

Field Moment

Crissy Field, Golden Gate National Recreation Area

13 February 2008

ON THE SHORES OF SAN FRANCISCO BAY, Natural Sounds Program acoustic technician Ericka Pilcher performs an on-site listening session at Crissy Field (right). Originally a rich salt marsh, Crissy Field has undergone more land-use changes than any other site in the Presidio of Golden Gate National Recreation Area. From 1921 to 1936, Crissy Army Airfield was the center of West Coast military aviation. When the National Park Service assumed management of the Presidio in 1994, the area was a derelict concrete wasteland. Restoration of the 100-acre (40 ha) area, completed in 2001, re-created dune and tidal marsh habitat. The work linked the marsh to San Francisco Bay for the first time since 1915 when the tidal channels were filled for the Panama-Pacific International Exposition. Together these habitats support 105 different species of shrubs, wildflowers, and marsh plants.

As a popular visitor-use area and restored wetland, Crissy Field serves as an acoustic monitoring site where sounds of the 12th largest city in the United States mingle with nature. Monitoring equipment takes readings of sound pressure level (intensity), recorded in decibels (dB), and frequency, or pitch, recorded in hertz (Hz). Sound equipment allows Natural Sounds

Program team members to record sounds from 20 to 20,000 Hz, which approximates the human hearing range. For some types of analysis, the dB levels are A-weighted (dB[A]), to more closely represent the sensitivity of the human ear to different frequency ranges.

Sound levels in national parks can vary greatly.

One of the quietest National Park System units is Haleakala National Park (Hawaii), with sound levels ranging between 0 and 10 dB(A) in the crater. Leaves rustling in Canyonlands National Park (Utah) register 20 dB(A). At 16 feet (5 m) away, crickets at Zion National Park (Utah) register 40 dB(A). Snowcoaches in Yellowstone National Park (Wyoming, Montana, and Idaho) register 80 dB(A) at 98 feet (30 m) away. Thunder at Arches National Park (Utah) reaches 100 dB(A). A military jet flying over Yukon-Charley Rivers National Park (Alaska) registers 120 dB(A). Median sound levels at Crissy Field are around 55 dB(A) during daytime hours (7 a.m.–7 p.m.) and 50 dB(A) during nighttime hours (7 p.m.–7 a.m.).



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In addition to collecting sound pressure levels and frequency, Pilcher and the members of the Natural Sounds Program team log individual sound sources using a personal digital assistant with a custom software package, Soundscape V5. Notable sounds at Crissy Field are seabirds, ripples in the water, wind, voices and laughing, dogs, highway noise from a nearby overpass, jets, propeller planes, and helicopters. Data collected at Crissy Field will inform the national recreation area's general management plan and provide baseline sound levels for air-tour management planning.