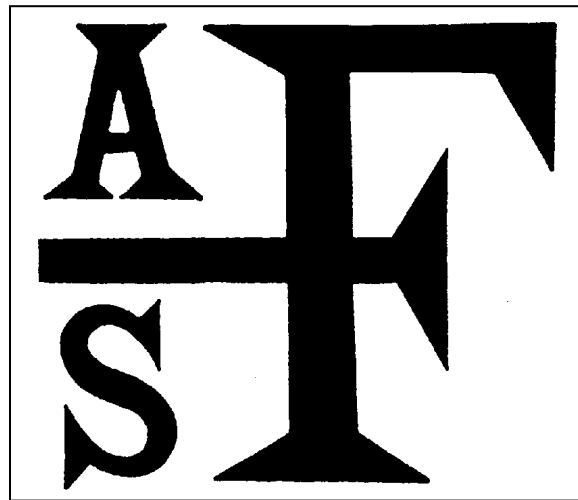


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# **AFS Career Development Study**



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## **EXECUTIVE SUMMARY**

A random sample of 700 men and 700 women was selected from the U.S. and Canadian AFS membership database. Of the 1,400 questionnaires initially mailed, we obtained an adjusted response rate of 71.2%. Female respondents were significantly younger on average than male respondents (37 vs. 47 years old). We examined the significance of both age and gender where appropriate throughout the discussion of the results.

### **Development of an Interest in Fisheries**

Men typically developed an interest in fisheries science or natural resources at an earlier age (42% in elementary school) than women (37%). Women were more likely to develop their interest in college or later (33% of women vs. 24% of men). The most influential person in developing respondents' interest in fisheries science was a parent or college professor, and the most influential experience for men was hunting and/or fishing. For women, hunting and fishing were significantly less important; women were more frequently influenced by other activities and events likely to happen when they were older (e.g., college field courses, summer employment/internships).

### **Graduate Education and First Professional Position**

Most respondents (>65%) had an advanced college degree; this varied by age, not gender. Almost all respondents (>90%) had some type of financial support in graduate school; no differences were found between men and women regarding access to financial support. Guidance counseling, while available infrequently, was more often available to men (30%) than women (19%). Almost twice as many men as women obtained their degrees in fisheries and wildlife; women obtained their highest degree in a wider variety of fields. The majority of male respondents (almost 60%) obtained a permanent position as their first position after completing graduate school, but only 45% of the women did.

### **Employment Status and Opportunities (excludes full-time students and retirees)**

The combination of research, management, administration, and consulting accounted for the majority of work time spent by respondents. Men spent more time on administrative tasks and women, on basic research. However, the percent of time spent on both of these tasks was more influenced by age than gender. Almost all men (97%) and slightly fewer women (90% [difference statistically significant]) were employed full-time. The remaining respondents were employed part-time (20-25 hrs), which varied by season for 64% of men and 47% of women. The number of people supervised and the participation in training opportunities did not vary by gender but the number of people supervised did vary by age. Older respondents and men have been with their current employer longer than younger respondents and women. Age was more influential in determining length of time with the current employer than gender, but gender effects were statistically significant. No gender differences were found in the type of material published for those that had published scholarly or professional writing in the past 2 years. However, more men than women had published popular writing in fishery science (40% vs. 26%).

The mean gross annual salary was significantly different between men and women (\$65K vs. \$53K) and by age, with older workers earning more than younger workers. This gender difference in income is likely a result of some of the observed differences in employment, such as increased administrative and supervisory responsibilities for men, higher percent working full-time, and length of time with same employer.

Younger respondents were more often looking for increased responsibility and women of all ages were more likely than men to be looking for promotions, changing job locations, changing employers, changing fields within aquatic sciences, or pursuing a higher degree as part of their current 5-year plan. Women were not more likely than men to say their 5-year plan included more time devoted to family and less to work.

### **Lifestyle Choices**

Both age and gender played a role as to the likelihood of respondents being married or having a lifetime partner, but gender was the more determinant factor. The vast majority of men (86%) and two-thirds of women (67%) said they currently were married or had a lifetime partner. Of these respondents, more women than men indicated they have dual-career considerations (87% vs. 61%), and more younger respondents indicated this as well. Because of dual career considerations, more women and younger respondents (1) would have to consider their partner's professional career if offered a position requiring a move, (2) have accepted positions in different geographic regions to maintain dual careers, and (3) have had their partners accept a part-time or temporary position.

Older respondents were more likely to have dependents (primarily children, but also disabled or elderly) living in their homes during their professional career. Women, who were less likely than men to be married, were even less likely to have dependents living at home during their careers (40% vs. 69%). More than twice as many women as men, regardless of age, said they had to put their career "on hold" because of dependents and that having dependents affected their career goals (68% women vs. 42% men). More women delayed having children because of their career and altered the number of hours they worked because of dependents. Logistic regression analysis indicated that these differences can be attributed to women being younger than men and that the stronger relationship is one of age, not gender.

For most respondents with dependent children at home, childcare arrangements are being shared. However, almost one-third of men said their spouse was staying home and caring for the children. Almost all women and two-thirds of men take care of their children when they are sick. Among those with dependent children living at home, 65% of the women and 28% of men were prevented from attending a conference or training due to lack of child care.

### **Participation in AFS and other Societies**

Overall, one-third of respondents had been elected or nominated for an AFS position and most (76%) felt qualified to serve on an AFS committee. However, only 57% of women under 40 said they felt qualified, compared to 80% of men. This corresponds with actual participation in leadership positions. Only 18% of women under 40, compared with 30% of men under 40,

had been elected or nominated for an AFS position. Few respondents have been involved with the AFS Hutton Program and a few more have utilized travel grants/awards or applied for AFS scholarships. Twice as many women as men applied for these grants or scholarships (11% vs. 5%), and the majority of women who did not apply, were unaware of them.

Roughly 70% of the respondents attended an AFS meeting in the past two years, with no gender difference between attendance or presentation rates. Meetings most commonly attended were chapter meetings, followed by the national meeting. For those who did not attend, the most frequently cited reason was lack of time available, followed by lack of financial support and conflicts with other activities. Work commitments were more likely to constrain men's than women's ability to attend meetings.

Respondents were asked to provide additional comments about their participation in AFS and the level of participation by women or under-represented groups. The most common response regarding participation in AFS was that it was limited by time constraints. Regarding the level of participation by women, a number of respondents commented that having more women in leadership roles has improved the Society and they would like to encourage more participation by women and under-represented groups.

