues. Please let us know how we can be of assistance.

With best regards,



Todd Miller
Executive Director