SOS Club Checklist—Suggestions from Kirk Smith

For clubs seeking a mission beyond basic stream monitoring, there are just a few important thresholds to consider before venturing outside the comfort zone of a successful program already established by the Izaak Walton League of America (IWLA). Below I'll attempt to provide some general guidance to help you avoid pitfalls I've observed over the last few years. The writing is intended for an audience of educators; however, I realize some youth sponsors may be associated with organizations outside of educational systems.

Networking

If your group truly desires to participate in attempting to study or resolve some actual world environmental issue, it's imperative you first establish who all the game players are in the discipline and geographic area of interest. If you are at a total loss as to where to start, I suggest starting with an American Fisheries Society (AFS) representative provided by those administering the TIA Alliance. A second contact to consider is the Soil and Water Conservation District (SWCD) outreach representative in the geographic area you wish to explore. Some school systems have a "green" administrator or sustainability office. Contacts within those offices may be useful in helping you network.

Considering you may be new to the arena, don't be disappointed or annoyed if few return your initial e-mails or phone calls as you attempt to establish your network of contacts. I've been working in and around the environmental field for over 40 years and many of my initial outreach e-mails and phone calls still go unanswered. Early in the process, I highly recommend you allowing the AFS representative, TIA Alliance reps. and the SWCD rep. help establish your network. Whenever possible, always attempt to meet your contacts in person, especially in the early stages of networking. I always make these initial meetings a priority because if anyone meets me in person and interacts with me, it should be apparent my intentions are focused on natural resource conservation and involving youth in the process. It's evident I've already had my days in the sun and I'm sincerely attempting to pass the torch to rising generations. During your interactions, when civil servants and NGO employees realize you are actually attempting to augment their efforts in the long run, they will usually go that extra mile to assist in developing your mission.

There are no lone rangers, no mavericks in this process. Every external activity you attempt to do should only be done in context of the larger community already immersed in an ongoing process. Thorough networking contributes to your group's clout and credibility.

Start Small

An award winning 8th grade science teacher viewed one of my documentaries and was so inspired he decided he was going to replicate what James Madison High School (JMHS, Vienna,

VA) did with his 80 rising 8th grade gifted and talented science students. Not only that, but he was going to do it as part of his curriculum, not as a club mission. Three months into the school year he totally abandoned the idea. So…what happened? Many may guess it was a finance or expertise issue but it was really logistics. He couldn't figure out how he was going to truck 80 students all around his county, achieve his goal for the day and then get back by the end of a school day. So, it was the length of the school day, finding chaperones and bussing 80 students. By the time he was three months into the school year, he was so far behind the required curriculum, he had no time to invest in resolving his dilemma.

Before you venture beyond basic stream monitoring, ensure you've mapped out everything in detail. Even then, there will be many surprises you didn't predict. Of course you will start with your networking but then you need to ensure you select a mission that is a sure winner. Thinking back, remember those students who attempted to think of a science fair project and they'd present the idea of designing the next generation of space shuttles or the next generation of space labs? When selecting your environmental mission, avoid the embarrassing equivalent of designing the next generation of space shuttles. Even the smallest of projects can have enormous, resonating value beyond the initial goal. For example, last year our group surveyed a watershed just east of Edinburg, VA. We were appalled at all the plastic trash in and around the stream. Perhaps a great follow-up mission would be to go back the following year and remove trash from a certain reach of stream. So now you're probably thinking, "Um, I'm not getting involved in this to pick up trash. I can do that in my own yard…" But think about it. You could do stream monitoring above, within and below a selected reach before you remove the plastic. After trash removal, you could follow-up with subsequent monitoring events to determine if there are changes in macroinvertebrate communities. There could be a few science fair projects in this scenario. There is a possibility of publishing a few papers in scientific/educational journals. IWLA would obtain data for several sites, not just one. There would be teachable moments around concepts of secondary succession, population dynamics, community ecology, ecological resilience, etc. Throughout the process, you and the students would gain a sense of satisfaction knowing you cleaned up the area. There would probably be some media coverage and recognition by the local community, not to mention public speaking and publication opportunities for students. If nothing beyond trash removal and some stream monitoring was ever accomplished, your mission would still be deemed a success.