### **Recommendations to AFS Based on Survey Results**

- Providing childcare at national AFS meetings may alleviate some attendance loss by women and younger members.
- Development of a mentoring program, where women in leadership positions work with younger women members within the Society to encourage participation and awareness of leadership positions, would be a desirable pursuit.
- Consider expanded advertising of AFS travel grants and scholarships to agencies, universities, websites and AFS meetings, and to mentors within AFS, to better reach women members.
- A periodic (i.e., yearly or bi-yearly) article or note in *Fisheries* magazine highlighting women's roles and accomplishments in AFS may promote awareness of participation and identify new opportunities for others.
- The development of a program targeting younger members (< 30 years) to join the Society would be worthwhile. This may involve more recruitment at the college level and among those working in seasonal positions in the various natural resource agencies.

## **ACKNOWLEDGMENTS**

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## **INTRODUCTION**

The workforce of America has been changing with an increasing number of women and minorities. From 1970 to 1999, the percent of women age 16 and older in the workforce increased from 43 to 60 percent. In 2004, women held half of all management, professional, and related occupations (Chao and Utgoff, 2005). This increased diversity in the workforce presents new challenges for individuals and employers, and may require changes in policy issues to better serve the current workforce.

Little information exists on the current status or trends of women and minorities in the fisheries profession. A component of the American Fisheries Society (AFS) strategic planning process is to increase membership diversity by developing and implementing a plan that identifies, targets, and recruits individuals from under-represented groups and provides for leadership development opportunities. In order to better understand the demographic profile of fishery professionals in AFS and to determine relationships between AFS services and activities regarding recruitment and retention of members, a survey was developed to address these topics.

A draft “diversity” survey was originally developed in 1993 and was targeted to address professional concerns of women and minorities, but was not implemented. This original survey was revised in 2004 by the AFS Membership Concerns Diversity Subcommittee in conjunction with the Membership Concerns Committee. The purpose of the survey was to help AFS understand the pathways through which its members develop an interest in fisheries, obtain training, find employment, and attempt to advance on a career path. The survey was also designed to develop an understanding of the challenges members face in leading responsible professional lives while also devoting adequate time and energy to their families and family responsibilities. The results of this survey will allow AFS to examine overall trends, provide a baseline for tracking future trends, as well as explore possible differences based on gender. The results also will help AFS determine how it can be more responsive on these career development topics.

## **METHODS**

The Diversity subcommittee drafted and prioritized questions for inclusion in the questionnaire. Topics in the questionnaire included development of interest in fisheries, educational support, employment opportunities, lifestyle choices, and AFS participation. (See Appendix A for exact wording of the questions.)

A random sample of 700 men and 700 women was selected from the U.S. and Canadian AFS membership database. The complete membership list, including students and retired people, was used. Because a membership survey was being conducted at the same time, the samples were drawn such that no member was included in both surveys. The Human Dimensions Research Unit (HDRU) at Cornell University was chosen to conduct the survey of AFS members. The survey was mailed on October 5, 2004. Up to 3 reminder letters were sent to encourage a good response rate, using a traditional format advocated by Dillman (2000).

Data entry occurred in early 2005 and analysis was done using SPSS (Statistical Package for the Social Sciences). The data were analyzed by gender using either chi-square or t-tests

where appropriate. The null hypothesis being tested in all cases was that there was no difference between men and women. Results were reported as significant at  $P \leq 0.05$ .

Initial results showed a statistically significant relationship between age and gender. Standard regression analysis and logistic regression were used to examine the significance of age and gender simultaneously and the significance of each (using a t or Wald statistic at  $P \leq 0.05$ ) was reported where appropriate.

## RESULTS

Of the 1,400 questionnaires initially mailed, 8 were undeliverable and 991 were returned for an adjusted response rate of 71.2%. A few more men (n=511) than women (n=480) responded. The overall response rate was quite high, especially given the length of the questionnaire. Female respondents were statistically significantly younger than male respondents ( $\bar{x} = 37$  vs. 47 years old,  $t=11.7$ ,  $df=944$ ,  $P<0.001$ ). Since age as well as gender may play a role in career development, we will examine both where appropriate throughout the discussion of results.

### Development of an Interest in Fisheries

A plurality of men developed an interest in fisheries science or natural resources at an early age, specifically elementary school (Table 1). Although many women also developed an interest in fisheries science at an early age, significantly more women (33%) than men (24%) developed their interest in college or later.

**Table 1.** Period when AFS Career Development Survey respondents' interest in fishery science or natural resources was first kindled, by gender.

<u>Period when interest was kindled<sup>a</sup></u>	<u>Male</u>	Percent	<u>Female</u>
Elementary School	41.7		37.3
Middle School	13.6		11.4
High School	21.2		18.5
College	20.0		23.8
After College	3.6		9.1

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<sup>a</sup>Statistically significant difference between males and females ( $\chi^2$ ,  $df=4$ ,  $P \leq 0.05$ ).

The most influential person in developing male respondents' interest in fisheries science was either the father or a college professor (Table 2). While this was also true for women, the mother and other teachers played a more significant role for them than for men. The most influential experience by far in kindling interest in fisheries science for men was interest in hunting and/or fishing (Table 3). This was significantly less important for women, who were

more influenced by events that likely happened when they were older, e.g., college field courses, summer employment/internships. Outdoor recreation activities other than fishing or hunting were more influential for women than men. A few respondents listed experiences beyond those provided in Table 3 that were influential, including nature shows and job experience for women and home aquariums and job experience for men.

**Table 2.** People who were influential in kindling AFS Career Development Survey respondents' interest in fisheries science, by gender.

Person	Male			Female		
	Not Influential	Influential	Most Influential Percent Checked	Not Influential	Influential	Most Influential
Mother <sup>a</sup>	88.4	9.6	2.0	82.5	12.3	5.2
Father <sup>a</sup>	57.3	18.3	24.4	65.6	19.2	15.2
Grandfather <sup>a</sup>	85.1	10.0	4.9	91.2	6.5	2.3
Grandmother <sup>NA</sup>	96.9	2.9	0.2	97.7	1.7	0.6
Other relative	89.4	6.3	4.3	93.1	4.4	2.5
Friend <sup>a</sup>	85.6	6.5	7.9	92.3	4.8	2.9
Elementary school teacher <sup>a</sup>	98.4	1.2	0.4	95.6	2.5	1.9
Middle school teacher <sup>a</sup>	97.6	1.6	0.8	93.5	4.2	2.3
High school teacher <sup>a</sup>	89.2	6.9	3.9	83.3	11.1	5.6
College professor	61.9	16.5	21.6	58.6	16.3	25.1
Spouse	98.6	1.2	0.2	97.7	1.9	0.4
Employer	91.2	5.5	3.3	83.5	6.9	9.6
Other	96.4	1.6	2.0	93.7	2.1	4.2

<sup>a</sup>Statistically significant difference between males and females at ( $\chi^2$ ,  $df=2$ ,  $P \leq 0.05$ ).

