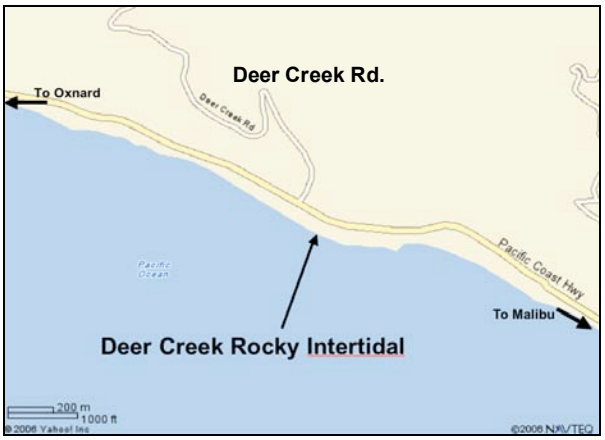
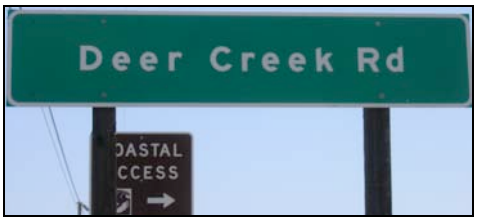
Directions:

The Deer Creek site is located along the Pacific Coast Highway, a 1/4 mile east of Deer Creek Rd. and 1.2 miles west of the Neptune's Net Seafood Restaurant. There are pull-outs for parking on the mountain side of the highway. The Deer Creek site consists of two rocky benches; the larger of the two to the east, the smaller bench to the west. You can reach the site by climbing down the path on the bluffs. In order to get to the larger bench, low tide needs to be below minus 0.8. Above minus 0.8, it's not uncommon for the occasional large wave to wash over the outer end of the rock, creating a safety hazard, or at the very least a drenching hazard. Note: The closest restrooms are next to the Neptune's Net Restaurant, there are NO restrooms at Deer Creek.

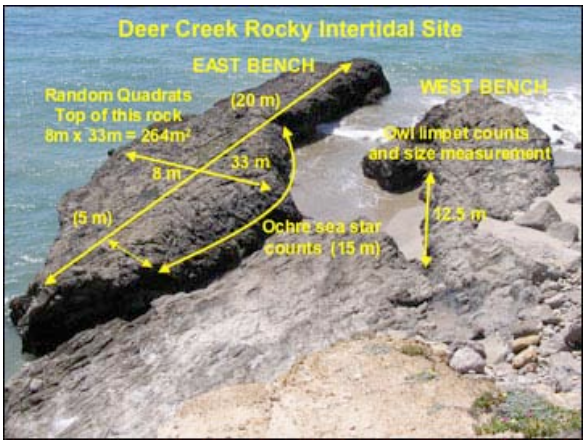




Monitoring Protocols

Three monitoring procedures are used at Deer Creek:

1) Random quadrats in a permanent area
2) Total organism counts
3) Size measurements



1. Random Quadrats in a Permanent Plot

The transect line for the random quadrats is placed along the top of the larger (eastern) rocky bench, and is approximately 264m^2 in size. Survey 20 random quadrats in total.

- Lay a transect tape from the shoreward end of the bench toward the ocean for 33m. The plot for doing random quadrats is the entire top of the bench.
- Using the random number table, choose a number between 00.0 and 33.0. Locate this number along the base transect line.
- Choose a second random number between 0.0 and 8.0. This number indicates how far from the base transect line you will place your quadrat. Use the third random number table to decide whether your location will be east or west of the base transect. Lay down a

Random Quadrats (*continued*)

second transect tape, perpendicular to the first, to find this location.

- Center the quadrat over the meter tape.
- Record data for taxa within the quadrat as directed on the data sheet.
  - Some species will be counted as individuals.
  - Some species will be estimated as the number of squares in the 1/4m^2 quadrat containing any attached portion (total possible, 25).

Note: In some cases, the random numbers will place the quadrat in a deep pool or drop-off. When this happens, place the quadrat on a level area as close to the designated coordinates as possible, or halve the random number.

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2. Total Organism Count

Ochre sea stars are large invertebrates that can have a major impact on the rocky intertidal community, but are not adequately counted in the 1/4m^2 quadrats.

The location of the sea star counts takes place along a 3m x 15m stretch of the west-facing wall of the larger, eastern rocky bench (where random quadrats are measured). The delineated area is about 45m^2.

- Mark the boundaries of the permanent area with cones or a transect tape.
- Systematically search the whole area in teams of 2 or 3. Look carefully in cracks and crevices, and under ledges.
- Record ochre sea stars as “orange” or “purple/ brown.” Record all the ochre sea stars you can find as you go.

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3. Size Measurements

The area for counting and measuring owl limpets on the east-facing wall of the smaller, western rocky bench. This area is approximately 2m x 12.5m, or 25m^2.

- Mark the boundaries of the permanent area with transect tapes or cones.
- In teams of 2 or 3, systematically search the whole area. Look carefully in cracks and crevices and under ledges.
- Designate one person as the recorder. This person is responsible for completing the data sheet. The others should be searching for limpets and should tell the recorder what they see as they see it.
- Use the rulers or calipers to measure the length of individual limpets.

Note: Of course, some individuals will be missed, so total counts are just estimates of the true abundance. If 5-10 teams count the selected species in the same defined area, the average number counted provides a reasonable estimate that can be compared over time.