



# Gill Raker Gazette

The Newsletter of the Idaho Chapter of the  
American Fisheries Society

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Editor: Rob Van Kirk

## President's Message - "Staying Connected"

ICAFS Colleagues,

Most of us have been in full swing with our field seasons for a couple of months now, after being cooped up under stay-at-home restrictions this spring. I'm sure everyone is thankful for the ability to be in the outdoors. In looking over past Presidents' messages, it was obvious to me that this section of our newsletter is typically an excellent place to share thoughts on current events in the fisheries science community. And while I am certainly honored and excited to share some these thoughts, I am approaching this assignment with a bit of trepidation. As our communities struggle to contain, manage, and react to a rapidly changing pandemic and various political issues, it seems somewhat challenging for me to focus on a typical fisheries related topic and more fitting to discuss how we, as a Chapter, are forging ahead during these crazy times.



In a culture that thrives on events such as music festivals, large weddings, sports, and other social assemblies, I assume that most of us are wondering what the future will hold for in-person gatherings, especially since we are uncertain how long COVID-19 will remain a health threat. This, in particular, caused me pause the other day when I was thinking about our Idaho Chapter meetings. Having been a member of the Chapter for the past 20 years, it was very clear to me that what I value the most about our Chapter is physically gathering together to share recent work, make new or strengthen old connections, and essentially reinforce my "fisheries family" bond. That said, I think most of us would agree that prioritizing others' safety is always paramount to our own personal desires. After our last meeting this past spring, it was clear that at least for the short term, isolation was a means to accomplish just that. However, we should remember that although we certainly can survive in isolation, we thrive together as a collective membership. Therefore, finding ways to stay connected, regardless of the means to facilitate that linkage, is essential for us to remain whole.

As most of you are aware, in light of the challenges presented by the virus, the in-person 2020 National AFS meeting in Columbus, OH was canceled and re-scheduled to take place on a virtual platform. And although this was far from ideal, it was unquestionable that this could still be a valuable way to remain connected as a group. I bring up this particular topic because we, along with many of the Western Division AFS (WDAFS) Chapters, were also recently faced with this same crossroad decision on whether to hold a virtual Chapter meeting in 2021. Having to consider an admittedly imperfect choice to replace our treasured in-person meeting was difficult. However, for the Idaho Chapter Executive Committee (EXCOM), this deliberation was necessary to guard against the potential financial loss that may have occurred if we continued to plan for a face-to-face event at the Boise Center next March.



## President's Message (continued)

To facilitate our decision, we recently sent a survey out to Chapter members. The results of this survey confirmed that the majority of the membership thinks that, given the current circumstances, the EXCOM leadership should plan an all-virtual Idaho Chapter AFS meeting in 2021. The survey, details of which can be found below and on page 3, were extremely helpful for us to make an informed vote and adopt that path forward. Thanks to everyone who took the time to provide their thoughts. Although settling for a virtual meeting isn't particularly satisfying, we think it is a better alternative than cancelling the meeting altogether. Staying connected by any means possible will be valuable for our Chapter. It is also evident that most, if not all, of the WDAFS Chapters will likely follow suit by adopting similar virtual meeting platforms. In addition, the WDAFS is assisting the Chapters by providing guidance documents that will be extremely helpful for planning these types of meetings.

Rest assured that the Idaho Chapter EXCOM is working very diligently to put on another unforgettable and excellent Chapter meeting next spring. But remember, this can't happen without everyone's support and commitment to attending! So please note this landmark event on your calendars and plan to participate. Also come prepared to participate in all events including our outstanding, online fundraising event that will prove to be nothing short of OUTSTANDING! I am positive you will be pleasantly surprised at how much you will gain from this experience. As we all remain socially distant in some form or another, remember that we are stronger in numbers, and connecting with each other by whatever means necessary is critical to accomplishing our collective goals for Idaho's fisheries resources.

