

State of the Bay 2010

A Conference about Tomales Bay and its Watershed



Photograph: © KathleenGoodwin.net 2010

Friday, October 22 and Saturday October 23, 2010

presented by the Tomales Bay Watershed Council



Conference web-page - <http://www.tomalesbaywatershed.org/stateofthebay2010.shtml>

Abstract:

Tomales Bay Watershed Species of Local Interest: update on a conservation planning tool

By Thomas Gardali, PRBO Conservation Science (contributors include John Kelly, and Jules Evens)

The Tomales Bay Watershed Stewardship Plan, developed by the Tomales Bay Watershed Council (TBWC), outlined a framework for watershed stewardship intended to “guide future programs and projects and to assist funding organizations in ascertaining our [TBWC] needs at the watershed scale.” The framework contained a series of goals, associated objectives, and an action plan needed for achieving the goals. One of the three goals (Goal B) is to “Restore and preserve the integrity of natural habitats and native communities” within the Tomales Bay Watershed and one of the key activities is to develop a list of “species of local interest.” The Habitat Committee of the TBWC was tasked with developing the Species of Local Interest (SoLI) project and have made substantial progress including drafting a definition of a SoLI, developing and defining scoring criteria, and nominating and scoring approximately 400 taxa. The scores are currently being reviewed by scientists with expertise in the watershed. Once the scores have been finalized, we will apply a ranking scheme to cull the 400 taxa into two prioritized lists: (1) local concern and (2) local pest species. The final lists will be used to prioritize and evaluate projects, provide conservation guidance, and prioritize research and monitoring activities.

See video of this presentation at: <http://vimeo.com/16775926>

Complete proceedings, individual presentations, and links to video from the 2010 State of the Bay Conference are available on the Tomales Bay Watershed Council’s website:

<http://www.tomalesbaywatershed.org/stateofthebay2010.shtml>

Speaker Biography:

Thomas Gardali is the Associate Director of the Terrestrial Ecology Division of PRBO Conservation Science (founded as the Point Reyes Bird Observatory). For over 15 years, Tom has worked on avian research and conservation with this major non-profit organization. His research focuses on the long-term dynamics of bird populations in relation to natural and human caused changes in the environment including weather/climate, vegetation succession, and habitat restoration. Tom leads the research at PRBO's Palomarin Field Station where monitoring has been conducted year-round since 1966 and hundreds of young ornithologists from around the world have been trained. Tom has published widely on a diversity of topics including an article on managing field crews, and most recently, a monograph he co-edited on California's most at-risk birds – *California Bird Species of Special Concern*. Tom is actively involved in bridging the gap between research and management: He is an active participant in California Partners in Flight and works on several Joint Ventures.

prbo

PRBO Conservation Science



Tomales Bay Watershed Species of Local Interest: update on a conservation planning tool

Thomas Gardali, John Kelly, and Jules Evens

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Joe Kinyon, Michael Mery, and Nancy Scolari



Point Reyes
National Seashore Association

MARIN RESOURCE



CONSERVATION DISTRICT

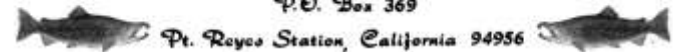


eac

The Environmental Action Committee of West Marin

Tomales Bay Association

P.O. Box 369



Today's Presentation

Overall goals

- 1. Introduce the Species of Local Interest project**
- 2. Provide and update on our progress**



Tomales Bay Watershed Stewardship Plan:

A Framework for Action



Prepared by:

Tomales Bay Watershed Council

July 2003

Support
the
Plan!

From the Stewardship Plan . . .

Goal B.

Restore and preserve the integrity of natural habitats
and native communities

Objective 1: Restore and protect populations of native species

Objective 2: Control non-native species

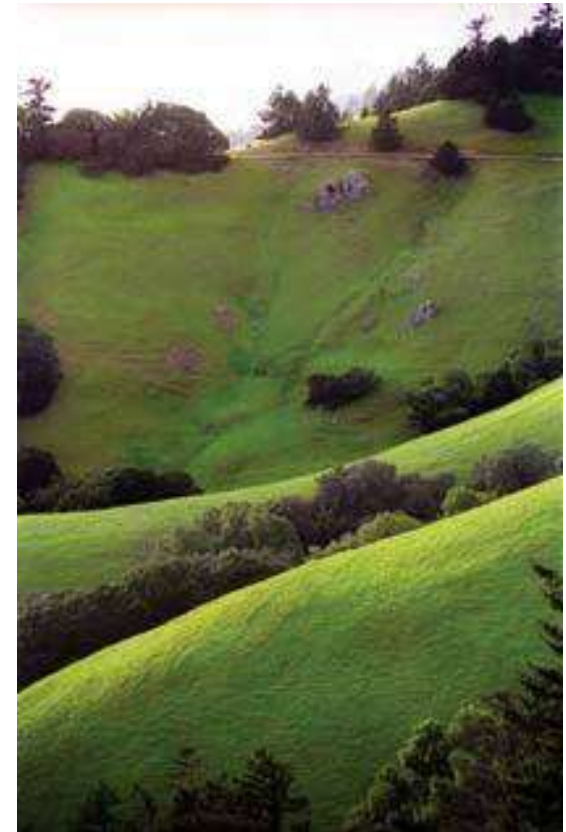
Objective 3: Restore and protect habitats of native species

From the Stewardship Plan . . .

