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# *Results from Key Stakeholder Interviews: Thoughts about the Squam Watershed Plan*

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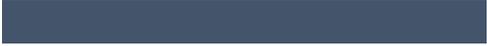
## **Introduction:**

A watershed plan is an important document for any waterbody. It provides a clear path for managing the resources in the watershed. Watershed planning is often a grassroots activity and should involve everyone that has a stake in the watershed. The planning process should include local people and businesses so that they can express the issues that they deem important and what they believe are the best ways to manage the resources in the watershed.

The Squam Lakes Association (SLA), in partnership with Plymouth State University's Center for the Environment, is leading the effort to develop a new watershed plan to meet the current requirements of the New Hampshire Department of Environmental Services.

In 1991, the New Hampshire Office of Energy and Planning completed a Squam Lakes Watershed Plan. In the past twenty-five years a lot has changed in the region, so an updated plan is needed. To assist in this project, as part of an environmental planning class at Plymouth State University (PSU), two graduate students conducted interviews with key identified stakeholders from the region. The context of this class was to learn about environmental planning through a class component as well as through a hands-on project. This project was meant to not only benefit the Squam Watershed but also help the two graduate students gain experience in qualitative research.

The interviews were conducted with key Squam Watershed stakeholders to determine their knowledge and concerns about environmental issues in the watershed. Overall the goal was to document the central issues of importance in the Squam



## Project Purpose

- Identify the central issues of importance in the Squam Watershed to determine what information should be included in the Squam Watershed Plan;
  - Determine watershed user's knowledge and concerns about issues in the watershed; and
  - Allow the stakeholders in the region to feel more included in the process and their watershed.
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Watershed to determine what information should be included in the plan. This information will benefit the watershed planning process and will allow the stakeholders in the region to feel more included in the process and their watershed as a whole.

### **Methods:**

The Squam Lakes Watershed Plan interview process and analysis consisted of many steps and components in order to successfully identify stakeholder's opinions and issues. Our project was required to receive approval from PSU's Institutional Review Board (IRB) in order to conduct interviews with stakeholders for research purposes. Each graduate student completed the online National Institute of Health's web-based training course "Protecting Human Research Participants" as part of IRB approval.

Stakeholders: A stakeholder is defined as a person (or group) who is responsible for making or implementing a management action, who will be significantly affected by the action, or who can aid or prevent its implementation (EPA 2008). For this project the graduate students were presented with a list of sixteen stakeholders from Squam Lakes Association's Director of Conservation. These sixteen stakeholders included people knowledgeable about the Squam Watershed from different sectors of the environmental community. Each stakeholder was included to serve as a representative for the community. The stakeholders ranged from paid environmental professionals to volunteers who have a passion for Squam Lakes. Some of the stakeholders lived in the watershed full time, others part time, and some did not own any property at all in the watershed (see summary of interviewees in Appendix 2). But all of the stakeholders recreated in the watershed throughout the year. Many of these stakeholders engage in the watershed through their work confirming that they would have the knowledge that we sought. Graduate students were assigned eight stakeholders to interview with each graduate student having a person from a similar sector.

Stakeholder Questions and Interview: Graduate students developed a list of questions with the aim to provide information on stakeholder concerns and ideas regarding the Squam Watershed Plan. These questions were designed to not identify the stakeholder, but rather to learn their connection with the watershed. After coming up with the initial questions, graduate students and project advisors edited the questions and developed a list of nine interview questions (See Appendix 1). Each graduate student then contacted their group of eight stakeholders either through email or phone for potential collaboration with the project to set up a time and date for a phone interview. The stakeholders were also asked to review and sign a consent form agreeing to participate in this study. At the scheduled time of the phone interview with the stakeholder, the interviewer reviewed the purpose of the study and why they were contacted. These interviews were recorded with a voice recorder and notes were taken by the interviewer. The nine interview questions were asked along with any follow up questions to confirm understanding or to elicit a further, more in depth response. After each interview, the interviewer reflected on the interview including but not limited to: how it went, anything that went wrong, things that went well, and suggestions for improvement. The interviewers also transcribed each of the recorded interviews.

