## SHARP PARK WORKING GROUP STATEMENT AND LIST OF FINDINGS

Sharp Park is a 417-acre multiple use facility owned and maintained by the San Francisco Recreation and Parks Department, located in the City of Pacifica, San Mateo County within the boundary of Golden Gate National Recreation Area. In the 1920's, a golf course was built on the western side of Sharp Park around the wetland complex, Laguna Salada. As late as the 1970's, the San Francisco Garter Snake and the California Red-legged Frog were abundant on the property. However, for the last 30 years, the population has been endangered and threatened, respectively. Multiple reports from the United States Fish and Wildlife Service and San Francisco Recreation and Park Department have pointed to the short-term need to restore Laguna Salada.

After the conclusion of 2010's summer public process, the San Francisco Recreation and Park Department convened a working group of land managers with interest in the property:, Dave Holland (San Mateo County), Steve Rhodes (City of Pacifica), Dawn Kamalanathan (San Francisco Recreation and Park Department), and Amy Meyer (Facilitator). Senior Staff of the Golden Gate National Recreation Area also participated in the working group.

The working group engaged in research, site visits, and guest speakers to determine the following:

According to the US Geological Survey, beach erosion dominates the coast in northern San Mateo County from Daly City to Pt. San Pedro, with over 98% of the shoreline eroding over the last several decades: the rate (0.6 m/yr) has increased by 50% over the long-term average (Dallas and Barnard, 2011). This erosion is linked, in part, to a sharp reduction in the sediment supply from San Francisco Bay over the last century. Looking ahead, by 2100 we can expect global sea level to rise by 0.6m to 2.0 m (Rahmstorf, 2007; Pfeffer et al., 2008; Jevrejeva et al., 2010). In addition, there is an observed increase in the size of the storm waves striking this region (Allan and Komar, 2006). Further sediment supply reductions, accelerated sea level rise and more powerful storm waves combined will put increasing stress on beaches and adjacent ecosystems, likely accelerating coastal erosion rates over the coming decades.

All working group members agree that the recovery of the San Francisco Garter Snake is a top priority. Thus, the working group agrees the next short term step is the restoration of Laguna Salada. Restoration of Laguna Salada will provide three times the current habitat by removing built up sedimentation, creating critical but missing upland habitat, and forming a connecting channel to Mori Point by moving Hole 12. A positive identification of SFGS would mean success of the short term goal and a United States Fish and Wildlife Service goal over two decades in the making.

As a long term goal, the working group finds a naturally managed system is the most sustainable approach to manage the property's coastal acreage. To this end, the seawall should not be further armored or heightened. A technical study by the various land owners and regulators, taking into account sea level rise, is recommended to continue to explore feasible transitions into a naturally managed "barrier lagoon" without undue risk to the protected species, adjacent property, and human life. This longer term goal will minimize management costs while creating a more naturally sustainable system for the protected species.

These habitat enhancements and golf could be compatible.

## **Findings:**

- a) The most valuable habitat and breeding opportunities of San Francisco Garter Snake and California Red-legged Frog are concentrated around Laguna Salada and Horse Stable Pond. Habitat for the California Red-legged Frog continues to rapidly degrade at Laguna Salada and Horse Stable Pond where cattails and tules are replacing the open water habitat the frog depends upon for breeding.
- b) The San Francisco Garter Snake is endangered. The California Red-legged frog is threatened.
- c) San Francisco Garter Snakes have been subject to human, hawk, dog, cat and other predation.
- d) Annual flooding of fresh water from the hills is captured in the golf course. Historically, the water was discharged into the ocean.
- e) Sharp Park is a managed environmental system which includes seasonal pumping of Laguna Salada to control peak winter flooding. The pumping system is located at Horse Stable Pond.
- f) In 2005, United States Fish and Wildlife Service sent a letter to Recreation and Park Department recording stranded California Red-legged Frog egg masses at Horse Stable Pond. The Department instituted a new pumping protocol and has not received further notice of violation from United States Fish and Wildlife Service.
- g) Maintaining the existence of the seawall will continue to accelerate beachfront erosion, changing the natural beach profile.
- h) With consideration of the needs for sustainable species habitat and the more natural function of a barrier beach and lagoon system, the golf course could be redesigned to coexist with viable populations of sensitive species in the long term.
- i) Winter flooding regularly occurs now in the residential area north of the golf course from a combination of water from the hills captured by the golf course and sea water. If the golf course is redesigned to support a more naturally functioning barrier beach and lagoon system, it must provide a solution to periodic flooding of the residential area.
- j) If the decision is made to support a more naturally functioning barrier beach and lagoon system and golf remains a use on the property, design costs and future maintenance need to be addressed within a sustainable management plan.
- k) The short term and long term management plans must be integrated and funded for a design that progressively moves from solving short-term problems to a longterm sustainable management program.

USGS quote courtesy of Patrick Barnard (USGS in Santa Cruz). Mr. Barnard's area of expertise is coastal resources.

Jevrejeva, S., J. C. Moore, and A. Grinsted (2010), How will sea level respond to changes in natural and anthropogenic forcings by 2100?, *Geophys. Res. Lett.*, 37, L07703, doi:10.1029/2010GL042947.

Pfeffer, W.T., Harper, J.T. and O'Neel, S., 2008. Kinematic constraints on glacier contributions to 21<sup>st</sup>-century sea-level rise. Science, 331, p. 1340-1243 Rahmstorf, S., 2007. A semi-empirical approach to projecting future sea-level rise. Science. Volume 315, p. 368-370