<sup>NA</sup>Statistics cannot be determined for this variable due to small sample sizes in some categories.

**Table 3.** Experiences that were influential in developing the AFS Career Development Survey respondents' interest in fisheries science, by gender.

Experience	Male			Female		
	Not <u>Influential</u>	<u>Influential</u>	Most <u>Influential</u>	Not <u>Influential</u>	<u>Influential</u>	Most <u>Influential</u>
	Percent Checked					
Interest in hunting and/or fishing <sup>a</sup>	32.6	41.5	25.9	75.2	19.2	5.6
College field courses <sup>a</sup>	73.5	20.0	6.5	60.1	27.6	12.3
Growing up in a rural area	68.2	25.3	6.5	73.3	19.8	6.9
Summer employment/internships <sup>a</sup>	84.9	10.0	5.1	75.4	16.3	8.4
Holidays or vacations in natural areas	73.7	21.0	5.3	68.3	24.6	7.1
4 Recreation activities (e.g., boating, camping) <sup>a</sup>	65.8	30.3	3.9	62.0	30.3	7.7
Field trips to natural areas, museums, zoos <sup>a</sup>	80.9	16.7	2.4	68.7	28.8	2.5
Reading nature books, magazines	67.4	31.0	1.6	69.3	27.6	3.1
Other courses	97.1	2.2	0.8	95.4	2.5	2.1
High school classes <sup>a</sup>	92.7	6.7	0.6	86.8	11.1	2.1
Environmental organization(s) <sup>NA</sup>	94.3	5.3	0.4	88.6	10.4	1.0
Youth groups (e.g., 4-H, Scouts) <sup>NA</sup>	93.5	5.9	0.6	94.6	4.8	0.6
Other <sup>a</sup>	94.5	3.3	2.2	86.0	9.6	4.4

<sup>a</sup>Statistically significant difference between males and females ( $\chi^2$ ,  $df=2$ ,  $P \leq 0.05$ ).

<sup>NA</sup>Statistics cannot be determined for this variable due to small sample sizes in some categories.

## Educational Attainment and Support

Most respondents (>65%) had an advanced college degree. The percent with an advanced degree varied by age, not gender, with respondents under 40 less likely to have an advanced degree and those 40 and over more likely to have an advanced degree. The older the respondent the more likely the degree was a PhD rather than a Masters. Financial need was not a primary reason keeping people out of graduate school. Few respondents reported having guidance counseling for a career in fisheries available to them, but it was more widely available to men (30%) than women (19%). Men were almost twice as likely as women to have a degree in fisheries and to check the category “fisheries and wildlife” (Table 4). Women obtained their highest degree in a wider variety of fields.

**Table 4.** Department from which the AFS Career Development Survey respondents attained their highest degree, by gender.

<u>Department</u> <sup>a,b</sup>	<u>Male</u>	<u>Female</u>
	Percent	
Fisheries and Wildlife	43.1	22.8
Biology	19.0	23.0
Zoology	12.3	9.5
Marine Biology/Oceanography	5.6	10.8
Natural Resources	4.8	6.8
Environmental Sciences	3.8	7.0
Ecology	3.0	5.4
Aquaculture	0.8	1.8
Forestry	1.2	0.9
Botany	0.4	0.5
Statistics	0.2	0.2
Other	5.8	11.3

<sup>a</sup> The last five categories were combined for statistical testing purposes.

<sup>b</sup> Statistically significant difference between males and females ( $\chi^2$ ,  $df=7$ ,  $P \leq 0.05$ ).

Respondents who had attended graduate school were asked a number of questions about their educational experiences, starting with who was most influential in their decision to enroll. Most said they themselves were the most influential (Table 5). About a quarter of men were influenced by a college professor, compared to 16% of women. More women than men were influenced by their employer to pursue a Masters degree.

**Table 5.** The most influential person in the AFS Career Development Survey respondents' decision to enroll in graduate school, by gender.

<u>Influential Person<sup>a</sup></u>	<u>Masters<sup>b</sup></u>		<u>Doctorate</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
	Percent			
Self	49.6	58.6	56.6	63.6
College professor	26.8	15.6	25.3	16.1
Employer	7.4	11.4	4.8	5.1
Undergraduate advisor	6.8	4.8	3.0	2.5
Parents	3.4	2.4	3.0	3.4
Friend	2.6	3.0	3.0	1.7
Other	3.4	4.2	4.3	7.6

<sup>a</sup> The last four categories were combined for statistical testing purposes.

<sup>b</sup> Statistically significant difference between males and females ( $\chi^2$ ,  $df=3$ ,  $P \leq 0.05$ ).

Almost all respondents (>90%) had some type of financial support in graduate school. Their primary sources of support were: research assistantships (40-50%), teaching assistantships (10-20%; higher percentages for Masters students), and fellowships/grants (10-30%; higher percentages for Doctoral students). No differences were found between men and women regarding access to financial support or type of support.

Most respondents were satisfied with the academic guidance provided by their advisor during their graduate career. One-third to one-half of the respondents were very satisfied, with Ph.D. students more likely to be very satisfied. One-quarter to one-third of the students were moderately satisfied, with Masters students more likely to be in this category. Less than 15% of respondents were dissatisfied. Differences in satisfaction between men and women were not statistically significant.

Few respondents (<5%) did not complete their graduate degree. We inquired about reasons for leaving degree programs, but the sample size was too small and the reasons too disparate for any meaningful explanation.

Because female respondents were younger than male respondents on average, they were more likely to still be in graduate school. Most of those in school planned to pursue a permanent position in their field when they graduate. For the majority of respondents who had graduated, almost 60% of the men but only 45% of the women had obtained a permanent position (Table 6). For Masters students, the position obtained was more likely in an agency; doctoral students more likely had an academic position. Women were more likely than men to have a temporary paid position or other type of position such as a post-doctoral position. However, there was no difference in the

average number of post-doctoral appointments held by men versus women. Less than 50% of respondents had held a post-doctoral appointment.