Action 3.0

Assess, protect and restore key habitats for species of local interest

SoLI



From the Stewardship Plan . . .

High priority, short-term activity:

Develop criteria and create a list of species of local interest

Cost estimate: \$5,000



Point Reyes Lichen

The Habitat Committee

1. Define the SoLI
2. Determine specifically how it would be used
3. Develop criteria
4. Nominate and score the taxa
5. Devise a ranking scheme to select species from the list of nominees

So What?

Locally important

Prioritize and evaluate projects

Provide conservation guidance

Prioritize research and monitoring

Definition of a SoLI

Species of Local Concern – native taxa that warrant special research, monitoring, management, or habitat enhancement :

- State- or federally- threatened or endangered
- Special-status by another selected agency or organization
- Rare or declining in the watershed
- Important cultural role in the watershed
- Ecologically important in the watershed
- Highly vulnerable to climate change



Definition of a SoLI

Local Ecological Pest Species – native and non-native ecological pest species:

- Listed by a selected agency or organizations as an invasive exotic that threatens natural plant and animal communities
- Increasing or have increased to a level that threatens natural plant and animal communities
- Significant negative socio-economic impact
- Positive response to climate change

Criteria for Species of Local Concern

- 1.Status.** The species has special status on a state- or federally or other agency list.
- 2.Major Ecological Importance.** Major role in protecting or enhancing the structure or function of a local ecosystem and / or the abundance or stability of another SoLI.
- 3.Locally Rare or Declining.** Considered to be “rare” in the watershed and/or is declining in abundance within watershed.
- 4.Heroic.** The species is charismatic to local cultural perspectives.
- 5.Socio-economic.** A species that has demonstrable positive influence on human culture or livelihoods. Species of special importance to indigenous cultures are included here.
- 6.Habitat significance.** The species’ preferred habitat within the watershed is an important component of its endemic distribution, or its habitat association provides an important contribution to the biological diversity of the watershed.
- 7.Climate Change Vulnerability.** Vulnerable if their primary habitat is likely to be diminished or physiological constraints on reproduction or survival.

Criteria for Local Ecological Pest Species

- 1. Status.** High priority for eradication or management on a list by a reference agency or organization.
- 2. Major Ecological Threat.** The species is likely to have a major role in degrading the structure or function of a local ecosystem or reducing the abundance of a Species of Local Concern.
- 3. Locally Abundant or Increasing.** The species is common or increasing rapidly in abundance.
- 4. Socio-economic.** The species has demonstrable negative influence on human culture or livelihoods.
- 5. Beneficiary of Climate Change.** Pest species are expected to benefit from climate change if (1) climate-induced habitat change is likely to substantially enhance local abundance or (2) physiological tolerances are likely to result in substantial, climate-induced increase in local abundance.

