Rhithropanopeus harrisii

Estuarine mud crab, Harris mud crab, Pilumnus harrisii

Threat scores

1. Ecological impact
   - "This species is a carrier of strains of the white spot baculovirus. These viruses are extremely virulent & cause disease in penaeid shrimp and blue crab. Caused fouling problems in Texas PCV intakes to lakeshore homes & evidence they have disrupted natural community by replacing native crayfish in local lakes" (Molnar 2008).
2. Invasive potential
   - "Spread from California to Oregon via currents during larval stage. Texas introductions may have resulted from bait buckets or accidental angler/boater releases or fish stocking" (Molnar 2008).
   - Accidental human assisted transport in ballast or aquaculture.
3. Geographic extent
   - Locally pervasive
4. Management difficulty
   - Establishment likely permanent. Control to focus on reducing introductions.

Geography and Habitat

1. Origin: Original range presumed to be in fresh to estuarine waters from the southwestern Gulf of St. Lawrence, Canada through the Gulf of Mexico to Vera Cruz, Mexico.
2. First introduction 1937
3. Introduced to California in 1937. Probably associated with shipping, possibly in ballast or clinging to hulls of ships.
4. Spread through much of continental Europe between the 1870s and 1950s, only recently spread to Britain.
5. Estuaries/bays, lakes, brackish water, reservoirs.
6. Usually associated with some type of shelter or structure including, oyster reefs, living and decaying vegetation, and various kinds of marine debris in fresh to estuarine waters. Can tolerate a wide range of salinities.

Invasion Pathways

1. Bait Industry
   - Accidental possible
   - Cause- Bait bucket/angler releases
   - "Howells (2001) noted that the source of introductions to Texas reservoirs may have resulted from "bait bucket or accidental angler/boater releases" or fish stocking activities from a coastal hatchery where R. harrisii occurs naturally" (Molnar 2008).
2. Ballast Water and Sediments
   - Accidental probable
   - Cause- shipping
   - Introduced to California in 1937. Probably associated with shipping, possibly in ballast or clinging to hulls of ships.

3. Hull/Surface Fouling
    - Accidental probable
    - Cause- shipping
    - Introduced to California in 1937. Probably associated with shipping, possibly in ballast or clinging to hulls of ships.
4. Stocking in Open Water
    - Accidental probable
    - Cause- clam aquaculture
    - unintentional import with clam seed.
5. Natural Spread
    - Known
    - Cause- ocean currents
    - Spread of the mud crab from California to Oregon occurred via currents during the larval stage (Petersen 2002).
6. Stocking in Open Water
    - Accidental probable
    - Cause- fish stocking
    - "Howells (2001) noted that the source of introductions to Texas reservoirs may have resulted from "bait bucket or accidental angler/boater releases" or fish stocking activities from a coastal hatchery where R. harrisii occurs naturally" (Molnar 2008).

Non native locations

1. 57- OR, WA, Vancouver Coast and Shelf
2. 58- Northern California

Sources

1. Molnar, Jennifer, et al. 2008. "Assessing the global threat of invasive species to marine biodiversity." *Frontiers in Ecology and the Environment*. 6 (9), pp. 485-492.
2. http://conserveonline.org/workspaces/global.invasive.assessment
3. http://nas3.er.usgs.gov/XIMAGESERVERX/2005/20051115112051.jpg