**Table 6.** The first position held after the AFS Career Development Survey respondents obtained their degree, by gender.

Position <sup>a</sup>	Masters <sup>b</sup>		Doctorate <sup>b</sup>	
	Male	Female	Male	Female
	Percent			
Permanent position	58.3	45.8	58.2	43.6
<i>Agency position</i>	32.3	24.4	17.6	12.0
<i>Tenure track</i>	3.3	2.6	14.9	10.9
<i>Other academic</i>	5.9	4.9	14.2	9.8
<i>NGO position</i>	3.6	4.9	3.4	2.2
<i>Other</i>	10.9	7.1	7.4	6.5
Temporary paid position	33.0	40.2	35.8	42.5
<i>Agency</i>	15.8	23.7	8.1	12.0
<i>Academic</i>	14.9	9.8	27.7	27.2
<i>NGO</i>	0.3	2.6	0.0	1.1
<i>Other</i>	2.0	4.1	0.0	1.1
Internship or volunteer position	1.7	0.4	0.0	1.1
Part time position	0.0	1.5	0.0	3.3
Position not related to their graduate training	3.3	3.0	0.7	1.1
Other	3.7	9.1	5.3	8.4

<sup>a</sup> The first heading and its subheadings; the second heading and its subheadings; and the last four categories were each combined to form three groupings for statistical testing purposes.

<sup>b</sup> Statistically significant difference between males and females ( $\chi^2$ ,  $df=2$ ,  $P \leq 0.05$ ).

## Employment Status and Opportunities

*(Respondents who were full-time students or retired were excluded from the analysis in this section.)*

The combination of research, management, administration, and consulting accounted for the majority of work time spent by respondents (Table 7). Men spent more time on administrative tasks than women, and women spent more time on basic research than men. However, the percent of time spent on both of these tasks was more influenced by age than gender. We found that older respondents and men spent more time in administration and younger respondents and women spent more time in basic research. In each case using regression analysis to simultaneously compare the effects of age and gender, we found age had a larger standardized coefficient indicating its greater influence

than gender on percent of time spent. The slight amount of additional time that women spent on computer applications, compared to men, is a factor of female respondents being younger than men and younger people being more likely to spend time on computer applications.

**Table 7.** AFS Career Development Survey respondents' mean percentage of work time spent in specific areas, by gender.

<u>Work Areas</u>	<u>Male</u>	<u>Female</u>
Applied research	18.4	18.6
Management	19.9	16.6
Basic research <sup>a</sup>	8.3	13.9
Administration <sup>a</sup>	12.0	7.2
Consulting	10.8	8.5
Information/Education/Outreach	5.6	7.4
Teaching	5.7	5.1
Policy development	4.6	4.5
Statistical analysis	4.1	4.2
Computer application (i.e., modeling, programming) <sup>a</sup>	2.5	3.9
Human dimensions	2.1	1.8
International policy and management	1.0	1.5
Enforcement	0.9	0.8
Other	4.1	6.0

<sup>a</sup> Statistically significant difference between males and females (*t-test*,  $df=782$ ,  $P \leq 0.05$ ).

Almost all men (97%) and slightly fewer women (90%, but the difference is statistically significant,  $X^2=12.6$ ,  $df=1$ ,  $P<0.001$ ) were employed full-time. The remainder were employed part-time for about 20 to 25 hours per week. The part-time hours varied by season for 64% of men and 47% of women.

Younger respondents supervised fewer people than older respondents. There was no difference with respect to gender in the number of people supervised. There was also no difference in participation in training opportunities between men and women, with approximately 70% having had such opportunities in the past 5 years.

Older respondents and men have been with their current employer longer than younger respondents and women. Age played a larger role in determining length of time with the current employer than gender (the standardized regression coefficient was larger [0.38 versus 0.27]), but gender effects were statistically significant. Almost two-thirds of respondents anticipated staying with their current employer indefinitely.

Some of these differences in employment (increased administrative and supervisory responsibilities for men, higher percent working full-time, longer time with same employer) may contribute to the statistically significant difference in mean gross



annual salary observed between men and women (\$65K vs. \$53K). However, the salary difference was more influenced by age (standardized regression coefficient was 0.58 for age versus 0.08 for gender), with older workers making more than younger workers.

Younger respondents, regardless of gender, were more likely than older respondents to be looking for increased responsibility in their current position. Women generally were more likely than men to be looking for promotions, changing job locations, changing employers, changing fields within aquatic sciences, or pursuing a higher degree as part of their current 5-year plan (Table 8). Interestingly, women were not more likely than men to say their 5-year plan included more time devoted to family and less to work. About half of the respondents felt there was at least a moderate opportunity for advancement in their current position.

**Table 8.** The items included in the AFS Career Development Survey respondents' 5-year plan for themselves, by gender.

<u>Item</u>	<u>Male</u> Percent Checked	<u>Female</u> Percent Checked
Higher salary	58.6	62.7
Promotion <sup>a</sup>	32.8	40.2
More time devoted to family	32.4	29.2
Leadership/Supervisory position	25.2	27.9
Change in location of work <sup>a</sup>	17.6	28.7
Less time devoted to work	23.0	20.9
Change in employer <sup>a</sup>	11.0	24.1
Higher degree <sup>a</sup>	10.8	16.6
Change in field within aquatic sciences <sup>a</sup>	6.1	10.5
More time devoted to work	6.4	3.8
Find a new (different) career	4.9	5.1

<sup>a</sup> Statistically significant difference between males and females ( $\chi^2$ ,  $df=1$ ,  $P \leq 0.05$ ).

Of those who had scholarly or professional writing published in the past 2 years, no differences were found between men and women in the type of material published (Table 9). Most respondents had published an article in a refereed journal or technical report. However, more men than women had published popular writing in the fishery science field (40% vs. 26%). Most of these articles were published in newspapers, state agency conservation magazines, or other magazines.

**Table 9.** Type of publication by gender, for AFS Career Development Survey respondents who published scholarly or professional writing in the past 2 years.

<u>Publication</u>	<u>Male</u>	<u>Female</u>
	Percent Checked	
Article in refereed journal	64.3	67.4
Technical report	60.7	51.6
Paper in refereed proceedings (other than book or journal)	31.0	27.4
Book chapter	19.4	18.4
Book or monograph (author or co-author)	6.3	7.4
Book or monograph (editor or co-editor)	6.0	3.2
Book review in refereed journal	4.0	5.3
Other	7.9	7.9

## Lifestyle Choices

Age and gender both played a role in the likelihood of respondents being married or having a lifetime partner. As would be expected, older respondents were more likely to be in a committed relationship. However, based on logistic regression analysis, the more important influence was gender, not age (Wald statistic for gender = 25.8,  $p < 0.001$  versus 5.7,  $P = 0.02$  for age). The vast majority of men (86%) and two-thirds of women (67%) said they currently were married or had a lifetime partner.

