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Handout

July 10, 2014

Humboldt County Board of Supervisors  
825 5th St,  
Eureka, CA 95501

Board of Supervisors,

I am speaking on behalf of Friends of the Dunes in support of retaining the language under the Biological Resources Chapter, section 10.3, regarding invasive species. Invasive weeds have a huge impact to natural and agricultural lands all over Humboldt County. In the dunes, invasive species lower natural diversity and impair the processes that are needed to sustain the variety of plants and animals we see along our coast.

Here in Humboldt, our relatively wide expanse of dunes affords us the opportunity to restore this sensitive habitat type. With continued, well-managed removal of invasive species, native plants are allowed to return and flourish. This creates a native, semi-stable dune system that allows for some of the natural, dynamic processes to continue without posing significant threats to infrastructure.

For example, in July of this year, engineers for the Humboldt Bay Municipal Water District conducted a historical photo assessment to evaluate what impact, if any, dune movement has on their water pipe. I have attached a copy of their memo, discussing the results of their assessment. They found **NO** significant observable changes and that removal of invasive species did not pose a significant threat to their coastal infrastructure.

Removing invasive species enhances biodiversity and increases ecological diversity. Having a diversity of species helps insure that ecosystems, like our coastal dunes, will be able to adapt to changing conditions and persist into the future. Keeping the current policies regarding invasive species is an important part of conserving our area's unique natural heritage.

Thank you for your consideration

Carol Vander Meer  
Executive Director, Friends of the Dunes



# Memorandum

July 11, 2014

To:	Carol Rische		
Cc:	Dale Davidsen, John Friedenbach		
From:	Pat Kaspari/John Winzler	Tel:	443-8326
Subject:	Samoa Dune Movement	Job no.:	8410739

Carol,

This memo discusses the results of GHD's review of historic dune movements on the Samoa Peninsula and whether movement (if any) for the dunes is making the District's pipelines along the peninsula more prone to damage or exposure.

In order to perform this assessment, GHD obtained historic aerial photographs from the Humboldt County Department of Public Works encompassing the area on the Samoa Peninsula where the District's pipelines exist along the fore dunes (see attached Figure 1 and dated aerials). The north end of the aerial photographs begin approximately where the District's industrial and domestic pipelines cross the Mad River slough and begin to travel south along the Samoa Peninsula. They extend to the south to approximately the Town of Samoa, where the District's pipelines cross under New Navy Base Road and are separated from the ocean by this road. The aerial photographs from the County are from the years of 1965, 1970, 1981, 1988, 1998, 2005, and these photos were supplemented with the current aerial photograph used by the web site Bing, which is from 2013.

An overall review of these photographs shows that the dune forms are very stable. There are no dramatic changes to the dune forms observable at any point along the District's pipelines. There are several areas along the pipelines, where historically the top of pipe has become exposed, and the District has had to come back and rebury the pipe. Three of these areas along the peninsula are observable in the 2013 Bing aerial (See Locations 1, 2 & 3 shown on Figure 1). We zoomed into these three areas in the 1965 to 2005 aerials up to the limits of the photograph's resolution (i.e. where the aerial began to pixelate). We then compared the photos to see if there was any changes to the dune form in these area (See attached Location Maps). Again, there were no observable changes of significance to the dune forms in these areas. All three of these locations do show more vegetation in later years consisting of greater establishment of willow tree and wax myrtle stands. We did not try to perform a detailed analysis of where the European beachgrass removal has occurred, but again there were no significant observable changes to the dune forms anywhere along the existing pipeline alignment to an extent that further research of any causal basis is warranted.

Monitoring of the pipeline and its exposure is a maintenance item that the District routinely performs. It is recommended that this practice continue. Additionally, the District should stay abreast of monitoring efforts and any scientific studies addressing changes to the dunes to assess possible impacts on District operations. In our opinion, there is no definitive evidence at this time that dune movement on the peninsula is changing to an extent that operational or maintenance changes are warranted.