

A Partnership to Preserve Tomales Bay, California: A Tomales Bay Biodiversity Inventory (TBBI)

Executive Summary

The Tomales Bay Biodiversity Inventory (TBBI) will systematically survey the diversity of life in Tomales Bay, including discovering new species previously unknown to science.

This is a collaborative project already involving 32 scientists, educators, and community leaders from more than 25 different institutions. Point Reyes National Seashore Association, a 501(c)(3) non-profit, is acting as lead agency for this cooperative initiative.

The purpose of this collaborative project is to 1) preserve, protect and restore the biological diversity of Tomales Bay, 2) provide the scientific foundation needed for public policy to effectively address threats to this ecosystem, 3) raise public consciousness on stewardship and conservation of marine systems, and 4) develop marine conservation recommendations that will support a sustainable bay ecosystem.

The TBBI will be one of the most comprehensive marine biodiversity surveys of any similarly sized marine system in the world. Results (survey design, database development, organizational structure, educational models, etc.,) will form the foundation for important marine biodiversity and conservation studies elsewhere.

Educating people about the results of the TBBI is just as important as the actual inventory. Classes, students, adults, teachers, and other organized groups will be able to experience the scientific process first-hand and contribute high quality data to this local conservation effort.



Brown Pelican, one of the many special status species found in Tomales Bay.



Tomales Point with Tomales Bay at left and the Pacific Ocean at right (© A. Kruse).

The TBBI will serve as a model for marine biodiversity inventories that will contribute to a global effort to conserve biodiversity and natural ecosystems. The partnership will foster collaboration in funding, scientific methods, taxonomic expertise, dissemination of information, community involvement, and educational programs.

The three-year total costs are \$473,000, which will leverage an additional \$703,000 (already secured) of in-kind support from participating institutions. There are no public funds available for this project, which will rely on foundation and individual support.

Final Reports and Products from Completed Project

The TBBI will produce key data and reports necessary for the long-term preservation and management of the Bay. **The following data and reports will become public and web accessible:**

1. New species discovered that were previously unknown to science.
2. Distribution, abundance, habitats, and ecological relationships of birds, mammals, invertebrates, algae, plants, and plankton.
3. Hotspots of biodiversity in the bay.
4. Threatened habitats and communities.
5. Identification long-term human and natural impacts from historic data.
6. Reports by individual researchers on ecology and conservation of species and communities.
7. Publications to disseminate replicable scientific and educational models for TBBI implementation in other marine systems.
8. Educational programs for students, classes and the public designed to raise public awareness about conservation issues.
9. Public and web accessible database of species and habitats of Tomales Bay.
10. Voucher specimens and genetic samples for museums.
11. Baseline taxa inventory for monitoring future changes, impacts and restoration.
12. Conservation and management recommendations to Tomales Bay Watershed Council and others for sustainable Tomales Bay.

Most importantly, local conservation groups and public agencies will use the information to develop management plans for the bay and to preserve marine systems.

Conservation plans will be more easily supported and implemented with a definitive understanding of species presence, distribution, habitats, threats, and

hotspots of diversity in the bay. Primary consumers of the data for management purposes are the Tomales Bay Watershed Council, the National Park Service, the Gulf of the Farallones National Marine Sanctuary, and California State Parks and Recreation. **Lack of data currently diminishes the ability of these groups to make conservation decisions.** Finally, the TBBI will increase public awareness of the threats to marine biodiversity and the importance of conservation.



Harbor seals are one of several mammals of concern that occur in the bay.

Progress to Date

The TBBI has seen significant progress in its first 12 months, including:

1. \$33,000 grant from the Marin Community Foundation, \$25,000 from the Mead Foundation and \$27,000 from the Pacific Coast Learning Center.
2. 20 page science plan developed.
3. Leadership team established.
4. Establishment of taxonomic working groups (TWiGs) for birds and mammals, plants and algae, plankton, fishes, and invertebrates.
5. TWiGs are compiling existing data from previous studies and surveys.
6. TWiGs are planning survey and database design for 2002 - 2003 inventories.
7. Education team developing educational programs and materials to immerse students in marine ecology, the TBBI and to disseminate research results to the public.
8. Tomales High School began mudflat monitoring program, fall, 2002.
9. Interim project coordinator donated by Point Reyes National Seashore.