Among those who are married or have a life partner, more women than men indicated they have dual-career considerations (87% vs. 61%). Also, younger respondents were more likely than older respondents to have dual-career considerations. Probably because more women have dual career considerations, women were more likely than men to indicate that if they were offered a position that required a move, they would have to consider their spouse/partner's professional career (Table 10). The same was true for younger respondents, who also were more likely than older respondents to have dual career considerations. Further, more female than male respondents and more younger than older respondents have in fact accepted a position in a geographic region different from their spouse/partner's in order to maintain dual careers. Women and younger respondents were also more likely than men or older respondents to say that they or their spouse/partner had to accept a position with soft-money funding or part-time work because of the dual-career considerations.

**Table 10.** Dual-career lifestyle considerations of AFS Career Development Survey respondents, by gender.

<u>Lifestyle Consideration</u>	<u>Yes</u>		<u>No</u>		<u>NA</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
			Percent			
If offered a position that required a move, would you consider spouse/partner's career <sup>a</sup>	62.7	91.9	27.0	6.1	10.2	2.0
Have you accepted a position in a different geographic region from spouse/ partner's workplace because of dual career considerations <sup>a</sup>	14.2	23.9	85.8	76.1	<sup>b</sup>	<sup>b</sup>
Have you or partner accepted a position with soft-money funding or part-time work due to dual career considerations <sup>a</sup>	23.1	36.2	65.3	56.9	11.7	6.9

<sup>a</sup>Statistically significant difference between males and females ( $\chi^2$ ,  $df=1$  or  $2$ ,  $P \leq 0.05$ ).

<sup>b</sup>Not an answer option for this question.

Older respondents were more likely to have dependents (primarily children, but also disabled or elderly) living in their homes during their professional career. Women, who were less likely than men to be married, were even less likely to have dependents living at home during their professional career (40% vs. 69%).

When asked what effect dependents had on their career, more than twice as many women as men, regardless of age, said they had to put their career “on hold” because of their dependents (Table 11). Further, more women than men (68% vs. 42%) said that having dependents affected their career goals. This was also true more often for younger than older respondents. While Table 11 shows that more women than men delayed having children because of their career and changed the number of hours they worked per week because of dependents, logistic regression analysis indicated that these differences can be attributed to women being younger than men and that the stronger relationship is one of age, not gender. Thus primarily, younger respondents have delayed having children or changed the number of hours they worked more so than older respondents.

Among respondents who have not (or not yet) had dependents in their home during their professional career, twice as many women as men, regardless of age, think having children will adversely affect their career (Table 12). More females than males, and more older than younger respondents, have decided not to have children because of their career. Younger respondents were more likely than older respondents to say that they are delaying having children because of their career.

Most respondents felt their employer was supportive of family and career (Table 11). Three-quarters of respondents said their employer provided maternity leave, and for most respondents, this was paid leave. Less than half (44%) said their employer provided paternity leave but 39% said they didn't know, so the percent providing paternity leave could be much closer to the percent providing maternity leave.

**Table 11.** Type of dependents in the home and their effect on the professional career of the AFS Career Development Survey respondents, by gender.

<u>Type of dependents</u>	<u>Male</u>	<u>Female</u>
	Percent Checked	
Children in home <sup>a</sup>	95.9	87.6
Elderly in home	11.7	15.0
Disabled adult in home	5.7	7.8
Hospice for terminally ill in home	3.8	6.5
<u>Effect of dependents</u>	<u>Percent saying “yes”</u>	
Influenced career goal <sup>a</sup>	42.2	68.0
Put career “on hold” <sup>a</sup>	15.9	41.4
Changed their number of work hours per week <sup>a</sup>	45.4	60.5
Employer is supportive of family and career	87.5	86.8
Delayed having children because of career <sup>a</sup>	25.9	38.3
Has employer provided childcare	7.3	6.7
Would prefer employer provided childcare <sup>a</sup>	40.5	60.6

<sup>a</sup> Statistically significant difference between males and females ( $\chi^2$ ,  $df=1$ ,  $P \leq 0.05$ ).

**Table 12.** For those AFS Career Development Survey respondents without dependents, possible effects of dependents on career choices, by gender.

<u>Effects of dependents</u>	<u>Male</u>	<u>Female</u>
	Percent Checked	
Career affected decision regarding dependents	28.8	35.7
Plan to have children <sup>a</sup>	39.4	34.2
Delayed children because of career <sup>b</sup>	30.7	42.9
Think children will adversely affect career <sup>b</sup>	26.7	58.8
Decided not to have children because of career <sup>b</sup>	6.6	16.7

<sup>a</sup> Question included an “unsure” category selected by 23.4% of males, and 23.2% of females.

<sup>b</sup> Statistically significant difference between males and females ( $\chi^2$ ,  $df=1$ ,  $P \leq 0.05$ ).

Two-thirds of respondents felt that maternity/paternity leave and child care were important issues and that everyone has the right to time off for maternity/paternity leave. Very few respondents thought the issues were not important, but slightly more men than

women (13% vs. 4%) thought the issues were unimportant, and also believed that annual leave or leave without pay was adequate.

Almost twice as many men as women under 40 have dependent children living at home (41% vs. 22%). For respondents 40 years of age and older, this does not vary by gender; 39% of all respondents have dependent children living at home. Child care arrangements are being shared in some way for most families with children at home. However, almost one-third of men said their spouse was staying home and caring for the children (Table 13). When asked who cares for the children when they are sick, women and men responded similarly. Almost all women take on this responsibility and two-thirds of men do (Table 14). Rarely do other family members or day care providers care for sick children.

Among all respondents, lack of child care or family-oriented services at professional meetings has seldom prevented men from attending (16%). However, more women (24%) said this was a problem for them. Among those who currently have dependent children living at home, the problem was far more common for women, with 65% reporting lack of child care prevented them from attending a conference or training. This was the case for only 28% of men who currently have children living at home.

**Table 13.** AFS Career Development Survey respondents work and home responsibilities for those with dependent children living at home, by gender.