Data File Management: The consent forms, interview overviews, and transcriptions of the interviews were organized and stored digitally and were made accessible only to project researchers to protect confidentiality. All files were saved without names or any identifying information of the stakeholders to ensure anonymity.

Coding and Themes: For data analysis: The graduate students each read a sample of three transcriptions and coded them based on criteria that they identified as important. Codes were used to identify stakeholder’s concerns, suggestions, and major points that were brought up during the interview. To ensure inter-coder reliability, the graduate students reviewed these interviews, discussed the coding, and developed a set of unified codes. Once codes were refined and agreed upon, previously coded interviews were then re-coded based on the new list of codes, and the rest of the interview transcriptions were coded as well. All of the codes were then compiled into themes. Multiple quotes from stakeholders were then compiled for each theme to be used in the final report to illustrate and discuss the identified themes.

**Data:**

From the sixteen interviews conducted eight themes were identified. These themes are water quality, use of the watershed, access, development, community, watershed planning, education and data. Themes are categories of data that were seen throughout the interviews and each point to an important component that needs to be addressed in the watershed plan.

**Water Quality:**

Water quality was a term that was mentioned during twelve interviews as one of the primary concerns for Squam Lake as well as the watershed as a whole. For example, one stakeholder said “Most important issue I think would be water quality...it encompasses an awful lot about what goes on in the watershed. I want to be able to continue to be able to swim in the water for the future, I like the pristine nature of the water.” All sixteen stakeholders discussed water quality as an area of concern. In terms of the context of the interviews, water quality can be thought of as a measure of the suitability of water for a particular use based on physical, chemical, and biological characteristics. It is also the measure of the conditions of water relative to the requirements for biotic species as well as to any human needs or purposes (USGS).

Six stakeholders identified upland issues, specifically nutrient loading in the tributaries as a concern. For example one

## Themes

**Water Quality:** The condition of water relative to the requirements for one or more biotic species and or to any human need or purpose.

**Use of the Watershed:** Includes the use of the land, lake, and region.

**Access:** Access to the land and lake for recreation and enjoyment.

**Development:** Encompasses both land development and economic development.

**Community:** Encompasses stakeholder involvement to the Squam Watershed Plan, personal values, and the inter-connectivity between all five towns in the Squam Watershed.

**Watershed Planning:** The success of the Squam Watershed Plan includes the overall execution of the plan, completion of the plan in a timely manner, and more frequent updates to the plan.

**Education:** Increasing people’s knowledge about the watershed through formal and informal means.

**Data:** Collecting more data will help the Squam Watershed Plan.

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**Water quality:**

*Water quality is a primary concern.*

*Tributaries & upland areas are important.*

*Management should focus on watershed as whole.*

*It is necessary to broadly define water quality.*

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stakeholder mentioned, “Well Squam has some springs within the lake, but a good deal of water, and a good deal of the organic input to the lake comes through the tributaries. You know, depending on the water basin, and what kind of development has already been done, has already happened in the sub-watersheds....It varies, but certainly a

good deal of the nutrient loading that comes into the lake comes in through the tributaries.” One interviewee also mentioned “...I think it’s important... to be looking at the whole watershed because you know a lot of the sources of pollution do come in on the tributaries. You know a lot of people focus just on the shoreline, and I think that needs some focus, but [we need to look] at the whole watershed and tributaries.” Management should be focused on the watershed as a whole, and not just the lake. Three stakeholders went on to voice that aquatic invasive species as a threat to water quality. One stakeholder mentioned, “...I want to see a continued focus on the prevention of aquatic invasive species....We’re all concerned about the plants, but now there’s aquatic invasive animals which are potentially even worse....” There was discussion that the definition of water quality to the community is not broadly defined. A concerned stakeholder stated, “...[there needs to be] a much broader understanding of what water quality is....” There is obviously a lot that encompasses water quality, whether it is pollution, nutrients, chemicals, or invasive species, and there were mixed feelings and opinions as to whether water quality needed to be improved or maintained.

