Mearns Rock Quadrat Photos

1990

1991

1992

1993

1994

1995

1996

1997

1998

1999

2000

2001

2002

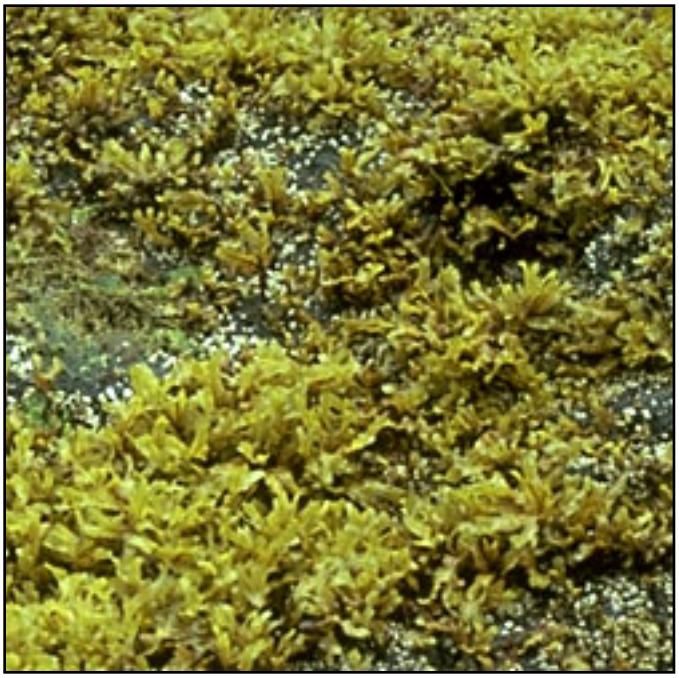
2003

2004

Introduction

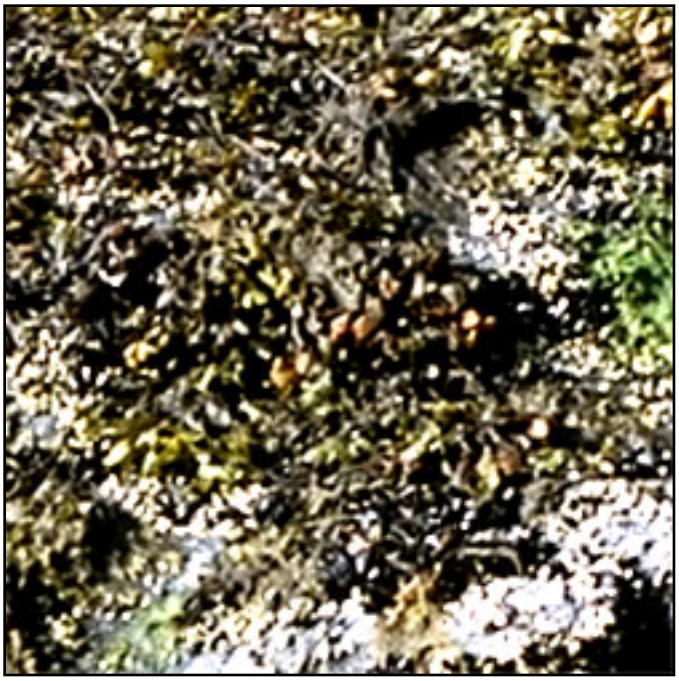
We chose a representative section of Mearns Rock to show you at high resolution. Each of the photos in this series is a closeup of the region approximated by the quadrat shown in red below.

To view the photos, click the link to any year, at left.



1990: In this photograph, you can see the young *Fucus* plants that almost covered the boulder in 1990, as well as young barnacles, which appear as tiny, white spots. We think the dark region in the upper right section of the quadrat may be young mussels.