The above hypothetical scenario is very plausible, age appropriate and quite doable. Think about it, in the above scenario, what extra scientific equipment is needed? None. What extra expertise is needed? Maybe some experimental design research and digging into the literature a little. The logistics of making multiple visits and finding a location to dump/recycle your trash, may be your biggest challenges. Trash collection may not have much appeal at first glance but is truly a scientific diamond in the rough.

Countless other very simplistic extensions of stream monitoring await your discovery. Those administering TIA Alliance have hoped I'd author some magical universal field manual with all possible field missions imaginable. Even if someone commissioned me to author such a publication, it wouldn't be much use to those who would be addressing actual environmental

issues within their local community. No manual can predict and provide a solution for every potential issue you may encounter nor could such manual precisely guide you with step by step procedures in your mission to address locally specific issues. Critics view this ambiguity as the Achilles heel of the expanded SOS Clubs program, but I view it as a key component that provides for authenticity and relevancy. Canned environmental education programs have their place and value but, to date, very few are designed with an active mission as the foremost focused goal. At the other extreme, already in existence are a plethora of published guidelines, manuals and procedures for conducting general types of environmental field projects (e.g., stream restoration, deer abatement, invasive species mgt., etc.). Because there is no magical manual, you are advised to work closely with AFS and SWCD reps., among others, when developing a mission suitable for your group. Their expertise, coupled with local knowledge, will allow you to develop a custom-fit mission suited to your group's interests, abilities and time frame.

Establish Partnerships

Be careful not to confuse partnerships with networking. Not everyone in your network will be partnering with you but every stakeholder partner should be from your network. In order to avoid confusion, before you ever embark on a collaborative effort, ensure the nature of your relationship with other parties is explicitly established. The relationship doesn't have to be on some notarized document but should be in writing somewhere. Below is a true story where a partnership wasn't truly established yet a teacher thought it was.

One teacher set out to use selected stream monitoring sites in a couple different county parks. There was some sort of formal communication on the arrangement followed up by several e-mails. When the teacher thought everything was set, she then learned she'd have to pay a sampling permit fee for each park. The teacher was stunned, thinking she had been blindsided by these fees. The better approach would have been for the teacher to determine, from the very beginning, if the park system would be interested in collaborating on a long-term monitoring project. Discussions during initial communications would be along the lines of establishing roles and responsibilities of each collaborating party. It's very important to appreciate the difference between having someone cordially answer your questions and help facilitate your mission along the way versus specifically asking an entity if they would like to be a joint partner or collaborate on a mission. Some organizations are sensitive as to what language is used when establishing working partnerships so it is advised to always run your ideas through the AFS, SWCD rep or TIA Alliance rep. first. They will be able to help guide your partner building strategy. Done correctly and with patience, you may find yourself with all the support you've ever hoped for and more funding than you'll ever need.

Make a point to join certain environmental organizations. I'm a lifetime member of Trout Unlimited (TU) and a member of AFS. Top management and leadership of those organizations know who I am and sincerely value my active participation. The point here is, don't think you'll be ignored just because you are a teacher. As far as income is concerned, all I

am is a school teacher and a farmer. If you are enthusiastic, you will be a valued member of any conservation organization, regardless of your economic or employment status. I am not a member of IWLA although I do donate money (the same amount as annual membership dues) to their SOS program. Ideas for potential missions often originate from active participation with environmental organizations. Most environmental NGOs are starving for active membership so there's plenty of opportunity to make an impact. You should also consider encouraging your students to join similar organizations as well. Most NGOs have special student memberships.

I'm the designated natural resource advisor for my local TU chapter and have played a very active role in various chapter activities. In return, the chapter has financially supported field missions and other activities of the JMHS SOS club. As a result, teens do not fundraise and very little financial support is needed from the school or school system. Because the SOS club I sponsor only has two field days a school year, nearly all grant applications are rejected. I haven't applied for any grants for several years. Having a local NGO chapter sponsor is a proven alternative route to near full funding and one good example where partnering literally pays off.