***Use of the Watershed:***

Many of the stakeholders discussed the uses of the lake, land, and the resources of the watershed. Out of our sixteen interviews, fifteen stakeholders discussed this as an area that needed to be addressed. The concerns revolved around the type of use, the amount of use, and

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**Use of the Watershed:**

*Frequency & intensity of use are issues.*

*There are concerns about the amount of use, who is able to use the resource(s), and impacts on wildlife and water quality.*

*Multiple use is important.*

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who is able to use the resource. A high number of the respondents discussed a concern revolving around bass fishing tournaments. For example, one interviewee discussed how, “There’s been some concern about the...frequency and intensity of the bass fishing tournaments...” These fishing tournaments are seen as a high impact use on the lake and there is a lack of knowledge on what is a sustainable number of fishing tournaments. The fishing tournaments bring a large number of motor boats to lake and as one stakeholder said, “...to me at least, it doesn’t seem like large motor boats have that much place on Squam.” A preference for lower impact uses on the lake was often mentioned because stakeholders believed that it fits better within the culture of the lake. While boating, including motor boats, are always going to be part of Squam, a focus on low impact use and potentially a limit on the number of motorized boats that are active at any one time were both suggested within seven of the sixteen interviews. One stakeholder did express concern that they did not want to, “see it over regulated to the point where it is impossible to enjoy the public resource....”

There was also discussion of the impact this use could have on the wildlife on the lake, specifically the loons. One stakeholder suggested that limitations on boating might want to be implemented where there are loons nesting. Another stakeholder discussed how even the “low impact” users such as kayakers still have an impact on the resource. They said, “They tend to think they don’t have any impacts and...you see them out there and they are chasing loons because they want to get a better picture, or...they’re approaching wildlife too closely....”

While most of the conversation revolved around the use of the lake, there were a few stakeholders that discussed the use of the land, primarily discussing the hiking trails and the use of the natural resources. The primary concern was the amount of trash on the trails and erosion from overuse of the trails. As one stakeholder mentioned, “There’s so many people that you are getting trail erosion issues and some litter issues,” another stakeholder commented on how they are, “...always disappointed with how much trash there is.” Aside from these concerns, stakeholders felt that the land resources are being used appropriately. One stakeholder said, “I think a good deal of the watershed...has been put into conservation easement. And...at the same time those areas have been open for low impact recreation, hiking, and those types of things. So I think the watershed is in pretty good shape and is used appropriately.” Another stakeholder mentioned how “...it’s certainly important that the land in the watershed is multi-use.” This includes the ability to harvest the forest for wood products as well as have the land open for recreational use.

**Access:**

The ability to access the resources on the Squam Watershed was a concept that was mentioned in five of the sixteen interviews. One stakeholder mentioned that the most important issue would be trying to balance “...the kind of more pristine history that Squam has...with the, I say necessity, to have public access and not make it an exclusive destination just for...wealthy landowners or homeowners.” This was a common opinion, that access has to be made available and encouraged for all including “...people that don’t own or have their own private access to the lake or to the land.”

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Access:  
*Access to resources is an issue.  
Access should be encouraged in a sustainable manner.*

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Multiple stakeholders mentioned how pleased they were with the fact that the SLA publishes written information about the different areas that you can access including, “where you can access the trails, but also...different areas that you can access water.” But while it was found that this information was present, there were still some stakeholders that felt that the shoreline was, “fairly locked up”. Stakeholders said that access should be encouraged, “but in a sustainable way.”

