

# Sanctuary Condition Report

*April 2008*

**Summary of Draft Report**



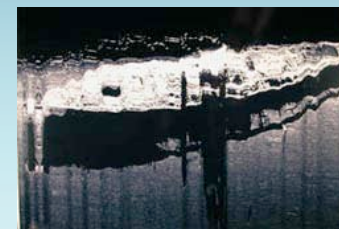
***Water Quality***



***Habitat***



***Living Resources***



***Maritime Archaeological Resources***

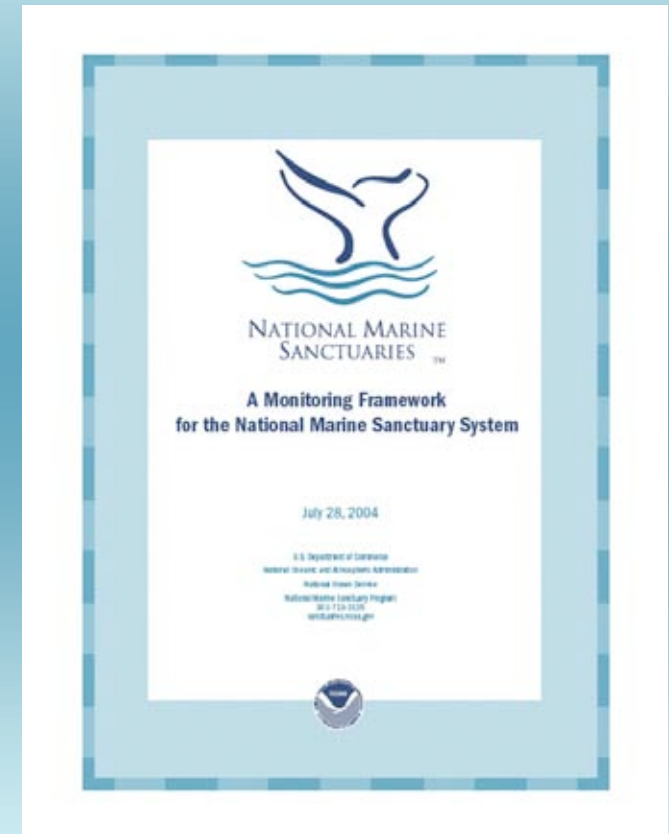


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# Purpose of the Report

## “A Monitoring Framework for the National Marine Sanctuary System”

- Consistent approach to the design and reporting process of monitoring programs for all sites that enables integration of information into a system-wide monitoring product.
  - 17 questions standard among all sites, questions relate to:
    - Water
    - Habitat
    - Living Resources
    - Maritime Archaeological Resources



# Purpose of the Report

- Tailored monitoring at the local level to track and report the status and trends of natural and cultural resources and human uses.
- Assess the condition of the site and the system
- Determine if system is achieving its resource protection and improvement goals as reflected in program performance measures
- Revisit prior to management plan updates and to be used to determine how well we are achieving our management goals



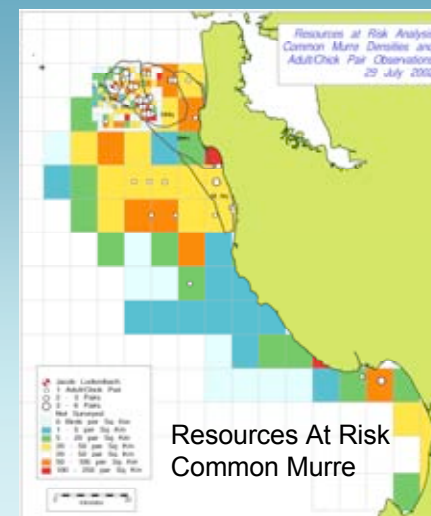
# Content

- Site History and Resources
- Pressures (based on draft management plan and workshop participants)
  - Vessel traffic
  - Marine Debris
  - Radioactive waste
  - Dredge Materials
  - Introduced species
  - Fishing
  - Non-point Source Pollution
  - Wildlife Disturbance



# Content

- State of Sanctuary Resources
  - Water (4 questions)
  - Habitat (4 questions)
  - Living Resources (6 questions)
  - Maritime Archaeological Resources (3 questions)
- GFNMS will have two sections (all 17 questions considered for each section)
  - Estuarine
  - Outer coast & pelagic



# Content

Ratings of status and trend for each question

Status:

|      |               |      |               |      |        |
|------|---------------|------|---------------|------|--------|
| GOOD | GOOD/<br>FAIR | FAIR | FAIR/<br>POOR | POOR | UNDET. |
|------|---------------|------|---------------|------|--------|