FE,SE,IUCN:EN														
Common Name	Genus	species	sub-species	Habitat	seasonal status	conservation status	Status score	ECO_IMPORT	RARE_DECLINE	HEROIC	SOC_ECO	HAB_SIGNIF	Climate	
INVERTEBRATES														
Black Albalone	<i>Haliotis</i>	<i>cracherodii</i>		IT,ST	R	FE; IUCN-CE	1	0	1	1	0	0	0	http
Pinto Abalone	<i>Haliotis</i>	<i>kamtschatkana</i>		ST	R	NOAA:SC	1	0	1	1	0	0	0	http
Olympia oyster	<i>Ostrea</i>	<i>lurida</i>		IT, ST	R	none	0	0	1	1	0	1	1	Bec
Tomales isopod	<i>Caecidotea</i>	<i>tomalensis</i>		FW	R	DFG:G2S2	1	0	1	0	0	1	0	http
California Freshwater Shrimp	<i>Syncaris</i>	<i>pacifica</i>		FW,E-M	R	FE,SE,IUCN:EN	1	1	1	1	1	1	0	http
Bay Ghost Shrimp	<i>Callinassa</i>	<i>californiensis</i>		ST	R		0	1	1	0	1	0	0	http
Blue Mud Shrimp	<i>Upogebia</i>	<i>pugettensis</i>		IT,ST	R	Declining?	0	1	1	0	1	0	0	http
Pacific Littleneck	<i>Protothaca</i>	<i>staminea</i>		IT, ST	R		0	1	1	0	1	0	0	http
Washington Clam	<i>Saxidomus</i>	<i>nuttalli</i>		IT, ST	R	Declining?	0	1	?	0	1	0	0	http
San Francisco Forktail Damsel	<i>Ischnura</i>	<i>gemina</i>		FW	R	CE; IUCN:VU	1	1	1	0	0	1	1	http
Leptostracan Crustacean	<i>Nebalia</i>	<i>kensleyi</i>		E-M	R	Type locale	0	?	0	0	0	0	0	http
Dungeness Crab	<i>Cancer</i>	<i>magister</i>		ST	R	Intense Commercial exploitation	0	1	0	1	1	0	0	http
Bumblebee scarab beetle	<i>Lichnanthe</i>	<i>ursina</i>		CS,CD	R	FSC	1	0	1	0	0	1	0	Eva
Globose dune beetle	<i>Coelus</i>	<i>globosus</i>		CS,CD	R	FSC; IUCN Endangered	1	0	1	0	0	1	0	http
Monarch butterfly	<i>Danaus</i>	<i>plexippus</i>		MEF	W,T	IUCN	0	0	1	1	0	0	1	http
Marin elfin butterfly	<i>Incisalia</i>	<i>mossii</i>		cool, north facing cliffs w/S	?	FSC. candidate	1	0	1	0	0	1	1	http
"Point Reyes" blue butterfly	<i>Plebejus</i>	<i>icarioides</i>	<i>parapheres</i>	CD	?	FSC. candidate	1	0	1	1	0	1	1	http
Myrtle's silverspot butterfly	<i>Speyeria</i>	<i>zerene</i>	<i>myrtleae</i>	CS, CD	R	FE	1	1	1	1	0	1	1	Ste
San Francisco Lacewing	<i>Nothochrysa</i>	<i>californica</i>		unk	R	FSC, candidate	1	0	1	0	0	?	0	
FISHES														
Green Sturgeon	<i>Acipenser</i>	<i>medirostris</i>		E-M	V	FT; NMFS-SSC ("Threatened)	1	1	1	0	1	0	1	http
Pacific Lamprey	<i>Lampetra</i>	<i>tridentata</i>		E-M	V	FSC; declining	1	1	1	0	0	0	0	http
Bat ray	<i>Myliobatis</i>	<i>californica</i>		E-M	V	keystone	0	1	0	1	1	1	1	
Coho Salmon (c. Cal. coast ESU)	<i>Oncorhynchus</i>	<i>kisutch</i>		E-M,W-R	B	FE,SE	1	1	1	1	1	1	1	http
Pacific Herring	<i>Clupea</i>	<i>pallasii</i>		E-M	B	Candidate spp.; ecol. keystone	1	1	1	1	1	1	1	http
Northern Anchovy	<i>Engraulidae</i>	<i>mordax</i>	<i>mordax</i>	E-M	V	keystone species	0	1	0	1	0	0	1	Syc
Top smelt	<i>Atherinopsis</i>	<i>affinis</i>		E-M	R	key prey species (osprey)	0	1	0	0	1	0	0	http
Jacksmelet	<i>Atherinopsis</i>	<i>californiensis</i>		E-M	R	key prey species (osprey)	0	1	0	0	1	0	0	http
California halibut	<i>Paralichthys</i>	<i>californicus</i>		E-M	R	Commercial	0	1	0	0	1	1	0	http
Steelhead (c. Cal. coast ESU)	<i>Oncorhynchus</i>	<i>mykiss</i>	<i>irideus</i>	E-M, W-R	B	FT; AFS(TH):DFG-SSC	1	1	1	1	1	1	1	Jon
Chinook salmon (c. Cal. Coast ESU)	<i>Oncorhynchus</i>	<i>tshawytscha</i>		E-M, W-R	V	FT; AFS(TH)	1	1	1	1	1	0	1	Jon
Eulachon (smelt)	<i>Thaleichthys</i>	<i>pacificus</i>		ST	R	DFG-SSC, (Watch List); proposed FT	1	1	1	0	1	0	0	http
Tomales Roach	<i>Lavinia</i>	<i>symmetricus</i>	<i>ssp. 2</i>	ST	R	DFG:SSC (Watch List)	1	1	1	0	0	1	0	http
Tidewater goby	<i>Eucyclogobius</i>	<i>newberryi</i>		E-M, FM	R	FE:DFG:SSC	1	1	1	1	0	1	0	http
HERPATILES														
California Red-legged Frog	<i>Rana</i>	<i>draytonii</i>		FEW, W-R	R	FT; DFG:SSC	1	1	1	1	0	1	1	http

Results to date

198 “Concern” species nominated and scored!

Including inverts (19), birds (51), mammals (22), fishes (14),
herps (10), plants (73), lichens (9)

168 “Pest” species nominated and scored!

Inverts (69), fishes (14), herps (3), birds (6), mammals (10),
plants (64), pathogens (2)

Osprey (*Pandion haliaetus*)





Bat Ray (*Myliobatis californica*)

Pacific eelgrass (*Zostera marina*)



Star Sea Squirt (*Botryllus schlosseri*)



Yellow Star Thistle (*Centaurea solstitialis*)



Next steps

1. Incorporate expert review
2. Devise a ranking scheme to select species from the list of nominees
3. Produce final list and distribute
4. Publish