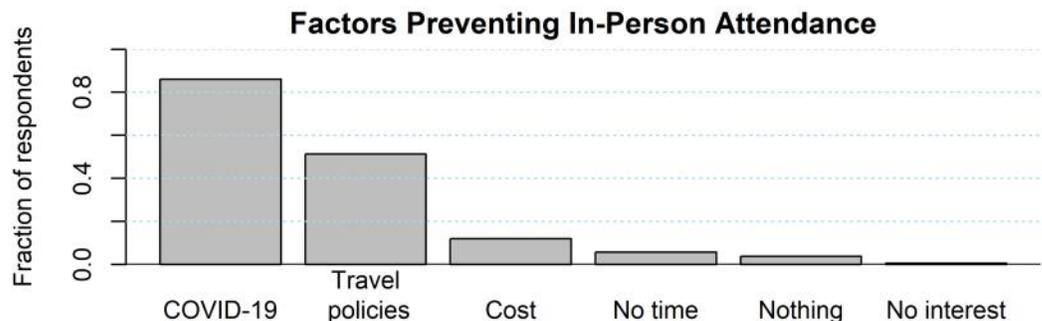
—Ryan Hardy

## ICAFS Member Survey on 2021 Chapter Meeting

Because the annual ICAFS meeting is *your* meeting, EXCOM wanted to hear from you before making a decision about whether—and how—to hold the March 2021 Chapter meeting. An online survey was distributed to Chapter members via email at the end of July. The majority of responses were received prior to August 6, when EXCOM voted to hold the 2021 meeting in a virtual format, but the survey remained open until August 14.

- **158 survey responses** received (Thank you for such a great response rate!)
- **34% would attend an in-person meeting** in 2021
- **95% would attend a virtual meeting** (all or part) in 2021
- **76% recommended a virtual meeting** to EXCOM

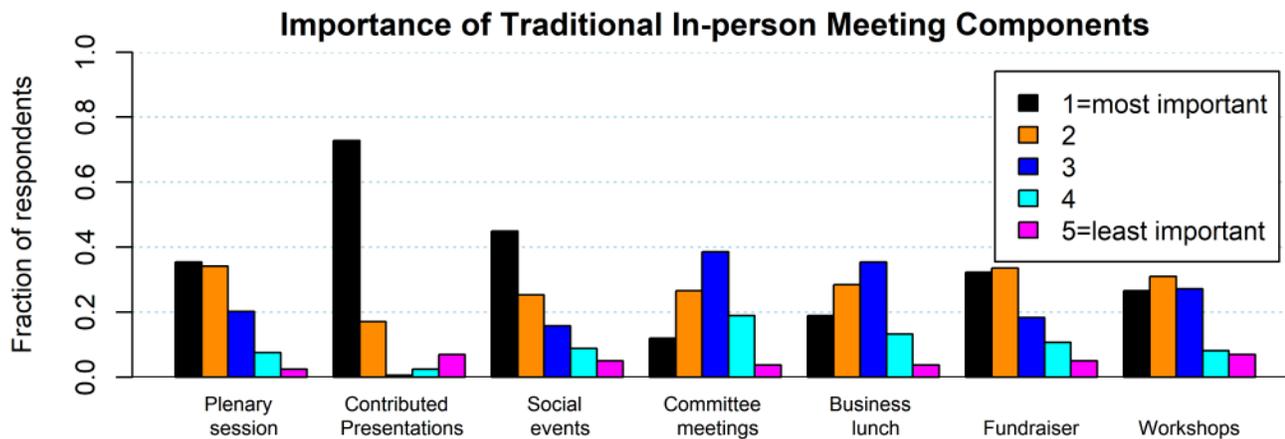
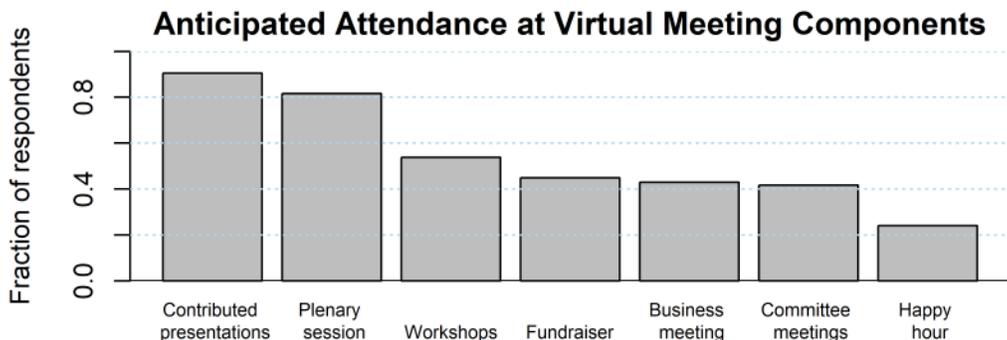
By far, concern over COVID-19 was the single biggest reason given for anticipated non-attendance at an in-person meeting, followed by employer travel restrictions and policies. Interestingly, of the eight respondents who would not attend an a virtual meeting, all but one would not attend an in-person meeting either.