Aside from the lack of public access points the stakeholders mentioned a lack of parking. This was discussed in terms of the lake parking as well as the parking for land based recreation. One stakeholder said that they felt that 24 parking spots at the public boat launch in Holderness was not enough for a resource like Squam and that more spots were needed. Another stakeholder said that the Rattlesnake Trailhead parking lot has a similar issue. “Obviously it is a very highly used, very busy location...often it is difficult, there is parking issues and sometimes people have trouble finding a spot to go up and use it.”

An increase in parking, specifically for the lake, would increase the use of the lake. One stakeholder mentioned that they wanted Squam to be, "...a place that's not unwelcoming but that is limited. You know, not increasing motor boat access...more than it already is." Another stakeholder's suggestion for this was to impose a fee for launching a boat.

**Development:**

Development was mentioned in nine out of sixteen stakeholder interviews, whether it was mentioned as land development or economic development around the Squam Watershed. Regardless of its context in the interview, it was a clear theme being used in

stakeholder discussions. From the many discussions, land development was referred to as residential and business developments and the altering of landscapes due to these types of changes. Economic development was referred to as the efforts to seek to improve the economic well-being and quality of life for the Squam Watershed community by creating job opportunities and growing income.

There were mixed opinions around land development. For example, one stakeholder mentioned "I'm concerned about...the amount of development...and you know just really keeping the keeping the character, the natural character, the wild character, the forested character of that area, ...particularly in the Sandwich area lately there has been, you know, a lot of change..." Another mentioned, "Squam does such a nice job with, you know, when you are running around you don't see mansion, mansion, mansion on the shores everywhere....And that doubles in helping with the water quality because everybody has a nice buffer and some vegetation...just making sure that doesn't change." Expanding about development pressures and trying to protect the environment and ecosystem services around Squam, one stakeholder went on to explain this in further detail by saying, "...I'm guessing a lot of land, at least higher up in the watershed is not conserved or protected in some way....It would be great if there was a relatively high amount of conserved land in the watershed." Conserving land, especially in the upland areas, was a key topic in order to protect land, water, and wildlife. Even though there are development pressures potentially happening around the Squam Watershed, some stakeholders think there might be a potential solution for development noting, "...it needs to be developed in an appropriate manner, which will then go back to preserving the water quality."

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**Community:**

*There needs to be common community understanding.*  
*All towns in the watershed need to be involved.*  
*Dialog between communities is a necessity.*  
*Lots of people of all ages should be engaged.*

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**Community:**

Community is one of the most important pieces to a successful watershed based plan. One stakeholder stated this clearly saying, "The success of having the plan is not in the creation of the plan, but in the implementation of the plan. So engaging a lot of people in a lot of different ways is critical to the success of [the plan]." Community encompasses the necessary stakeholder

involvement to the Squam Watershed Plan, individual personal values, and the inter-connectivity between all of the five towns in the Squam Watershed. Community involves the people living in a

common area, sharing similar interests, feelings, and goals. Almost every stakeholder had something to say in regards to community. Stakeholders thought that a planning process and implemented plan requires the Squam Watershed to form a general community, young and old. A successful, implemented plan and healthy watershed also requires a healthy dialogue between communities. For example, one stakeholder mentioned "...the healthy dialogue about what the community values. A dialogue on why the resources are worth protecting, and a fostering of an ongoing dialogue so the plan does not sit on the shelf for 25 years like the other one did...."

People want to see the plan to be used more frequently as well as ongoing planning discussion throughout a wide community of people rather than a final product with no end result. A stakeholder described a successful plan as one that includes the community, making "sure there is some engagement with your constituents, so the plan is a true reflection from the various users of the region, and the various residents in the region." Lastly, a common community understanding, as well as the involvement of all five towns in the watershed was raised throughout interviews as important for the success of the watershed plan. As an illustration of this, one interviewee noted that, "...it has to do with the different...players involved whether it's the towns, the non-profits, the state... with [all] of those people having common vision and a clear set of goals and a path forward....If that came out of this plan I think that would be a really great outcome".