Probably the most important contribution from the school system comes in the form of accepting liability for personal injury should a teacher or student get seriously injured in the field. Such a luxury may not be afforded in all school districts but certainly is a perk afforded to the JMHS school club. Considering safety must come first, you need to ensure medical and liability issues have been addressed before you venture into any extensive field project. I would have included safety as a subheading in this document but it is expected safety issues have already been addressed before basic SOS stream monitoring was initiated.

The JMHS principal and assistant principal overwhelmingly support efforts to sustain the JMHS SOS club even though it is an extracurricular activity at our school. For those seeking to initiate activities beyond basic SOS stream monitoring, it is imperative school administrators are aware of your intentions. A supportive admin team may be more helpful than you might predict because they too will want to share in the positive recognition your outreach efforts may bring to the school and school system. Bottom line though, get the admin onboard early and constantly update them as you move forward—you don't ever want them to be surprised by something. If admin is not onboard with your plans, then your club will be stillborn. If they are supportive, make a point to share your successes with administration, embracing them as part of the team.

Teen Led

The first year I started my mission-based group, I failed to ask students to do much preparation, clean-up/maintenance and subsequent data analysis. Consequently, the experience was more like a field trip for the students. Yes, they had fun and enjoyed a day off of school but they truly didn't learn much nor did they know what to do with the data. Since there was no grade associated with the outing, once it was over, the students cared very little about results. Considering all the participants were sophomores, I blamed lack of interest on lack of maturity.

Unfortunately, the experience the following year when all were juniors was even worse. I realized the club had to be structured differently if it was going to endure long-term.

The third year of the club I brought in a whole new group of teens to participate. Only one student from the original group stayed on but that student was not given a leadership position. During the 3rd year, I actually handed nearly all the responsibilities over to the students. They had to plan all outings, including transportation, chaperones, equipment calibration/operation/maintenance, field set-up, all the field work, cleanup and storage upon returning. They had to do all quality control data checks and report out to stakeholders. Most surprising of all, the leader of the group was a special ed student, but with intense aspirations to be a fisheries biologist someday.

The attitude and focus of the group that third year was dramatically different from what transpired the first two years. When given club ownership, students rose above and beyond my expectations. I can still remember the student leader harping at others in club meetings, "We're not planning a field trip guys!" As a faculty sponsor those first two years, it wasn't all the extra work I had to do getting ready for and then cleaning up after field outings that bothered me the most. What disappointed me more than anything was the lack of interest students displayed after obtaining data. After all, that's why we were out in the field in the first place.

When we reflect upon high school sporting events, performing art productions and fine art shows, how much of what is displayed is the work of faculty sponsors? For some reason, teens have been allowed to actively participate in extracurricular sports and arts but participation in science has largely been academic. I have seen some science fair projects that were genuinely novel and legitimately scientific. However, most extracurricular science activities are purely academic. Even those that require some skills, like Envirothon or Science Olympiad, do not produce any new information or products.

Save Our Streams Clubs provide opportunities for students to contribute to ongoing science. However, for students to fully appreciate their contributions, like coaches at a sporting event or an orchestra conductor at a concert, faculty sponsors need to give as much responsibility to students as is age appropriate and possible. The more sponsors do, the more they will have to do in the future with students learning little and caring even less. The more prevalent student responsibility and accountability are, the more students will learn, appreciate and value. They will know what their accomplishments are and will be proud of them. Likewise, they will own their failures and be all the wiser from the experience.

All said, it may take your club a few years to get organized and situated before teens can fully take the keys and run the club. For instance, it would not be a good idea tasking teens with establishing your original network nor would you want them to negotiate partnerships (although you may want to involve them). Even after teens eventually take control of club activities, you may still find times when you will have to step in and fill gaps in operations. Vigilant oversight is most warranted, perhaps even more taxing than doing many tasks yourself.