

Joint Committee on Sengekontacket
2008 Summer Shoreline Survey For Bacterial Pollution.Doc

The Joint Committee on Sengekontacket will conduct field observation visits to the perimeter of Sengekontacket Pond in an effort to visually identify possible sources of the bacterial contamination reported in the tests of the MA Division of Marine Fisheries (DMF). Observations will be documented in an effort to develop corrective measures to prevent bacterial contamination in the pond. The Committee will follow the basic survey techniques used by DMF in conducting Sanitary Surveys. The last such survey was conducted in 1999 and included visual reviews for the following potential pollution sources:

- Waste disposal systems
- Waterfowl
- Pipes
- Drainage
- Stormwater runoff

The basic approach is to have teams walk or boat the perimeter of the entire pond, including walking property of riparian owners. Three surveys will be conducted: June, July and August. June will follow as closely on the 2008 DMF testing schedule as possible. The June survey will focus on conservation lands such as Felix Neck, State Beach and Caroline Tuthill properties where there is direct access to large, essentially public areas. July and August will focus on riparian properties at a time when most owners are in residence. Both Edgartown and Oak Bluffs Selectmen as well as individual property owners will be notified of the process and asked for cooperation and participation. Maps provided by the Martha's Vineyard Commission will identify property lines and owners for entire shoreline. For survey assignments MVC will be requested to provide a quarter mile grid matrix map locating parking or beach access to sections and plotted with *1999 Sanitary Survey* problem areas.

Teams will be provided with detailed checklist(s) with pictures or descriptions of conditions to be identified. There will be training session for volunteers reviewing identification techniques and clues. If possible each team will be accompanied by a knowledgeable (science trained) lead. Each team will have throw-away cameras to photograph problem or concern findings and survey flags and permanent markers to identify and number sites of problem or concerns. A standard form modeled on the DMF form will be used for reporting.

Attachments:

- Timeline for Shoreline Survey
- 1999 Sengekontacket Sanitary Survey Map revised
- Checklist for Source Identification
- Reporting Form

Sengekontacket Shoreline Survey -- Volunteer Training Agenda

History and Background

Goals:

- Participants will understand the historic and current water quality challenges that face Sengekontacket Pond

Activity: Slide show prepared by TA and SB

Project Purpose and Scope

Goals:

- Participants will be able to define a Sanitary Survey, identify its three components, and be able to conduct a survey.
- Participants will be able identify and located survey stations on the map.

Activity: Observe Map and find public lands, golf courses, private areas, etc. and identify survey sites.

Survey Specifics

Goals

- Participants will understand their responsibilities and protocol for engaging public and private landowners. (we need to determine these protocols)
- Participants will understand the sources of bacterial contamination and be able to identify each
 - Participants will be able to identify common birds found in and around the pond, estimate flock size and describe habits.
 - Participants will be able to identify common algae, describing mass, color and consistency
 - Participants will be able to identify evidence of fertilizer use
 - Participants will be able to identify animals and their tracks and scat.
 - Participants will be able to record information on impervious surfaces and identify natural and artificial water outflows.
 - Participants will be able to note evidence of failed or faulty septic systems.
 - Participants will be able to describe weather conditions including temperature, wind, cloud cover tides and precipitation using appropriate tools and equipment.
 - Participants will be able to accurately record all data collected on field observation checklist.

Lessons: identification of potential pollution sources

- 15 min Assessing Algae – Learn to identify common algae that indicate pollution (bacteria or nutrient) (distinguish good from bad)
- 5 min Fertilizer – show examples of over fertilized areas (photos)
- 30 min Animals and birds – see examples of tracks and scat and visual distinctions; domestic vs. wild animals; big vs. shore birds.
- 5 min Weather – learn to assess wind speed/direction using modified Beaufort scale(temperature, cloud cover and immediate prior weather conditions to be provided to group)
- Do a practice survey at Felix Neck, review equipment (flags, recording, photos)

Timeline and Announcements of Shoreline Survey

Letters announcing to the public and the Town officials that the shoreline survey is being conducted and why should go out in early July. Public notice and program description should be distributed throughout July. Media include Conservation Almanac, Water Alliance, newspapers, radio, TV.