***Watershed Planning:***

Watershed planning was identified as a theme to encompass all ideas revolving around the success of the Squam Watershed Plan. This includes the overall execution of the plan, completion of the plan in a timely manner, updating the plan more frequently, and tracking the success of the plan after it is produced. One stakeholder summed up a

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Watershed Planning:

*The plan needs to be completed in a timely manner.*

*The plan needs to be implemented.*

*The plan needs to be used.*

*Accomplishable goals must be realistic.*

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measure of the success of the plan will be in its implementation saying, "I think the ultimate success is the implementation of the watershed management plan. So I think that's where that balanced approach really comes into play....a plan acts as a unifying force and pulling people together in the same direction and things are actually implemented that affect the goals that are set out for the plan." On the other hand, implementation of the plan is not all that needs to be happening. Stakeholders said it's not as easy as you think. One stakeholder said the hard part is "...making people actually get something after [the plan is] done....How do the stakeholders actually do something to move the ball forward?"

There was also general concern around the 1991 Squam Watershed Plan. One stakeholder voiced that the planning process needed to move forward and stated "Let's go ahead and get this thing going because the old one is pretty old. And a lot of things has changed and we need to get something out there that people can embrace....maybe that we need to refresh this thing more than once every 25 years." It seems that stakeholders want a new plan sooner than later because a lot has changed in the past 25 years. One stakeholder went on to explain another downfall to the current 1991 plan stating, "The '91 plan had 149 suggestions. And something like eight or nine broader topics. And I think that's totally unrealistic. You can't come up with 149 things to do, so I think it should be a short list, five, eight topics listed by priority and that will come from a list probably 40-50 things that need to be done, but I think it should be a in essence a short list of accomplishable goals." Stakeholders think the plan needs to

be more realistic, with more accomplishable goals in order for the plan to be “successful.” Lastly, stakeholders really stressed that “...it could be important that the Squam Watershed would be able to share their information with other watersheds like the Moultonborough Bay watershed, Center Harbor, and Meredith....Just sharing information and working together about what they found, things that work, or you know where they found problems...that people were unaware of.” The plan should not just sit on the shelf for 25 years, and actually be used not just in Squam, but used as a guiding tool for other communities.

**Education:**

Education was a clear theme resulting from the stakeholder interviews.

Education was built as a theme to encompass all ideas about increasing the knowledge of people both in and out of the watershed. This included formal education as well as informal

education such as increasing knowledge through signage, basic verbal communication or by other means. Education was often discussed by the interviewees as a goal of the watershed plan. These included education about Best Management Practices (BMPs), the impacts people may be having, and the idea that we need to educate the youth in order to preserve the area in the future. These concerns were based around the water and the land equally and included a wide variety of topics such as education about aquatic invasive species to education on why people need to stay on the trails. To sum it up, one stakeholder said that, “...I think the most successful outcome is to get...people who live in and use the lake engaged in the process...so they build a really strong understanding of...what the watershed is all about, how the watershed functions, what are the issues, what are the actions that each one of us can take to keep the lake, and its watershed, as gorgeous as it is.”

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Education:

*This includes formal and informal education.*

*A goal is to help people use resource in sustainable way.*

*Good education will reduce need for regulation.*

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In order to keep the watershed in its current condition education is key. One stakeholder mentioned that part of it is, “...allowing people to use the resource but providing them with the...information and opportunity to use it sustainably.” A suggestion given was that the Squam Lakes Association, “...might think about having workshops and presentation, and things like that” to spread the information. Some of the education goals mentioned were, “...making sure homeowners know about best management practice,” “encouraging marina staff to be knowledgeable about...the best way to prevent the aquatic invasive species spread” and getting “all the property owners to really understand...the watershed concept...and why they all should be invested in protecting the resource.”

Many people mentioned that this increased education could result in needing less regulation. One stakeholder mentioned that they would be, “...less inclined to regulate uses on the lake but be more inclined to educate lake users as to what they do and how it impacts things.” Overall a statement of this theme was said by one stakeholder, “I think that education is certainly an important piece of whatever comes out of this plan.”