<u>Scenario<sup>a</sup></u>	<u>Male</u>	<u>Female</u>
	Percent	
Work at home and care for children	0.6	5.8
Spouse/partner stays at home and cares for children	27.6	8.7
Both work and adjust schedules to fully accommodate child care needs	34.3	24.3
Both work and adjust schedules to accommodate part-time care for children	26.0	32.0
Both work outside the home and require full-time care for children from other caretakers	11.6	29.1

<sup>a</sup>Statistically significant difference between males and females ( $\chi^2$ ,  $df=4$ ,  $P \leq 0.05$ ).

**Table 14.** For AFS Career Development Survey respondents, the person who takes responsibility for the children when they are sick, by gender.

<u>Person</u>	<u>Male</u>	<u>Female</u>
	Percent Checked	
Spouse/partner <sup>a</sup>	94.6	63.5
Respondent <sup>a</sup>	66.5	91.3
Other family members	7.6	6.7
Day care or sitter	4.9	2.9

<sup>a</sup>Statistically significant difference between males and females ( $\chi^2$ ,  $df=1$ ,  $P \leq 0.05$ ).

### Participation in AFS and Other Societies

Overall, one-third of respondents had been elected or nominated for an AFS position. Most people (76%) said they would feel qualified to serve on an AFS committee. However, only 57% of women under 40 said they felt qualified, compared to 80% of men. This corresponds with actual participation in leadership positions. Only 18% of women under 40, compared with 30% of men under 40, had been elected or nominated.

Respondents were most likely to be active at the chapter level (Table 15). There too, fewer women than men have held leadership positions. At the national level, fewer people in general have held leadership positions, with no difference in participation rates in leadership positions between men and women. In addition to the section and division levels we asked about, some respondents also mentioned having held leadership positions in student chapters.

Few respondents have been involved with the AFS Hutton Program-- as a mentor (2%), intern (1%), or someone who worked with an intern (2%). A few more have utilized travel grants/awards or applied for AFS scholarships. Twice as many women as men have applied for these grants or scholarships (11% vs. 5%). Those who did not apply for the scholarships were asked why not (Table 16). For the majority of women it was because they were unaware of them. For a plurality of men, it was because they did not need them.

Respondents belong to an average of 1.6 professional societies in addition to AFS. Roughly 70% attended an AFS meeting in the past two years. Meetings most commonly attended were chapter meetings, followed by the national meeting (Table 17). There was almost no difference in attendance or presentation rates between men and women at these meetings. For those who did not attend, the most frequently cited reason was lack of time available, followed by lack of financial support and conflicts with other activities (Table 18). Work commitments were more likely to constrain men's than women's ability to

attend meetings. A number of people listed other reasons why they did not attend meetings; leading reasons were being retired or new members.

Respondents were asked to provide additional comments about their participation in AFS and the level of participation by women or under-represented groups. The most common response regarding their participation was that it was limited by time constraints. Regarding the level of participation by women, a number of respondents commented that having more women in leadership roles has improved the Society. Respondents also hoped that the Society would do more to encourage participation by women and under-represented groups.

**Table 15.** The levels at which the AFS Career Development Survey respondents have served AFS, by gender.

<u>Level</u>	<u>Male</u>	<u>Female</u>
	Percent checked	
National		
Committee member	13.9	10.0
Committee chair	5.3	3.8
Officer	1.6	1.5
Governing board	3.3	1.9
Division		
Committee member <sup>a</sup>	11.4	5.0
Committee chair <sup>a</sup>	6.7	1.5
Officer <sup>a</sup>	3.9	1.3
Chapter		
Committee member <sup>a</sup>	18.6	12.3
Committee chair	12.9	9.8
Officer <sup>a</sup>	21.1	12.5
Section		
Committee member <sup>a</sup>	11.5	7.1
Committee chair	5.1	3.8
Officer	6.7	6.3
Other	4.9	5.0

<sup>a</sup>Statistically significant difference between males and females ( $\chi^2$ ,  $df=1$ ,  $P \leq 0.05$ ).



**Table 16.** The reasons why AFS Career Development Survey respondents did not apply for AFS scholarships, by gender.

<u>Reasons</u>	<u>Male</u>	<u>Female</u>
	<u>Percent Checked</u>	
Did not know about them <sup>a</sup>	32.8	51.0
Did not need <sup>a</sup>	48.0	31.3
Did not feel qualified	10.1	12.5
Did not have time	7.6	6.5
Missed the deadline	1.3	1.9

<sup>a</sup>Statistically significant difference between males and females ( $\chi^2$ ,  $df=1$ ,  $P \leq 0.05$ ).

**Table 17.** The activities that AFS Career Development Survey respondents have done at AFS meetings within the past two years, by gender.

<u>Activities</u>	<u>Chapter Meeting</u>		<u>Regional Meeting</u>		<u>National Meeting</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
	<u>Percent checked</u>					
Attended meeting	46.7	45.8	26.4	24.3	29.8	32.9
Presented poster	9.1	8.2	5.2	3.8	8.0	7.0
Made an oral presentation	19.9	17.1	13.7	11.8	18.5	17.9
Attended workshop <sup>a</sup>	15.9	13.5	10.1	6.3	7.2	7.4

<sup>a</sup> Statistically significant difference between males and females at regional meetings ( $\chi^2$ ,  $df=1$ ,  $P \leq 0.05$ ).

**Table 18.** The reasons why AFS Career Development Survey respondents did not attend an AFS meeting in the last 2 years, by gender.

<u>Reasons</u>	<u>Male</u>	<u>Female</u>
	Percent	Checked
Lack of financial support from employer or graduate advisor	29.7	32.4
Travel restriction from employer	22.1	15.8
Lack of time available	45.9	53.2
<i>Due to:</i> Work <sup>a</sup>	65.8	51.4
Home/personal	4.1	16.2
Both	30.1	32.4
Conflict with other activities	30.8	25.9
<i>Due to:</i> Work	55.1	48.5
Home/personal	14.3	33.3
Both	30.6	18.2
No Interest	14.0	10.1
Other	26.2	24.5

<sup>a</sup>Statistically significant difference between males and females ( $\chi^2$ ,  $df=1$ ,  $P \leq 0.05$ ).

## DISCUSSION

AFS is interested in understanding the pathways through which its members develop an interest in fisheries, obtain training, find employment, and attempt to advance on a career path. AFS also wants to develop an understanding of the challenges members face in leading responsible professional lives while also devoting adequate time and energy to their families and family responsibilities. The survey conducted of members provides baseline information on these topics and insights into the challenges faced by members.