Each of 3 surveys will build on the outcomes of prior findings. Dates and timing will be based on best early morning dead low tide.

- The survey approach will be tested by conducting the survey on Felix Neck with adult volunteers – June
- Campers will survey public and conserved lands (Caroline Tuthill, State Beach (2 parts) , Wildlife Trust (Moffat and Majors Cove) – July 7 – Aug 1
- Adult volunteers will survey private properties – August 4,5 or 6 (height of residential impact)

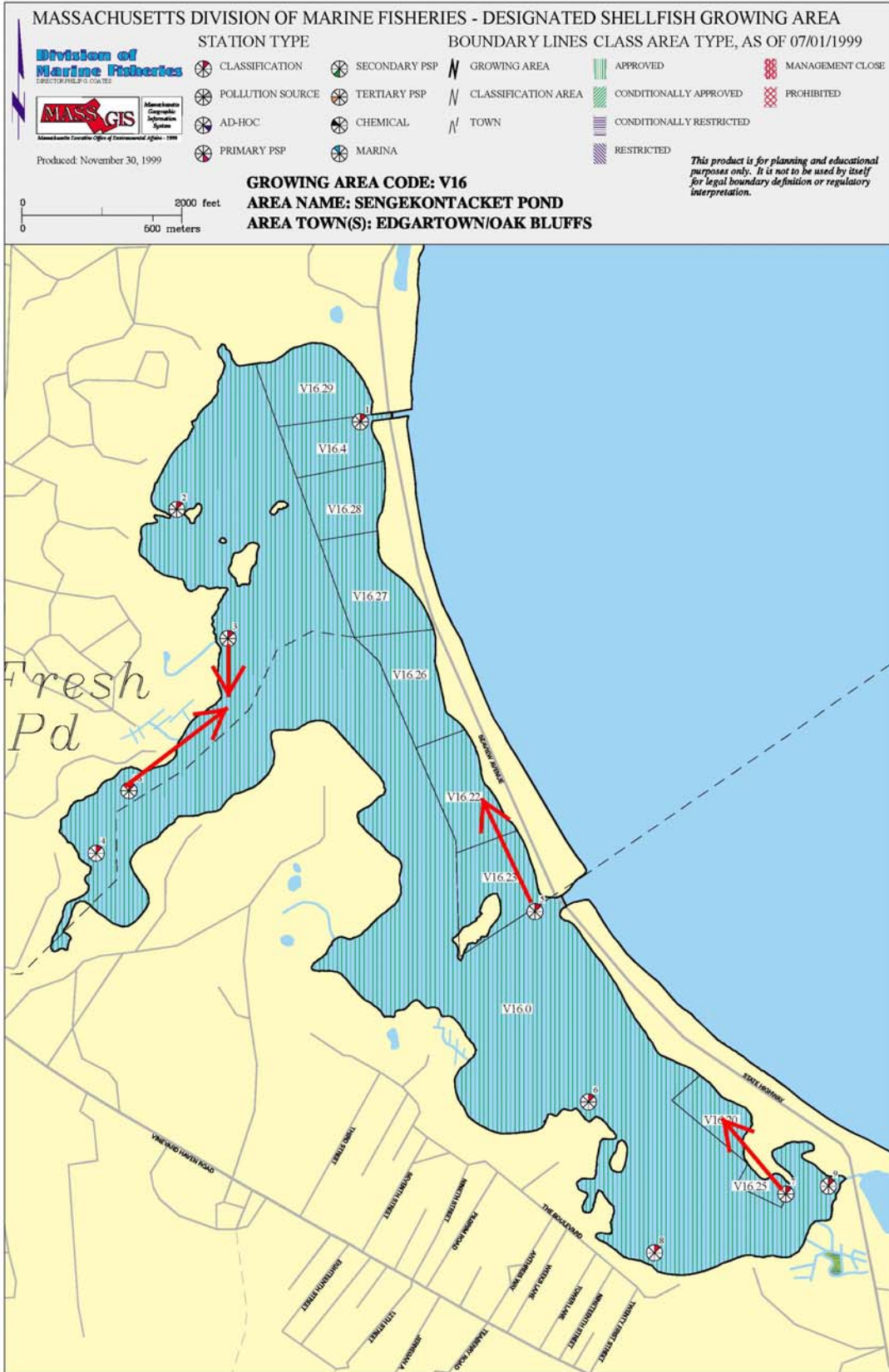
Survey volunteers will include adults (FOS board members plus others TBD) and Fern & Feather campers.