**Data:**

Data was a theme that, while it was only mentioned by six of the sixteen interviewees, was determined to be important because of its relationship to the other themes. Ideas that fell under this theme dealt with the increased desire for bringing in or collecting more actual data. This could include referencing

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**Data:**

*More information is needed in areas including carrying capacity for boats, sustainable level of fishing tournaments, employment in the watershed, and the use of trails and boat launches.*

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data that already exists or conducting more studies on specific aspects in the watershed. Much of the information that was desired dealt with the sustainability of the watershed and the lake's carrying capacity. One stakeholder said, "...I would just like to know that...there's being research and studies done to really

figure out what's a sustainable...level...of fishing tournaments for the waterbody." Another stakeholder mentioned that, "...something that should certainly be looked at is what is the carrying capacity of boat traffic on the lake." There was also discussion around climate change and the impacts it is going to have on the watershed and that we need to look at this if we want to keep our water resources functioning the way they should be.

One stakeholder expressed a desire to inventory and gather information so that we can have, "a clear understanding of what the...highest value areas are and...know where the priorities should be..." Part of this information gathering was desired by other stakeholders. One stakeholder said, "...I think it is important to try to pull in...real data from as many places as you can." Specific information was called for by another stakeholder including a socio-economic indicator including diversity of employment in the watershed and, "...some use patterns and information about the trails and different boat launches along the lake."

**Relationship between Themes:**

Throughout the interviews the stakeholders often made suggestions on how to incorporate some ideas into the management of the resource in order to alleviate some of their concerns. These management solutions included putting limitations on the use of the lake (especially at specific key times) and restrictions on boating in key wildlife locations. Other suggestions included adding more bathrooms in the area to prevent pollution to the lake and adding trash receptacles at the base of cliffs and at the boat launch to deter littering. Each of these suggestions brings in a relationship to another theme, all with the common goal of bettering the Squam Watershed. In many cases, an improvement in one can cause an improvement in a different area. The quotes compiled from the interviews and the data section of this report shows the interconnectivity of themes. The stakeholders often discussed multiple themes within one answer to our questions. For example, they may have been discussing their concern with the implementation of the plan but related it to the issue of stakeholder involvement and the inclusion of the five towns which fall under the community theme.

Water quality is an overarching concern across themes such as use of the watershed, development, education, and the plan. Some stakeholders discussed the impact that recreationists have on water quality. These impacts include using the lake as a bathroom and bringing in invasive species via their boat or trailer. If improvements are made on the number of available bathrooms and constructing a decontamination station for boats and trailers, then water quality will be protected. Development can also impact water quality. This was highly discussed in terms of development around the tributaries that lead to the lake resulting in higher nutrient loading in the tributaries flowing to the lakes. The overall watershed plan can have a major role on water quality. Components can be included within the plan in

order to ensure the protection of water quality as long as the execution and implementation of the plan are properly performed.

Education is another theme that highly relates to the others. If education is increased on aspects such as invasive aquatic species, it could be prevented lead to a reduction in aquatic invasive species and higher water quality. If landowners also learn more about how to reduce their impact on the environment, such as having a buffer between their lawn and the lake or the impact of impermeable surfaces, they may be more likely to put best management practices into use which could also help ensure the protection of water quality. Education can also help people learn to use the resources in a sustainable way. This would mean that the use of the resource may not have to be regulated as long as people use the resource properly. Education is also the key to helping people learn what their impacts are on the resource. For example, learning about lead fishing tackle, or what to do if their fishing line gets snagged are all important aspects that people could be educated on. Hopefully the watershed plan will be able to be used as an educational tool. Throughout the interviews it was shown that if more education occurred in the watershed many of other concerns could be alleviated.