The results show that differences exist between men and women in development of their interest in fisheries, but not so much in their graduate school experience. Differences appear again in employment experiences after graduate school. These differences, including increased administrative and supervisory responsibilities for men, a higher percentage of men working full-time, and longer time with the same employer for men, may contribute to the significant difference in mean gross annual salary observed between men and women (\$65K vs. \$53K). However, the salary difference was also influenced by age, with older workers earning more than younger workers.

Perhaps the most striking differences between men and women appear in the area of lifestyle choices. Women with a professional career are less likely to be married than men, even when age is controlled for, and those who are married are more likely to have dual-career considerations than their male counterparts. In our society, it seems that

working women almost always have a working partner, but the reverse is not always true for men (Chao and Utgoff, 2005).

Probably because women were less likely than men to be married, women were even less likely to have had dependents living at home during their professional career. Although age was a more influential factor in the presence of dependents, if age is controlled for, women were still less likely to have had dependents in their home. Among respondents without dependents in their home during their professional career, twice as many women as men, regardless of age, think having children will adversely affect their career. For those with dependents, when asked what effect dependents had on their career, more than twice as many women as men, regardless of age, said they had to put their career “on hold” because of their dependents. Further, more women than men said that having dependents affected their career goals. For most families with children at home, child care arrangements are being shared in some way. However, almost one-third of men, compared to less than 10% of women, said their spouse was staying home and caring for the children.

Many of these differences between men and women also exist between younger and older respondents; dual career responsibilities being primary among them. The choices likely to be made to accommodate dual careers were more evident for younger respondents as well as women.

## **Recommendations to AFS Based on Survey Results**

Among those who currently have dependent children living at home, child care responsibilities were far more common for women, with 65% reporting lack of child care prevented them from attending a conference or training. This was the case for only 28% of men who currently have children living at home. Providing childcare at national AFS meetings may alleviate some attendance loss by women members.

Younger women were less likely to feel qualified to hold AFS positions and in fact, a smaller percentage of them hold AFS positions compared to younger men. Development of a mentoring program where women in leadership positions work with younger women members within the Society to encourage participation and awareness of leadership positions would be a desirable pursuit.

A higher percentage of women than men are applying for AFS travel grants, but lack of awareness of the grants is holding back more women from applying for them. We recommend expanding advertising of these programs to agencies, universities, websites and AFS meetings, and to mentors within AFS.

In the comment section on women in AFS, a number of respondents who wrote comments perceived that women were taking a more active role in AFS and these respondents wanted to encourage that further. A periodic (i.e., yearly or bi-yearly) article

or note in *Fisheries* highlighting women's roles and accomplishments in AFS may promote awareness of participation and identify new opportunities for others.

The fact that the average male respondent's age was 47, compared to 37 for women, leads to the question of whether younger members are also underrepresented in the Society. The development of a program targeting younger members (< 30 years) to join the Society would be worthwhile. Many young people working in the field of fisheries may not fall into a student or young professional category for the reduced membership dues and may not be able to justify a full membership fee. An additional category for reduced membership fees such as a temporary/seasonal employee category for individuals who find employment in the field of fisheries as temporary workers or work for less than 6 months in a year could encourage new memberships of younger members.

### **LITERATURE CITED**

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## **APPENDIX A: STUDY QUESTIONNAIRE**

### **AMERICAN FISHERIES SOCIETY CAREER DEVELOPMENT SURVEY**

*Research conducted for AFS by the  
Human Dimensions Research Unit  
Department of Natural Resources*

**Cornell University**

**This survey is dedicated to helping AFS understand the pathways through which its members developed an interest in fisheries, obtain training, find employment, and attempt to advance on a career path. The survey is also designed to develop an understanding of the challenges members face in leading responsible professional lives while also devoting adequate time and energy to their families and family responsibilities such as child care and care of elderly parents. Your answers to the survey questions will help AFS determine how it can be more responsive to these topics.**

**Please complete this questionnaire at your earliest convenience, place it in the self-enclosed envelope, and simply drop it in any mailbox; return postage has been provided. Your responses will remain confidential and will never be associated with your name. Your questionnaire has an identification number which is used solely to check your name off when you respond so that you will not receive further reminder notices. Your name and address is not entered into the database with the information you provide. The procedures used in this survey have been submitted to and approved by the Cornell University Committee on Human Subjects.**

**THANK YOU FOR YOUR ASSISTANCE!**

..... **BACKGROUND AND DEVELOPMENT OF INTEREST IN FISHERIES** .....

1. In what year were you born? 19\_\_\_\_\_
2. Gender:  Male  Female
3. Your interest in fishery science or natural resources was first kindled during what period?  
 Elementary school  Middle school  High school  College  After college
4. What person (A) and what experience (B) was most influential in kindling your interest in fisheries science? (Check all that apply; if you checked more than one, please place a second check by the most influential person or experience.)

<u>A. Person</u>	<u>B. Experience</u>
<input type="checkbox"/> Mother	<input type="checkbox"/> Reading nature books, magazines
<input type="checkbox"/> Father	<input type="checkbox"/> Growing up in a rural area
<input type="checkbox"/> Grandfather	<input type="checkbox"/> Environmental organization(s)
<input type="checkbox"/> Grandmother	<input type="checkbox"/> Holidays or vacations to natural areas
<input type="checkbox"/> Other relative	<input type="checkbox"/> Interest in hunting and/or fishing
<input type="checkbox"/> Friend	<input type="checkbox"/> Recreation activities (e.g., boating, camping)
<input type="checkbox"/> Elementary school teacher	<input type="checkbox"/> Field trips to natural areas, museums, zoos
<input type="checkbox"/> Middle school teacher	<input type="checkbox"/> High school classes
<input type="checkbox"/> High school teacher	<input type="checkbox"/> College field courses
<input type="checkbox"/> College professor	<input type="checkbox"/> Other courses_____
<input type="checkbox"/> Spouse	<input type="checkbox"/> Summer employment, internships
<input type="checkbox"/> Employer	<input type="checkbox"/> Youth groups (e.g., 4-H, Scouts)
<input type="checkbox"/> Other_____	<input type="checkbox"/> Other:_____

5. Have you received guidance counseling for a career in fisheries?  
 No  
 Yes → when?  During high school  During college  Other:\_\_\_\_\_
6. Please check below your highest degree attained:  
 High School  Associates  BS/BA  MS  Ph.D.
7. If you did not attend graduate school, was financial need a primary reason?  Yes  No
8. From what department did you receive your highest degree?  
 Biology  Fisheries and Wildlife  Natural Resources  Zoology  
 Ecology  Environmental Sciences  Marine Biology/Oceanography  
 Botany  Statistics  Forestry  Aquaculture  Other \_\_\_\_\_

**The following questions concern graduate school experiences. If you never attended graduate school, please skip this section and go directly to Question 15.**

*If you have a Ph.D., answer Questions 9 through 13 below for both your Master's and Ph.D. experience by writing an "M" next to the category that best applies for your Master's, and a "D" next to the category that best applies for your Ph.D.*

9. Who was **most** influential in your decision to enroll in graduate school?

Self       Employer       Undergraduate advisor       Parents  
 Friend       College professor       Other \_\_\_\_\_

10. Did you have financial support in graduate school?     Yes     No

11. What was your primary source of financial support? (Remember to write M (Master's), D (Ph.D.), or both in the appropriate categories.)