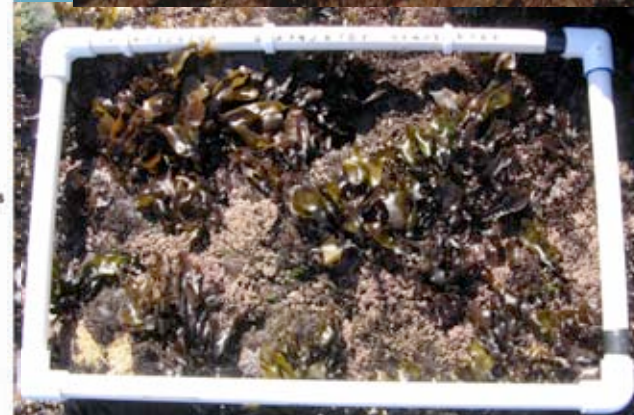
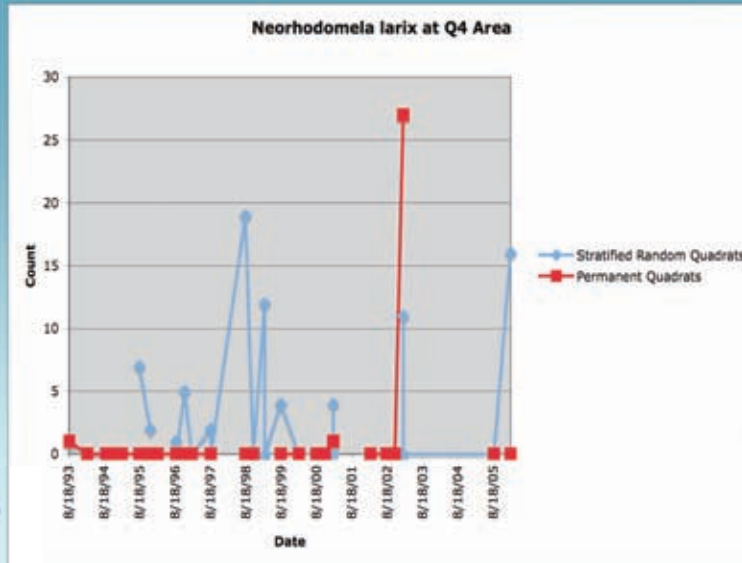
Trends:

- ▲ Conditions appear to be improving
- Conditions do not appear to be changing.
- ▼ Conditions appear to be declining.
- ? Undetermined trend.
- N/A Question not applicable.

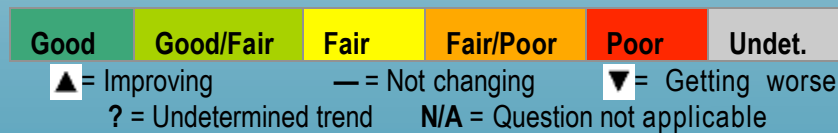


# Content

- Response to Pressures
- Concluding Remarks
- Citations & Appendices



# Status & Trends: Offshore Outer Coast Water Quality Good to Fair



| # | Status              | Trend | Basis for Judgment   |
|---|---------------------|-------|--|
| 1 | Stressors           | —     | Decreased oil pollution; few HAB's nonpoint source discharges from San Francisco Bay and Russian River; sediment spills from barges; two localized 303(d) listings.              |
| 2 | Eutrophic Condition | ?     | No obvious problems, healthy phytoplankton constituents; only 10 year monitoring for phytoplankton so trend undetermined.  |
| 3 | Human Health        | —     | Mixing from upwelling, tidal, and local currents prevent harmful influences; two coastal 303(d) listings for discharges and beach closures.                                      |
| 4 | Human Activities    | ▲     | Increasing vessel traffic (discharges and noise) is of concern, decrease in acute and chronic oil pollution, decreasing sediment; increasing management and enforcement actions. |





# Status & Trends: Offshore Outer Coast Habitat Good/Fair

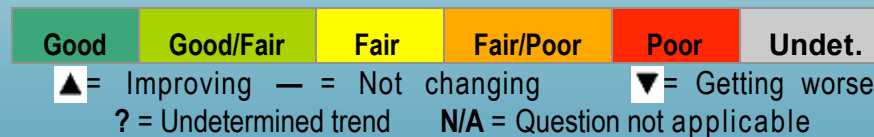
Good
Good/Fair
Fair
Fair/Poor
Poor
Undet.