The concern of sustainable use in the watershed also brought in the theme of data. Due to concern about the number of fishing tournaments happening on Squam, one stakeholder wanted research to be done to determine what a sustainable level of fishing tournaments would be on the waterbody. One interview discussed how Fish and Game has already completed studies on how many fish caught during fishing tournaments make it back out into the big lake after being released in Little Squam. These studies help educate the public, as well as the professionals, about the impacts and benefits of certain management strategies. But this information is not well publicized so people still have their concerns. Using this information to inform the public would be highly beneficial and should be published for the public to see whether that be through the SLA newsletter or through another outlet.

The plan also highly relates to the theme of community. Without the involvement of stakeholders, specifically the five towns this plan will not be able to accomplish much. As one stakeholder said, we need a real commitment by the various towns and they need to know that they all have a role to play. This is similar to the need for stakeholder involvement because the watershed plan should be in some form a reflection of their concerns and values.

### **Discussion:**

There were some points of contention that were brought out throughout the interviews. Probably the most acknowledged was the concern over the number of fishing tournaments. Squam Lake is a public resource. It is not managed and regulated by Squam Lakes Association and the landowners of the waterfront property do not own the lake. Because of this, a lot of management is difficult when it comes to limiting access and limiting recreational activities such as fishing tournaments. The state sets the number of fishing tournaments that can occur on the lake because the state is the manager of the lake resources. This brings in an idea of further stakeholder involvement in order to reach a compromise between lake users, including fishermen, based on a common understanding of the issues. As one stakeholder mentioned, the lake should not become over-regulated to the point where it is impossible to enjoy the public resource. All people have a right to access the lake, but how to address the impacts they have on the lake, as well as how to reach a compromise between the users is something that should be addressed in this plan.

Addressing the impacts they have on the lake could come in through multiple facets. The first one is education. As mentioned above, educating the public was brought out as something that should be a clear goal of the plan. This education can help teach people what their impacts are and how to reduce them, how they can help prevent water pollution through BMPs on their lawn, or even help them learn about the current condition of the lake. Many people visit Squam and say that the water quality is phenomenal but what doesn't come out is the temporal scale of these opinions. Some of the key stakeholders that were interviewed mentioned how the water quality has clearly declined over the time that they have spent on the lake.

A goal of the plan should be to determine how to prevent this deterioration of water quality over the next 25 years. Part of this goes back to education. The watershed concept needs to be put out to the public. People living in the uplands of the watershed may not know that the development on their property could have an impact on the lake through a nearby tributary. This also relates to data in that water quality monitoring should not only occur in the lake, but rather the whole watershed should be monitored. The stakeholders that were interviewed for this project were picked because of their knowledge of the concept, and because of the stock they hold in the resource. The stakeholders understood this concept of a watershed and the possibility of these impacts, but it was brought out as a concern that not everyone residing in the watershed does.

This is not to say that the community members are not knowledgeable. Many of the residents hold key local ecological knowledge. They may notice certain factors that may not come out in a weekly sampling of the lake. This is why community engagement is necessary for this plan. The community could provide further insight into these concerns. This plan is everyone's plan, not just SLA's, and this point has to be continually acknowledged. The involvement of a wide variety of people is also key to the implementation of the plan. The plan could contain the best ideas in the world but, without the support of the community, implementation will be difficult. It was highly stressed in many interviews that stakeholder involvement, and specifically the buy in from all five towns in the watershed, needs to occur.

There was also concern about the development of the region. Development can easily lead to an impact on water quality. This could be through runoff over impervious surfaces, pollution from waste, impacts from septic system or many other causes. While many people expressed that they did not want to see further development, there was also an expressed desire for economic development. The balance of these concerns needs to be addressed in the watershed plan. The balance of having people be able to live and prosper here with the preservation of the rural characteristics of the area could be difficult to reach but this was a key point of contention with the stakeholders. Better economic data and community input will help clarify the balance between a strong economy and resource protection.