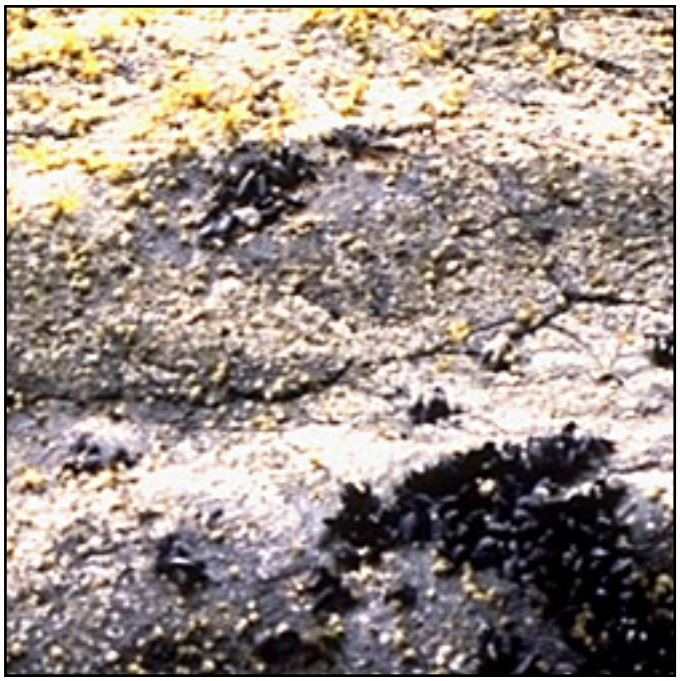
1991: Although this photo is unclear, we can see more mature, gold-brown *Fucus* and dark-colored juvenile mussels in this photo. Some of the small, very light, circular patches may be barnacles.



1992: Larger, older seaweed (mainly *Fucus*) is dying off. Light-colored barnacles are filling in spaces left by dying seaweed. The mussels appear larger now.

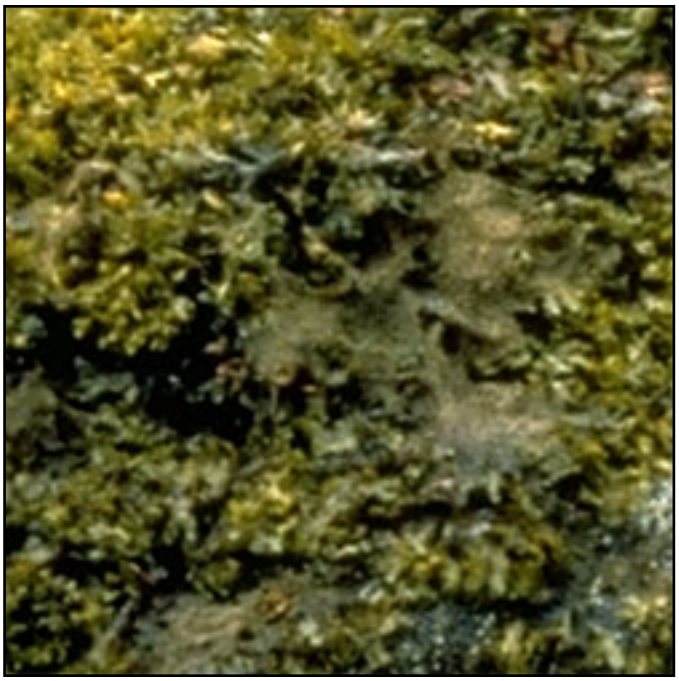
1993: In this photograph, dark patches of mussels have taken hold on the boulder. Also visible are whitish patches of barnacles and, in the upper section of the photo, young, gold-brown *Fucus* plants.

1994: The quadrat is dominated by mature mussels. A few barnacles are visible, but no *Fucus*!