## ICAFS Member Survey (continued)

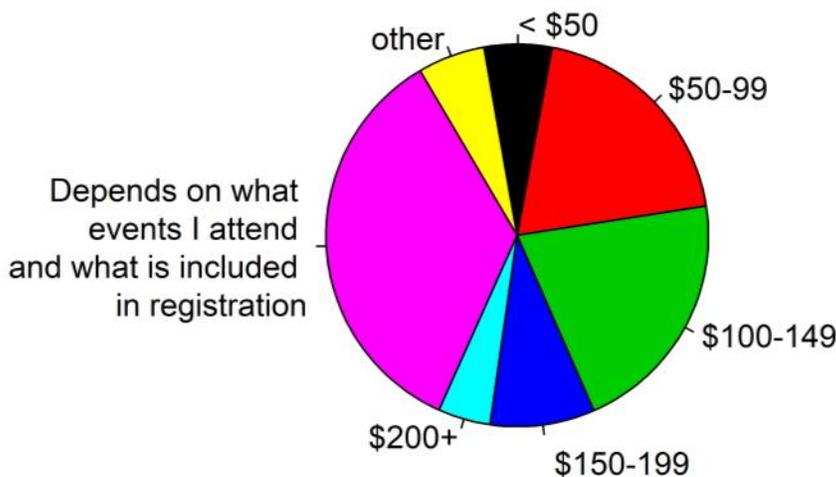
A majority of respondents would attend contributed presentations and the plenary session in virtual format, while around 45-55% of respondents would attend virtual committee meetings, workshops, the business meeting, and the fundraiser.

Only around 25% would attend a virtual "happy hour" social event. With the exception of the social event, anticipated attendance at the various virtual meeting components reflected the importance ICAFS members place on these components of traditional in-person meetings.



About 40% of respondents were willing to pay a registration fee of between \$50 and \$150 for a virtual meeting, while 35% said their willingness to pay would depend on what events they would attend and what was included in the registration fee. Several respondents indicated that ability to pay for virtual registration would depend on agency policies and career stage.

### Willingness to Pay Registration Fee for Virtual Meeting



Many respondents provided insightful comments, including moral support, that were helpful to EXCOM in reaching its decision.



## 2020 ICAFS Annual Meeting Summary

Communicated by Tim Copeland and Lauren Andrews

In the "before times," the 58th annual ICAFS meeting was held in person March 10-13, 2020 at the Coeur d'Alene Resort in Coeur d'Alene, Idaho. The venue featured lakeside views with easy access to the North Idaho Centennial Trail where the 2.5k/5k Spawning Run was held.

### Attendance

- 257 attendees: 181 professionals, 18 young professionals, 49 students, and 9 retirees
- Professional attendees represented 8 tribes, 6 state agencies, 7 federal agencies, 11 schools, 3 NGOs, 4 utilities, 2 municipalities, 17 private firms.
- Students from 6 colleges and universities and 2 high schools also attended.

### Plenary Session: "Navigating the Challenges of Science Communication"

- Hank Patterson (aka Travis Swartz), Actor and Comedian
- David Rubenson, Director of Scientific Communications at [Nobadslides.com](http://Nobadslides.com)
- Ray Troll, Artist
- Patrick Cooney, Co-founder of "[The Fisheries Blog](http://TheFisheriesBlog.com)"

### Presentations

- 3 workshops (Gill Net Design and Selectivity, Stage 0 Habitat Restoration, and Integrated Broodstock Management)
- 26 posters
- 66 talks