Overall the key stakeholders that were interviewed knew that developing this watershed plan for Squam was necessary but that implementation of the plan will be the difficult part. Many of the successes of the previous plan were not voiced to the public so once this plan is implemented it will be important that updates be given on the accomplishments whether it be through the SLA newsletter or through partnering associations.

## **Conclusion:**

While this report was made to primarily assist with creating the Squam Watershed Plan, the graduate students gained many skills in qualitative research. In this project sixteen interviews were done with key stakeholders in the region with the primary goal being to determine the central issues of importance in the Squam Watershed and to determine what information should be included in this watershed plan. Throughout the sixteen interviews many areas of concern were brought out. These concerns revolved around water quality, the use of the region, access to the land and water, community in the region, development of the land, economic development, using new information, education on many different aspects, and the plan itself. All of these concerns were highly interrelated but each deserve their own consideration. The goal of the Squam Watershed Plan is to have it represent the various stakeholders in the region and address their concerns. As one stakeholder said, if many stakeholders felt that the plan at least represented some of their concerns and their values once it was finalized that would be a good outcome.

With the updates on the 1991 Watershed Plan, stakeholders through these interviews expressed that they would like to see more attention given to aspects such as water quality. Other concerns that were addressed revolved around the use of the resources and the development of the land which could have an impact on water quality as seen in the discussion. Overall there was a call for community involvement in the planning process and further education for the stakeholders of the region.

A new Squam Watershed Plan, while it will be a reflection of the Squam Watershed ideals, can serve as a framework for other lakes. Through the implementation of this plan Squam can serve as trailblazer for lakes in New Hampshire and in the region. Depending on what the Squam Lakes region decides to implement it can serve as an example for other watersheds of high water quality.

## **References:**

US Environmental Protection Agency (2008) *Handbook for Developing Watershed Plans to Restore and Protect our Waters*.

US Geological Survey, <http://water.usgs.gov/edu/waterquality.html>

## Appendix 1: Interview Questions

### Interview Questions:

1. The first set of questions will help us understand your connection to the Squam Watershed.
  - a. Do you live in the Squam Watershed? (yes or no)
    - i. (If no) Do you own property in the Squam Watershed? (yes or no)
  - b. Do work in the Squam Watershed? (yes or no)
  - c. Do you work for an organization that engages in environmental issues in the Squam Watershed? (yes or no)
  - d. Do you regularly recreate in the Squam Watershed?
    - i. On the lakes? (yes or no)
    - ii. On trails? (yes or no)
    - iii. Summer or winter or both?
    - iv. Other? (yes or no, if yes please explain)
2. Please describe the most important issue to you about the Squam Watershed.
3. Please describe the second most important issue about the Squam Watershed.
4. The EPA has established 9 key elements (known as the a-i list) to be addressed in watershed based plans. Are you aware of the state and federal requirements for watershed based plans?
  - a. If so, please comment on these requirements.
5. What do you think the vision for the future of the Squam Watershed should be?
6. What would you consider a successful outcome of the Squam Watershed planning process?
7. Would you like to see any changes in the uses of the lake?
8. Would you like to see any changes in the uses of the watershed?
9. Is there anything else you would like to add regarding the Squam Watershed Plan?

## Appendix 2: Summary of Interviewees

Live In Watershed	Total # of Stakeholders
Yes	4
No	9
Not Year Round	2
Notes:	1 did not know
Own Property (if no or not year round)	Total # of Stakeholders
Yes	3
No	7
Notes:	1 did not know
Work in Watershed	Total # of Stakeholders
Yes	10
No	4
All over state	2
Work engage in enviro issues	Total # of Stakeholders
Yes	14
No	1
Notes:	1 was retired
Regularly Recreate	Total # of Stakeholders
Yes	14
No	2
Notes:	The two were not regular users
Lake Recreation	Total # of Stakeholders
Yes	14
No	2
Trail Recreation	Total # of Stakeholders
Yes	15
No	1
Season	Total # of Stakeholders
Year Round	13
Seasonal Users	3

N= 16 Interviewees