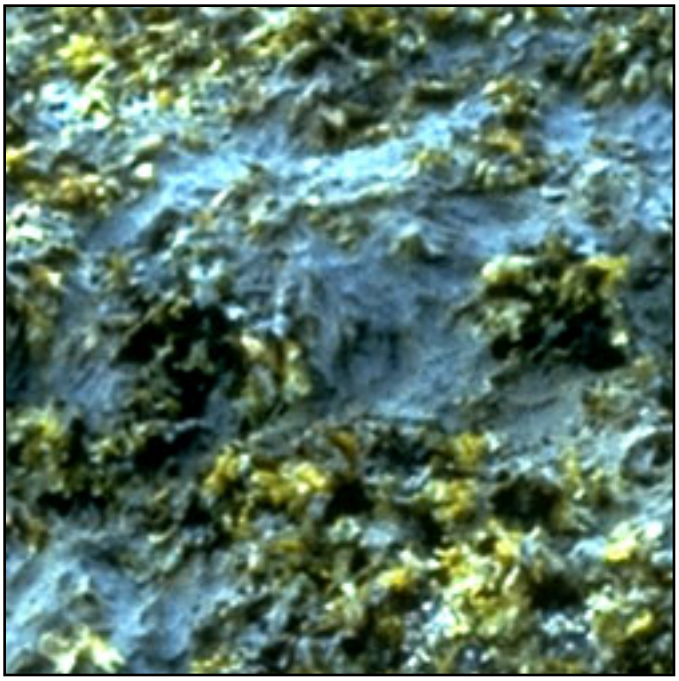


1995: Many of the mussels in the quadrat have disappeared. In contrast to earlier photos, much of the light-colored regions of the boulder is bare rock! Some barnacles are visible (you can distinguish them from the bare rock by their bumpy texture), and in the upper section of the quadrat, you can see some young *Fucus* plants.

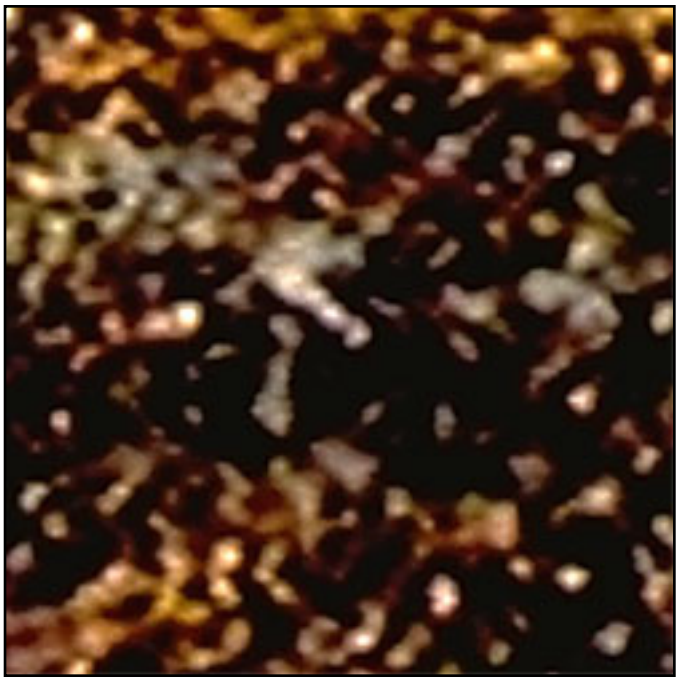
1996: In the quadrat in 1996, the *Fucus* cover has increased. Here, the bare rock appears as darker gray. Most of what was bare rock last year is covered by barnacle spat (young barnacles) this year. It's difficult to tell if young mussels occupy the dark regions of the quadrat.



1997: This year, the quadrat is occupied by *Fucus*, some dark sections of mussels, and a slimy, filamentous algae.



1998: It's difficult to know what quantity of *Fucus* is present under this filamentous algae that has grown on top of it (which we think is *Pilayella littoralis*). We think that the dark areas of mussels have grown larger since the last photo.



1999: Like all scientists, our biologists sometimes experience problems in the field. When this photo was taken in 1999, low tide occurred at sunrise, which didn't provide enough light for conventional photography. Our biologist was able to provide a photograph taken from a videotape; however, this quadrat photo is very unclear.

This is our interpretation of the photo: Mature *Fucus* and possibly mussels are the only marine life forms visible in the quadrat.

2000: Mature *Fucus* and a large filamentous algae are the only marine life forms visible. The mussels seem to have disappeared.

2001: In this photo, the slimy algae appears to be dying back. We can see older (brownish) *Fucus* plants, younger (greenish) *Fucus*, as well as white regions of barnacles. The small dark areas are either mussels or shadows.

2002: Only a few mature Fucus plants remain in 2002. More barnacles (white bumps) are visible, but no mussels are present.

2003: In this photograph, we can see a few patches of mature, gold-brown *Fucus*, the largest appearing in the lower left section of the quadrat. Some very young (greenish) *Fucus* plants have also sprouted on the quad. A sprinkling of new barnacles (young of the year, which appear as small whitish bumps) are visible, but much of the boulder is bare rock (dark gray). The barnacles that covered the rock in 2002 have largely disappeared and have been replaced by new baby barnacles in 2003.

2004: Much of the quadrat is covered by young Fucus plants in 2004. No mussels are visible. The tiny barnacles that set in 2003 have grown, creating a white crust under the Fucus. This year, there is little or no bare rock. Note the new species of seaweed (resembling a spider) in the upper right section.