



### Impacts to quality of life

The natural and built environments in which people live strongly shape general life satisfaction. People develop affective bonds with places and experience a sense of belonging to communities in which they live or grew up (1). Natural and built environments shape people's daily lives. Certain communities have an economy and way of life that is shaped by natural resources. For other communities, nature provides amenities that attract groups such as sportsmen, tourists, or retirees that enjoy the intrinsic and aesthetic values provided by the area (2). Communities can be unaware of the importance of environmental quality until a disruption occurs. Even people who don't live in an impacted community can feel a nostalgic loss (3). Residents in a newly contaminated community can experience uncertainty about the future, a deep sense of loss, and feelings of anger. One of the most troubling aspects is that damage can be permanent, forever altering the character of the community, whereby "cultures of contamination" emerge [10].

#### Quality of Life Impacts

- Diminished quality of the living environment
- Diminished quality of the built environment
- Reduced recreational opportunities
- Change in attachment to place
- Sense of loss
- Feelings of helplessness, anger, frustration, resentment, distress
- Living in a permanently contaminated community

#### Loss of recreational opportunities: *M/V New Carissa*

On February 4, 1999, the *M/V New Carissa* was pushed ashore by a winter storm. The ship ran aground between the Coos Bay harbor entrance and the Oregon Dunes National Recreation Area (ODNRA). The vessel spilled 70,000 gallons of oil, with a further 165,000 to 255,000 gallons burned off *in situ* 7 days later. The vessel subsequently broke apart. The bow was towed out to sea and scuttled. The stern section remained on the beach until its removal in 2008.

The wreckage and the spill affected about 45 miles of coast line, including areas located within ODNRA, and several public beaches. On most of the beaches, shellfishing and crabbing areas remained closed until March 1999. Some reopened only in August 1999. The ODNRA and the Governor Patterson State Beach offer amenities for residents and visitors who desire camping, day-hiking, picnicking, fishing and beach activities. During the summer of 1999 an estimated 26,974 to 28,204 recreational trips to the National Recreation Area and State Park were canceled because of the incident (4). On August 2, some parts of the beach were reopened to the public with restrictions or limits on certain uses. The public beaches and recreational areas are famous among locals as a place to relax, ride dune buggies, fly kites and surf. One resident mentioned "It's one of those places the local people go out and have picnics. It's a very important part of the recreation life around here"(5). Local residents' seasonal use of the shoreline is part of a lifestyle pattern.



**The stern resting on the beach in 2008.**

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## Human Dimensions Impacts of Oil Spills

Studies of reduced recreational opportunities occasioned by the *North Cape* oil spill in Rhode Island [6] and *Bouchard-120* spill in Massachusetts [9] have shown that the loss of recreational opportunities diminishes the quality of life of community residents (6). For example, in the *Bouchard-120* case,

Shellfishing is a popular recreational activity. People dig clams on the beach for personal consumption. But, clamming is also an important social activity. The beach is the place neighbors meet and have casual conversation. Some beaches were closed for months to clamming, and people noted it as one of the most significant impacts the spill had on their quality of life. The replacement of such opportunities by other activities could eventually lead to other social costs.

### Deterioration of Aesthetics: T/B *Bouchard-120*

On April 27th, 2003, the tank barge *Bouchard-120* grounded on a reef and released 98,000 gallons of oil into Buzzards Bay, MA. The bay area is extensively developed with eleven communities along more than 350 miles of coastlines, which includes inner harbors, public beaches, parks and private properties. The oil spill impaired the aesthetic value of the bay's amenities. The appearance of ugly, black tar balls on pristine beaches were described in a local newspaper as "images of pollution, death and destruction the spill has caused to date" (7). According to a study, among the top three most offensive pollution types, 'oil on the beach' was placed second by respondents on all beaches surveyed (8). The appearance of oil was a source of emotional distress for many local residents and seasonal visitors (9). Most Buzzards Bay



**Onset Village – Island in Buzzards Bay**  
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residents appreciate the quality of the natural surrounding and its sense of intrinsic and aesthetic value. The perception of the beauty of the region is a major factor in individuals' decisions to live in the area. Residents on the shore who lived with the smell and sight of oil and tar balls on the beaches felt resentment and anger. A response manager spoke of the importance of attending to such issues:

*"we had a rule of thumb that in rocky areas we would be better off letting some natural cleaning go on, so we were washing rocks but not with high powered steam cleaning. Well, there is rock in a bay and the community said that it is the swim test rock. We were not going to clean it. But they said 'all our children who learn how to swim have to swim to that rock.' We said 'oh so you need that rock cleaned and we will do it.'"*

### References

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