

## Human Dimensions Impacts of Oil Spills

# **Psychological health impacts**

Cleanup workers and residents living in the vicinity of an oil spill have suffered acute and chronic health impacts. These impacts have physical

and psychological symptoms [1-5, 7, 8]. Emotional or psychological impacts can be direct impacts, such as when a great loss is experienced by damage to cherished or sacred sites. They can emerge in conjunction with physical harm, as the trauma of a debilitating illness limits a person's quality of life. They can also emerge indirectly from a spill because of post-spill experiences, which most notably include "the second disaster" of spill-related litigation. Psychological health impacts include increased stress, fear and attitudes of vulnerability, and posttraumatic stress disorder [1]. All of these can contribute to illness and personal dysfunction. Individual and group responses to oil spills are determined by the magnitude of the disaster, individual's interpretation of the situation, and psychological and social resources available to cope with the event. Therefore two disasters may have a very different economic, psychological, social or even political impact.

#### Psychological symptoms

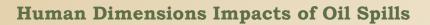
- Increased prevalence of mental disorders such as depression, anxiety and Post-Traumatic Stress Disorder
- Increased levels of stress
- Increased drug and alcohol at
- Increased mental distress
- Feelings of helplessness, betrayal and anger
- Self-isolation and avoidance of spill related discourse
- Litigation stress syndrom
- Children afraid of being left alone, have troubles getting along with parents and fighting with other children

## Long term psychological impacts: M/V Exxon Valdez

On March 24, 1989, the supertanker *Exxon Valdez* spilled 10.8 million gallons of crude oil in Prince William Sound, Alaska. The spill is considered one of the most devastating technical disasters ever to occur at sea. Palinkas et al. concluded that "the oil spill's impact on the psychological environment was as significant as its impact on the physical environment" [4]. Psychological impacts were triggered by the spill and the response, but litigation as a second disaster has also been the topic of several studies [2, 6-8]. High levels of psychological impacts were reported in followup studies six and 17 years after the spill [7, 8].

The small population of the Valdez-Cordova area (10,195 inhabitants: 75% White, 14% Native American, and 11% other) was particularly vulnerable because of its high dependence on fishing and isolation [1-4]. The oil impacted much of the marine life in the surrounding area, thereby severely disrupting subsistence activities in native villages, [5]. All commercial fishermen were impacted by the closure of fisheries, and the herring fishery collapsed entirely. Other sources of stress were: short and long term economic loss, having to sell possessions to compensate for losses, unequal distribution of cleanup job and compensation for use of equipment and boats, influx of outsiders strained community services created quarrels and resentment, and environmental damage.

Psychological distress over the lawsuit and the expectations that were tied up with the Supreme Court ruling in June 2008 continue to plague many members of the community [6, 8]. For nearly two decades, people remained hopeful that they would receive a significant payment in compensation for their losses. This hope prevented many people from moving ahead with their lives, and kept them immersed in the emotions associated with the impacts from the oil spill and the behavior of Exxon during the subsequent legal battles. For some, those emotions continue to linger in the form of anger and resentment for Exxon.





### Short term psychological impacts: *M/V Prestige*

On November 19, 2002, the tanker *Prestige* ruptured in half and sank during a storm off of Galicia, in northwestern Spain. It released over 20 million gallons of oil into the sea. About 19 million gallons of oil reached the coast in three

successive black tides spreading along more than 11 miles of Galician, Cantabrian and French coasts. The disaster had serious environmental and economical consequences. Moreover, since 1970 this was the fifth major spill in the area (*Polycommander*, 1970; *Urquiola*, 1976; *Andros Patria*, 1979; *Aegean Sea*, 1992; and the *Prestige*).

The short term psychological impacts included stress and anxiety [9]. In the short term, individual and families faced high levels of stress caused by the economic loss. The day following the spill, a ban on fishing and shellfishing was imposed. 41,000 people directly employed in the fishing sector went out of work just before the height of the holiday season. The clean up operation lasted for months after the accident and the affected towns hosted hundreds of volunteers.

However, despite the importance and size of the spill, individuals' psychological impacts were minimal, regardless of their exposure or the severity of oil pollution in residing towns [10, 11]. Timely compensation, alternative employment, sympathy, and solidarity showed during the cleanup were factors that mitigated the psychological impacts of the spill and hastened the process of post-disaster recovery [10, 11]. A few weeks after the spill, fishermen (ship owners and crew) received their first compensatory payments. One year later, over 114 million Euros had been paid to the fishing sector [12] and Spanish boats were granted permission to access Morocco's fishing grounds for three months. All in all,



Volunteers cleaning in Galicia Photo: X. Rey in [5]

more than 10,000 fishermen and local residents were hired to participate in cleanup. Fifty-five thousand cleaning kits (protective clothing, breathing masks, etc.) were distributed to volunteers [9]. The response was designed to mitigate both physical and psychological impact from the spill.

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