▲ = Improving    — = Not changing    ▼ = Getting worse  
 ? = Undetermined trend    N/A = Question not applicable

| # | Status                 | Trend | Basis for Judgment   |
|---|------------------------|-------|--|
| 5 | Abundance/Distribution | ▲     | Some loss from localized pressures related to population growth, but reduced trawling impacts and improved enforcement of dredge disposal practices. |
| 6 | Structure              | ?     | Prior alteration and loss due to trawling; but substantial data gaps for a number of habitat types.  |
| 7 | Contaminants           | ▲     | Limited data beyond Golden Gate area, though no obvious problems.  |
| 8 | Human Activities       | —     | Activities relating to visitation increasing, trawling decreasing.   |



# Status & Trends: Offshore Outer Coast Living Resources Good to Fair



| #  | Status                 | Trend | Basis for Judgment  |
|----|------------------------|-------|---|
| 9  | Biodiversity           | ▲     | Effects on food web from historical changes in Steller, northern fur seal, and sea otter abundances, but populations appear to be recovering.                             |
| 10 | Extracted Species      | ▲     | Historical fishing impacts; recent improvements in some stocks due to take reductions.  |
| 11 | Non-indigenous Species | —     | Species exist (e.g. green crabs and striped bass), but there are no known ecosystem impacts.  |
| 12 | Key Species            | ?     | Among sanctuary's list of almost 50 key species, populations are in varying states of integrity.  |
| 13 | Health of Key Species  | ▲     | Smaller size of some whales; reduced Steller sea lion condition and pupping rates; removal of oil from Luckenbach has reduced seabird and marine mammal oiling incidents. |
| 14 | Human Activities       | —     | Increasing vessel traffic (discharges and noise) are of concern, perhaps offset by reductions in trawling.  |



# Status & Trends:

## Offshore Outer Coast

### Maritime Archaeological Resources

#### Good/Fair to Fair

|      |           |      |           |      |        |
|------|-----------|------|-----------|------|--------|
| Good | Good/Fair | Fair | Fair/Poor | Poor | Undet. |
|------|-----------|------|-----------|------|--------|

▲ = Improving — = Not changing ▼ = Getting worse  
 ? = Undetermined trend N/A = Question not applicable

| #  | Status                | Trend | Basis for Judgment  |
|----|-----------------------|-------|---|
| 15 | Integrity             | ?     | Artifacts have been removed at some coastal sites by divers; sites subjected to degradation by waves, shifting sands, and strong currents; lack of monitoring to determine trend. |
| 16 | Threat to Environment | ▼     | Deterioration of offshore wrecks could result in the release of hazardous cargo and/or bunker fuel.   |
| 17 | Human Activities      | ?     | Trawling and diving; lack of monitoring to determine trend.   |



# Status & Trends: Lagoons & Estuaries

## Water Quality

### Good/Fair to Fair/Poor

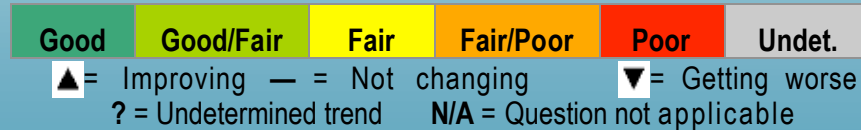


▲ = Improving      — = Not changing      ▼ = Getting worse  
 ? = Undetermined trend      N/A = Question not applicable

| # | Status              | Trend | Basis for Judgment  |
|---|---------------------|-------|---|
| 1 | Stressors           | ?     | Impacts from continued land use changes, freshwater diversion, increased hypersaline conditions, increased restoration activities and Best Management Practices may offset loss of eelgrass beds. |
| 2 | Eutrophic Condition | ?     | High nutrient levels from SF Bay and Tomales Bay watershed, without associated problems or reported loss of fish populations.   |
| 3 | Human Health        | ?     | Bacterial and viral outbreaks have occurred in Tomales Bay; closed harvest of shellfish 80-110 days/year as prevention measure.   |
| 4 | Human Activities    | ▲     | Impacts from land use changes continue, increased restoration activities and Best Management Practices may offset freshwater diversion.   |



# Status & Trends: Lagoons & Estuaries Habitat Fair to Fair/Poor



| # | Status                 | Trend | Basis for Judgment   |
|---|------------------------|-------|--|
| 5 | Abundance/Distribution | —     | Alteration and loss, particularly in Bolinas Lagoon, from changing land use and road construction; plans for restoration have yet to be implemented. |
| 6 | Structure              | ▼     | Loss of eelgrass and oyster beds due to continuing sedimentation.  |
| 7 | Contaminants           | ?     | Limited data, though bird studies (terns) strongly suggest the need for increased monitoring.  |
| 8 | Human Activities       | —     | Impacts from continued land use changes and urbanization may be offset by reduced mining impacts and restoration activities.                         |