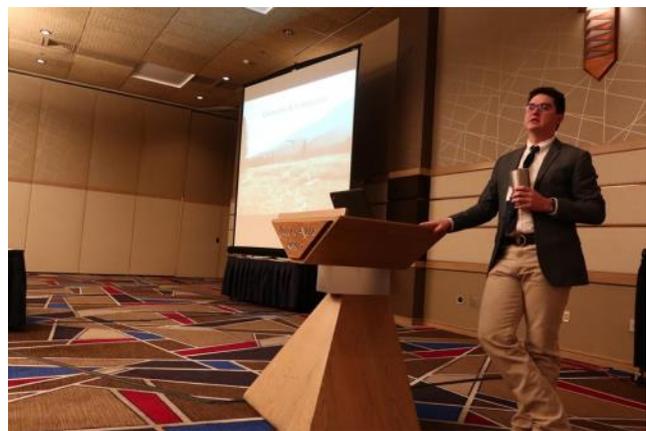
### Awards

#### Committee Awards

- R.L. Wallace Native Fish Conservationist of the Year: Bart Gamett
- Excellence in Habitat Improvement Award: Idaho Dept. of Fish & Game Fisheries Habitat Team
- Excellence in Aquaculture Award: Cabinet Gorge State Fish Hatchery Team
- Outstanding Mentor Award: Brett High



Artist and plenary speaker Ray Troll helps raffle off two of his famous t-shirts.



Tim D'Amico makes a point about native salmonids in the North Fork Boise River.



## 2020 ICAFS Annual Meeting Summary (continued)

### *Awards (continued)*

#### Scholarships

- TOP Grant: Drew Suhomel, BYU Idaho
- High School Scholarship: Chloe Howell, Wallace High School
- Undergraduate Scholarship: Drew Suhomel, BYU Idaho
- Graduate Scholarship: Rachel Brinkley, Idaho State University
- Susan B. Martin Scholarship: Natasha Wingerter, University of Idaho

#### Annual Merit Awards

- Brett High, President 2019-2020
- Matt Belnap, Secretary/Treasurer 2018-2020

#### Distinguished Service Awards

- Darcy McCarrick, Palouse Unit President 2019-2020
- Ryan Whitworth, Portneuf Unit President 2019-2020
- Drew Suhomel, BYU-I Unit President 2019-2020
- Lance Hebdon, Mentoring Committee Co-Chair 2015-2019
- Jessica Buelow, Mentoring Committee Co-Chair 2015-2019
- Micah Davison, Nominations Chair 2019-2020
- Phil Branigan, Fundraising Committee Co-Chair 2018-2020
- Bill Young, Anadromous Committee Co-Chair



Chip Corsi receives the Lifetime Achievement Award from Past President Dan Schill.

#### Outstanding Fisheries Professional Awards

- Ernest Keeley, Professor of Fish Ecology at Idaho State University
- Jordan Messner, McCall Regional Fisheries Manager for Idaho Department of Fish and Game

#### Lifetime Achievement Awards

- Chip Corsi, Panhandle Regional Supervisor for Idaho Department of Fish and Game
- Dr. Don Zaroban, Curator of Fishes at Orma J. Smith Museum of Natural History

#### Distinguished Service Awards

- Best Professional Oral Presentation: Allison Lebeda, Pacific States Marine Fisheries Commission
- Best Student Oral Presentation: Darcy McCarrick, University of Idaho
- Best Professional Poster: Courtnie Ghery, Idaho Department of Fish and Game
- Best Student Poster: Brianna Frazee, University of Idaho

### *Finances*

- 24 corporate sponsorships totaling \$11,700
- 46 silent auction and 14 live auction items
- Fundraiser netted \$24,159
- Meeting expenses: \$81,238
- Standing after meeting: \$10,000 in discretionary funds



Fundraising Chairs Phil Branigan and Carlos Camacho with some of the goodies for auction at the banquet.



## Student Spotlight Susie Frawley

Susie Frawley is currently a graduate student in the Quist Laboratory at the University of Idaho. She grew up in Arizona where she spent the majority of her time playing soccer, cello, and exploring the outdoors with her family. She has been fascinated by rattlesnakes and other critters since she was young which ultimately led to her pursuing an undergraduate degree in Fisheries and Wildlife Management and Ecology at Montana State University. Her career in fisheries began as a summer intern working on a project assessing the feasibility of using commercial seining to control the Common Carp population at Malheur National Wildlife Refuge. After her undergraduate education, she worked as a fisheries technician identifying habitat overlap between Largemouth Bass and hybrid Striped Bass in Arkansas, assessing relocation sites and the effects of nonnative predators on Hornyhead Chub in Wyoming, and monitoring native trout populations in the tributaries of Lake Pend Oreille in Idaho. Currently, her graduate research aims to assess the food habits and trophic position of Walleyes in Lake Pend Oreille and identify how individual variation in growth is related to variation in trophic position.