Recruitment of 30 adult volunteers needs to be conducted no later than June 25th to avoid need to repeat training.

Training of adult and Fern & Feather Camp volunteers will occur prior to conducting shoreline surveys.

- Training of Adult Volunteers – June 25, 2008 5pm at Felix Neck (2 hours); conduct Felix Neck Survey
- Training of Camp Counselors (Bellincampi) – early July
- Training of Fern & Feather campers and conduct of public lands surveys - July 7-11 and/or July 28-Aug 1
- Conduct of private land surveys

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Checklist of Sources of Bacterial Contamination on Sengekontacket Pond

For each incident records, note actual date and time of day.

Source Information needed	Actions
Birds	Identify type (geese, cormorants, gulls) and estimate flock size. Describe habits (nesting, fishing, etc.) actually eye-witnessed.
Algae/eutrophication	Survey pond scum and growth. Describe mass, color (green, blue etc.) and consistency. Examples include ulva, enteromorpha and cladophora. Estimate surface area covered.
Fertilizer	Survey properties at pond edge for use of fertilizer (residences and lawns, association and club properties and practices, etc.). Evidence: overly green turf-like lawn
Dog/other animals activity	Identify dog activity both on leashes and loose. Identify number of dogs. Identify location of feces (if possible remove). Identify any other possible animal sources (deer?). Provide animal tracks and pictures of various animal feces.
Road runoff/ditches/drainage	Identify impervious surfaces (roads, driveways, bridges, pipes, patios) on pond perimeter. Locate on the map. Identify any related groundwater flows (rivulets, gulleys, ditches) and map from source to pond edge. Note disturbance of wetland or other vegetation.
Septic systems	If visually obvious record location of any septic tank or leaching field exhaust pipe within 100 feet of pond perimeter. Look for and identify: bright green lawn patches, any potential standing water, soggy ground, ooze or possible septic overflow or smells that might indicate septic issues. Describe weather conditions at time of witness (temperature, wind, sunny vs. cloudy, tides, precipitation) and if possible prior period (long dry spell, heavy rain, extremely warm, etc.)
Weather	Describe weather conditions at time of witness and if possible surrounding period (temperature, wind, sunny vs. cloudy, tides, precipitation) and if possible prior period (long dry spell, heavy rain, extremely warm, etc.). Use Beaufort Wind Scale.

Pollution Source Survey Data Sheet

Pollution Source #	Location	Source ID	Source Status	Flow	Potential
Followup		Remarks			
Y	N				

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Y	N				

Legend

Source ID: 1 – Storm drain; 2 – Pipes; 3 – Birds; 4 – Farm; 5 – Septic system; 6 – Road drain; 7 – Animals; 8 – Boat; 9 – Trash containers; 10 – runoff; 11 – Dumpsite; 12 – Wetlands; 13 – Dock; 14 – Other

Source Status: 1 – Active discharge; 2 – Evidence of prior discharge; 3 – No discharge