# Status & Trends: Lagoons & Estuaries

## Living Resources Good to Fair/Poor



▲ = Improving — = Not changing ▼ = Getting worse  
? = Undetermined trend N/A = Question not applicable

| #  | Status                | Trend | Basis for Judgment   |
|----|-----------------------|-------|--|
| 9  | Biodiversity          | ▼     | Species diversity changes due to eelgrass loss and invasive species, especially in Bolinas Lagoon.                                 |
| 10 | Extracted Species     | —     | Minimal extraction, thus limited impacts.  |
| 11 | Invasive Species      | ?     | High number of invasive species; green crabs and <i>Spartina</i> has caused substantial alteration.                                |
| 12 | Key Species           | ▼     | Keystone and some key species are at reduced levels; eelgrass decline is likely to diminish recovery potential.                    |
| 13 | Health of Key Species | ?     | Data limited to harbor seals and insufficient to judge estuarine conditions.   |
| 14 | Human Activities      | ▼     | Increasing impacts from urbanization, changing uses that affect watersheds, and wildlife disturbance caused by visitor activities. |



# Status & Trends: Lagoons & Estuaries Maritime Archaeological Resources Unknown



▲ = Improving    — = Not changing    ▼ = Getting worse  
 ? = Undetermined trend    N/A = Question not applicable

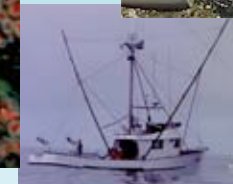
| #  | Status                | Trend | Basis for Judgment  |
|----|-----------------------|-------|---|
| 15 | Integrity             | ?     | No wreck sites have been visited or investigated.   |
| 16 | Threat to Environment | —     | Unlikely that the wrecks (mostly schooners) contain hazardous cargo.                          |
| 17 | Human Activities      | ?     | Bottom fishing, aquaculture, and environmental restoration activities could affect resources. |



# Pressures

## Outer Coast & Offshore Areas

- Habitats
  - Tramping
  - extraction
  - bottom trawling
- Water quality
  - Outflow from San Francisco Bay and the Central California Valley agricultural runoff
  - Little information
    - eutrophic conditions
    - Trophic level impacts from the radioactive waste dumpsite
- Living Resources
  - Little information
    - biological structures
    - trends in key species
- Maritime Archaeological Resources
  - Little information



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# Pressures

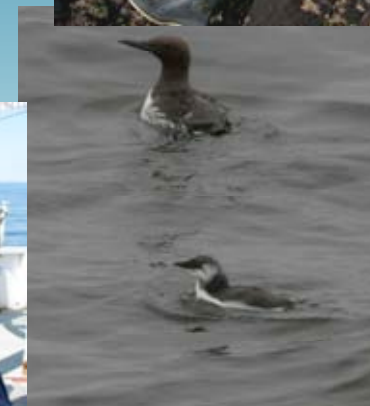
## Estuarine and Lagoon Areas

- Habitats
  - poor watershed practices
  - increased siltation
- Water Quality
  - water diversion
  - in-flow of heavy metals from abandoned mines
  - pollutants from dairy ranches
- Living Resources
  - loss of eelgrass
  - Non-indigenous species
- Maritime Archaeological Resources
  - Little information



# Timeline to Completion

|                     |   |
|---------------------|---|
| March 17 – April 11 | GFNMS Staff review  |
| April 14 – 21       | Condition Report Team makes revisions                       |
| April 18            | Summary overview to SAC                                     |
| April 21 – May 2    | SAC, NMFS and West Coast Region office review               |
| May 5 – June 30     | Condition Report Team makes revisions                       |
| June 30 – July 30   | ISI board review  |
| Aug 1 – Aug 31      | Condition Report Team makes revisions                       |
| Sept 1 – 14         | HQ edits final version, media press release with MJ & Maria |
| Sept 20             | Release of Report to public                                 |



GFNMS staff reviewers = Maria, Irina, Karen, and MJ (images and captions)  
NMFS reviewers = Emily Menashes and Steve Ralston  
West Coast Region Office = Bill Durous and Dave Lott  
ISI review board = John Largier, Jon Stern and James Allen  
Condition Report Team = Jan Roletto, Kathy Broughton, Steve Gittings and Karen Fox



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