## The Value of Uncertainty, by Jim Reynolds

Ask any economist about uncertainty and you may often get answers reflecting distaste. Economists, and the business world in general, embrace certainty and are nervous about uncertainty. To some degree, we all gravitate toward certainty in an uncertain world. Certainty is comforting; doubt is not. Too many of our leaders prefer to speak in absolutes. Yet, as scientists and managers dealing with nature and her resources, we have learned to accept the reality of uncertainty; it is the one thing that is certain. Our culture of science has developed both strategies and tactics to deal with uncertainty. We use the scientific method with an understanding that we can never prove anything right—only prove something wrong. We speak in terms of probabilities and models that gauge our understanding but never guarantee it. There is no shame in this although we are often taken to task for “never being sure.” Uncertainty, however, is a gift, an open door to freedom of thought and the ability to consider all possibilities.

Permit me to use a personal example of the potential of uncertainty for problem solving. In the 1980s, I teamed up with A.L. “Larry” Kolz, an electrical engineer in Colorado, to develop a theory of electrofishing. Larry had a background in wildlife radio telemetry and had done studies around the world. When he observed electrofishing, the electrodes reminded him of radio antennae: the former were sending signals in water and the latter were receiving signals in air. But both methods, he thought, were subject to the tenets of Power Transfer Theory (PTT). This well-established theory states that when an object (say, a radio collared animal) is immersed in a medium (air), the minimum amount of electrical power to detect a signal occurs when the conductivity of the two are equal.

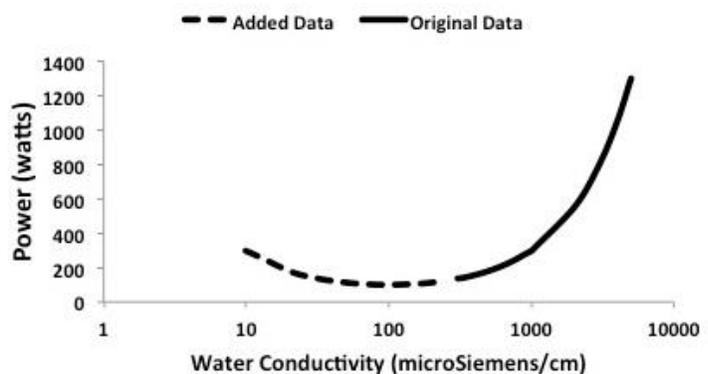
If the conductivities are different, more power is needed to detect the signal, and as the difference grows, even more power is required. While PTT had never been applied to electrofishing, scientists in the 1950s-1960s recognized the importance of fish conductivity in electrofishing. Their studies treated fish as inanimate objects (fish carcasses) and resulted in estimates generally ranging from 500 to 1,200 micro-Siemens per centimeter ( $\mu\text{S}/\text{cm}$ ). As a fish biologist, I advised Larry that our studies should be based on the behavior of live fish, in particular, the threshold of electrical field intensity for a specific fish response such as immobilization or taxis. We decided to perform a series of experiments using PTT as the basis for estimating fish conductivity.

The subject of our experiments was that great American sport fish, the Goldfish (*Carrasius auratus*). We determined the response threshold at various water conductivities 300-5,000  $\mu\text{S}/\text{cm}$ , expecting that the nadir (minimum) of the resulting U-shaped curve would indicate the point of minimum power and, thus, fish conductivity. But when we finished, the plotted data produced a line with positive slope; no nadir. Uncertainty about our theory, as applied to electrofishing, crept in. Uncertainty also forced us to step back, consider what went wrong and what to do next. Then, we realized we had accepted the values from earlier studies as fact. What if fish conductivity, based on live fish and PTT, was actually less? Adding points from trials in water conductivity below 300  $\mu\text{S}/\text{cm}$  produced a nadir at approximately 125  $\mu\text{S}/\text{cm}$ , an estimate much lower than previously reported. Since then, other studies have provided estimates of 75-200  $\mu\text{S}/\text{cm}$  and are similar for all tested species and sizes of freshwater fish. Fish conductivity of 115  $\mu\text{S}/\text{cm}$  is now used as a “constant,” relative to possible values of water conductivity, in standardized electrofishing based on PTT.