Stormwater or drainage Flow: D – Direct; ID – Indirect; DW – Dry weather; WW – Wet weather

Pollution potential: 1 – No actual problem; 2 – Possible problem; 3 - Contributing source

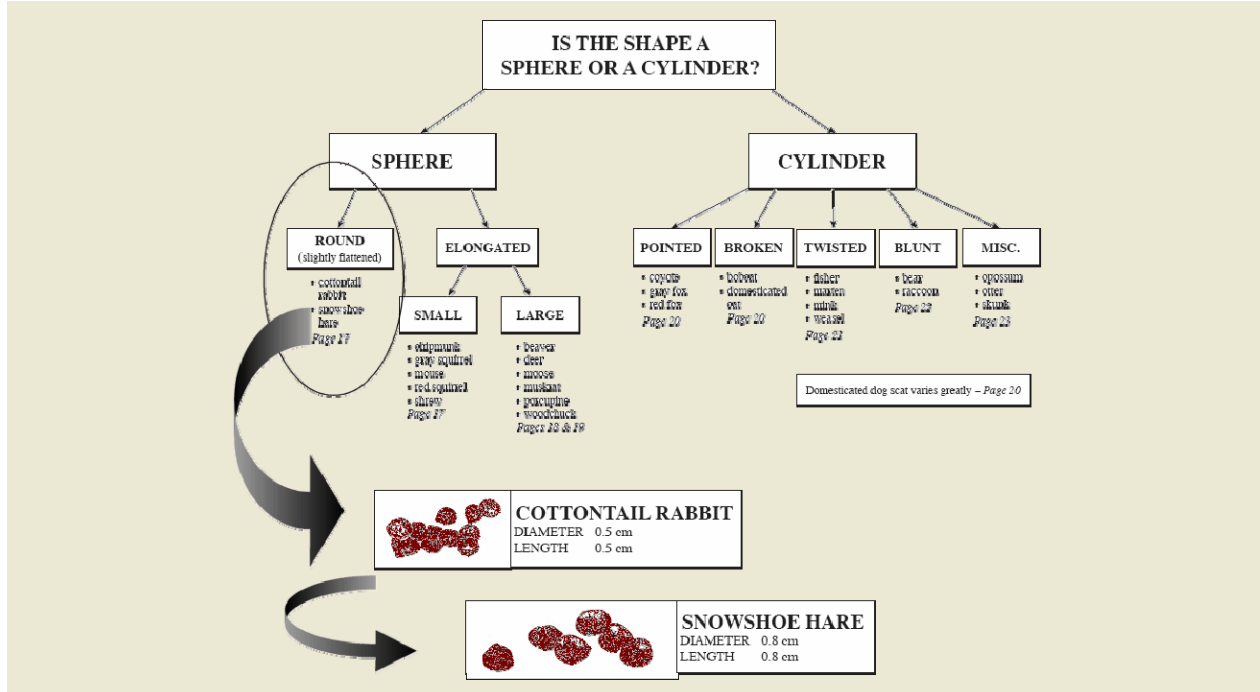
Additional detail

Site #	Bird type	1-10	11-50	51+	Habit: Feeding (F) Nesting (N) Fishing (S) Flocking (K)
	Tern				
	Cormorant				

Site #	Algae Type/Color	Location	Water surface coverage or mass: 1-100% Location: wrack or shoreline – cove – deep water

Animal Identification

Scat



Tracks

Tracks may not be shown in proportion to their actual size.

- (1) Muskrat (hind foot)
- (2) Chipmunk (hind foot)
- (3) Raccoon (hind foot)
- (4) Bear (forefoot)
- (5) Raccoon (forefoot)
- (6) Gray squirrel (hind foot)
- (7) Opossum (hind foot)
- (8) Bobcat
- (9) Snowshoe hare
- (10) Coyote
- (11) Skunk
- (12) White-tailed deer.

