

## **Squam Lakes Watershed Plan Steering Committee Meeting**

**December 9, 2016**

Present: Bob Snelling, Tiffany Grade, Andrea LaMoreaux, Jeff Hayes, Peter Webster, Cindy O'Leary, Rebecca Hanson, June Hammond Rowan, and guest Anju Shrestha

### 319 Funding

- Rebecca reported that SLA submitted a pre-proposal to DES for 319 funding for the Squam Watershed Plan. This funding is from the EPA to states. SLA has been invited to submit a full proposal, due in mid-January. Will need input from committee to define activities and match
- Applied for \$25K, but DES has suggested asking for \$50K
- June mentioned a new watershed modeling tool just released for Massachusetts.

### Loon Preservation Committee Update

- Tiffany presented to the committee an update on LPC's Squam Initiative to help understand the decline in loons in Squam and help restore the loon population.
- Largest population decline in loons from 2004-2005 in Big Squam, problem not showing in Little Squam. Productivity has also declined and not recovered (chicks hatching, nesting, etc)
- Lead fishing tackle is an issue contributing to mortality that should be considered in outreach part of the Squam Watershed Plan.
- Contaminants in loon eggs have been found (PBDE – used in flame retardants, PFOS – used in stain repellents, and DDT) and levels are higher (statistically significant) than in other lakes in NH
- Looked at possible sources of contaminants. Point source seems to be the issue – concerned about NE section of lake. Isotope testing done on loons in 2004-2007 –indicated contaminants came from Squam.
- Collected crayfish samples from NE parts of lake and results supported idea of Sandwich Bay & Squaw Cove having high contaminants. Also tested sediment samples. In 2016 – 7 sediment samples collected, at lab for testing.
- Suspect that when dirt road (possibly Coolidge Farm Road) was sprayed with oil (which was stopped in the 1970s) to keep dust down, the oil may have been contaminated. Historical society has old newsletter that mentions a mess after road oiling – people sick, rashes developing after swimming in Sandwich Bay.
- May also have been recent input of DDT & other chemicals into the system. Have found evidence of electronics (monitors, computers) dumped illegally. Lots of logging roads in the area where and evidence of illegal dumping exists. Could be old dump site buried – paint cans, rusting out, pesticides buried.
- May have been storm in 2004-05 that caused influx of contaminants from multiple tributaries that loons could not handle. Storm event – looking into a 2 yr lag that suggests storm then 2 yrs later seeing contaminants in eggs. With climate change, may have more frequent & intense storms that then results 2 yrs later a decline in Loon population.

- Sharing information with DES (Tracy Sales, Sara Steiner, Brandon Kernen) and Commissioner. DES recognizes problem but not sure what to do as it is not large enough to trigger a clean up. DES may not have the resources to address site.
- For watershed plan - should look at the problem and consider. May want to work remediation into the watershed plan.
- Rebecca mentioned that road maintenance (ditching and culvert work) might be an issue if it is digging up sediments contaminated years ago. Also, water quality data from the tributaries and coves will help describe runoff into the lake.
- DES – suggesting a structure to block sediment flow in the problem area – would remove contaminants and phosphorus.
- Could Lidar data help find old dump sites?
- Tiffany will send out report to the committee

#### Transport of Phosphorus to Squam Lake during storms – Anju Shrestha (Plymouth State University - graduate student in Environmental Science and Policy)

- Anju is working on a project to study phosphorus (P) in tributaries to better understand how it is transported during storm events. See report sent to committee.
- There are 34 inlets to Squam. Anju has sampled 3 – Livermore, North Brook and Eagle Cliff. Sites selected due to land cover and owner permission. She sampled 3 storm events last summer. Took 48 samples from each stream for each storm with automated sampler.
- Each storm event is different so different level of P in each storm and each site. During storm event get higher P. Concentration of total P is changing with storm event.
- Calculated % of new water using isotopes – can separate ground water from new water in storm event – as % of new water increases then concentration of P increases. During storm event total P is much higher than base P concentration. P is coming in during peak flow and is due to rain, not ground water coming into the lake.
- Rebecca noted that water quality sampling does not watch storms very well. Previously, only one sample taken during storm event – Anju collected 48 samples per storm.
- Is there such a thing as a continuous P monitor? – would be interesting to have P monitor at bridge.
- Jeff – is interested in applying transportation funds to look at water quality. Could we monitor P at bridge?
- Peter – can we separate what nature contributes to P vs humans?
  - Wetlands can contribute a large amount of P
  - Rebecca’s work will be separating land use & land cover and phosphorus contributions
  - P will go into lake and into sediment

#### Outreach Section

- Rebecca thanked people for help with outreach section

#### Engaging towns

- Important part of plan is to engage towns. How can we better engage towns given our capacity? What are we not doing but should be doing?

- Are we trying to update them or get input from them? Need both.
  - Need to better define and know what we want.
  - SLA has worked on this problem for years (Government Relations Committee) & it is hard
  - Timing issue – when we have a view of what actions we might implement then will need to get by in from the local towns
  - Combination of being informative and asking for feedback about actions
- Have Planning Boards been informed about what is going on and invited to participate?
  - Rebecca has met with Center Harbor & Ashland PBs, Holderness too.
  - Sending info by email
  - Have reached out to each town with different reaction from each – have gotten good response, but not much interest in participating.
  - May need to come up with series of questions to engage them more
  - Land use regulations – will be working in on reviewing and asking towns for input
- Need to define the client for the Watershed Plan – who is the client? Towns, watershed associations, residents & land owners
- We should ask towns for a letter of support for the 319 Proposal – or a letter of commitment. Ask for a member of Planning Board or Conservation Committee to serve on the Squam Watershed Plan Steering Committee
  - Need short project summary – and goals, timeline to send out
- Develop list of questions for towns – need committee input on this.

Public Engagement Meeting – Proposed January 26, 2017

- Agenda was discussed. Will decided soon if we are ready for this meeting. May postpone as 319 proposal will take time in January.
- Agenda item could be who is our audience for the Squam Watershed Plan? How do we build a network? Names and emails

Other

- Rebecca will send out 319 pre-proposal to committee

Adjourned 2:45 pm.