When confronted by those demanding certainty from us, we should not apologize for our truthseeking methods. Thinking that we’ve cornered the market on knowledge belies the self-inflicted wounds we’ll face. In the eloquent words of American historian Daniel Boorstin, “The greatest obstacle to progress is not ignorance — it is the illusion of knowledge.” Embrace uncertainty and use it to your advantage!

During 2017-2018, Jim Reynolds wrote a series of philosophical articles for *Oncorhynchus*, the AFS Alaska Chapter newsletter. These articles revolve around the role of uncertainty in fisheries science. With approval of the Alaska Chapter Excom, these articles are being re-printed in the *Gill Raker Gazette*.

RESULTS OF UNCERTAINTY



## *ICAFS Member and Former EXCOM Officer Honored by Western Division*

**Helen Neville**, long time ICAFS member who served on EXCOM from 2016-2019, received the Award of Merit from the Western Division AFS (WDAFS) at its annual (virtual) meeting this spring. In addition to serving as President of ICAFS, Helen has been active in AFS's Genetics Section and served in other capacities at the state and national levels. Helen has been a leader in conservation science for native trout for her entire career. She earned her Ph.D. at the University of Nevada, Reno in 2003, using genetic tools to study how river network connectivity influences Lahontan cutthroat trout populations. Helen has worked on the science team at Trout Unlimited since 2006 and is currently the organization's Senior Scientist.

From the award acknowledgment published in the summer edition of the WDAFS newsletter, University of Nevada, Reno professor Mary Peacock, who nominated Helen for the award, was quoted as saying "I will never forget the day Helen came to my office to ask me if I would take her on as a student. Saying yes was one of the best things I have ever done."

Chris Wood, President and CEO of Trout Unlimited added, "We are so proud of her work and feel honored to have her as part of the TU family."

Congratulations, Helen. We too are proud to have you as part of our family here.

## *Hutton Program Continues Despite COVID-19*

**Kate Anderson** from Ammon, Idaho was awarded the Hutton scholarship this year. She is being mentored by John Heckel, Regional Fisheries Biologist with IDFG. In spite of the COVID-19 restrictions, John has been able to provide Kate with a summer full of great opportunities.

## *President's Message Postscript: Humor in a Challenging Time*

**Editor's Note:** Those of you of a certain age may recall that many decades ago, the back page of Field and Stream magazine featured a column called "Exit Laughing," authored by Ed Zern (1910-1994). In the spirit of that column and in the tradition of the President's message reflecting the personality of the individual, I will exit this newsletter with some coronavirus humor provided by Ryan Hardy, in his words.

*On a lighter note, obviously, the seriousness of COVID-19 is no laughing matter. But, it is my belief that we all need to find a way to cope with these types of things or we risk serious mental health consequences. As such, I thought I would leave you with some rather humorous thoughts I came across about the pandemic that made me smile and perhaps will allow you to do the same in the midst of the chaos.—RH*

- Haven't you often asked yourself ... What did ancient Romans do without toilet paper?
- In the case of another quarantine: Introverts: Check on your extroverted friends. They're not OK. They have no idea how this works.
- To all the folks hoarding toilet paper: I went to all the stores and purchased all the plungers and Drano. Check. Mate.
- Believe in yourself during this hard time. If cauliflower can become pizza, you can do anything.
- Also highly contagious is kindness, patience, love, enthusiasm and a positive attitude. Don't wait to catch it from others. Be the carrier.
- Quarantine Reminder: 9 p.m. is the time to remove your day pajamas and put on night pajamas.
- I ran out of toilet paper and had to start using old newspapers. Times are rough.
- Back in my day you would cough to cover up passing gas. Now, with COVID-19, you pass gas to cover up a cough.
- Yeah, I have plans tonight. I'll probably hit the living room around 8 or 9.
- 30 days hath September, April, June, and November, all the rest have 31, except for March 2020 which was infinite.
- What's the best way to avoid touching your face? A glass of wine in each hand.

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**The EXCOM wants your ideas ...**

**Please do not hesitate to contact any EXCOM Member about questions or ideas**

**This is your Chapter !**