Research assistantship     Fellowship/Grant     Savings     Family  
 Teaching assistantship     Worked at other jobs     Student loans  
 Other \_\_\_\_\_

12. How satisfied were you with the academic guidance provided by your advisor?

Very satisfied       Moderately satisfied       Neutral       Moderately dissatisfied       Very dissatisfied

13. Did you complete requirements for and receive a graduate degree (indicate if MS or Ph.D.)?

Yes     No     Currently in graduate school

13A. IF YES, the first position you held after obtaining your degree was:

A permanent position (check one below):

Tenure track     Other academic     Agency position     NGO position

Other: \_\_\_\_\_

A temporary paid position (check one below):

Academic     Agency     NGO     Other

An internship or volunteer position

A part time position

A position not related to your graduate training

Other: \_\_\_\_\_

13B. IF NO, the main reason for leaving was:

Job offer       Personal considerations

Lack of financial support       Change in career plans

Lack of guidance from advisor       Lack of benefits

Other: \_\_\_\_\_

13C. IF CURRENTLY ENROLLED IN GRADUATE SCHOOL: which statement best describes your future?

- You will continue on in school for another degree
- You will pursue a permanent position in your field
- You will pursue temporary/seasonal work
- You will switch careers
- You have a job lined up (specify title) \_\_\_\_\_
- Other \_\_\_\_\_

14. If you currently hold a Ph.D., how many Post-doctoral appointments have you held?

- NA
- 0
- 1
- 2
- 3 or more

**FULL TIME STUDENTS SHOULD PROCEED TO QUESTION 26**

..... *PRESENT POSITION* .....

15. Select your present discipline/field?

- Technician
- Biologist
- Statistician
- Education/ I&E
- Manager
- Administrator
- Other \_\_\_\_\_

15A. What is your current title or highest position obtained (include level)?

\_\_\_\_\_

16. How long have you been with this employer? \_\_\_\_ years

17. How long have you held your current position title? \_\_\_\_ years

18. How long do you anticipate being with this employer? \_\_\_\_ years OR  indefinitely

19. Approximately what percent of your work is in the following areas (totals should add to 100%).

- |  |   |
|--|---|
| ____ % Teaching  | ____ % International policy or management |
| ____ % Basic research  | ____ % Policy development                 |
| ____ % Applied research                                      | ____ % Administration                     |
| ____ % Management  | ____ % Enforcement                        |
| ____ % Information/Education/Outreach                        | ____ % Statistical analysis               |
| ____ % Consulting  | ____ % Human dimensions                   |
| ____ % Computer application<br>(i.e., modeling, programming) | ____ % Other _____                        |

20. Approximately how many people do you supervise? \_\_\_\_\_

21. Have you participated in training/leadership opportunities at work in the last 5 years?

- Yes
- No



22A. Please circle the number that most closely approximates your gross annual salary (\$000s).

15 17.5 20 22.5 25 27.5 30 32.5 35 37.5 40 45 50 55 60 65  
70 75 80 85 90 95 100 110 120+

22B. Is your job full time or part-time?

Full time     Part time, \_\_\_ average number of hours per week:

IF PART-TIME, does the number of hours vary by season?  Yes     No

23. How interested are you in increasing your responsibilities in your current position?

Not                      Slightly                      Moderately                      Very  
 interested     interested     Neutral     interested     interested

24. To what extent do you feel an opportunity for career advancement exists at your present position?

No                      Limited                      Moderate                      Substantial                      No  
 opportunity     opportunity     Opportunity     opportunity     opinion

25. Check each item below that your current 5-year plan for yourself includes:

- |  |   |
|--|---|
| <input type="checkbox"/> Higher salary                   | <input type="checkbox"/> Less time devoted to work                |
| <input type="checkbox"/> Higher degree                   | <input type="checkbox"/> More time devoted to the family          |
| <input type="checkbox"/> Change in Employers             | <input type="checkbox"/> Change in location of job                |
| <input type="checkbox"/> Promotion                       | <input type="checkbox"/> Change in fields within aquatic sciences |
| <input type="checkbox"/> More time devoted to work       | <input type="checkbox"/> Find a new (different) career            |
| <input type="checkbox"/> Leadership/Supervisory position |   |
- Other \_\_\_\_\_

26. During the past 2 years, have you submitted any scholarly, professional, or popular writing in the fishery science field?     Yes     No → GO TO Question 29

27. During the past 2 years have you published any scholarly or professional writing (or had it accepted for publication) in the fishery science field?     Yes     No

27A. IF YES, what types of publication? (check all that apply)

- Book or monograph (author or co-author)
- Book or monograph (editor or co-editor)
- Book Chapter
- Article in a refereed journal
- Book review in a refereed journal
- Paper in refereed proceedings (other than book or journal)
- Technical report
- Other \_\_\_\_\_

28. During the past 2 years have you published any popular writing (or had it accepted for publication) in the fishery science field?  Yes  No

IF YES: what types of publication? (check all that apply)

- Article in newspaper
- Article in state/government agency conservation magazine
- Article in other magazine \_\_\_\_\_
- Other \_\_\_\_\_

..... **LIFESTYLE CHOICES** .....

29. Are you married or have a lifetime partner?  Yes  No → GO TO QUESTION 34

30. Do you have dual-career considerations with your spouse/partner?  Yes  No

31. Have you accepted a position in a geographic region different from your spouse/partner's workplace because of dual-career family considerations?  Yes  No

32. Have you or your spouse/partner had to accept a position with soft-money funding or part-time work because of dual-career family considerations?  Yes  No  NA

33. If you were offered a position that required you to move, would you have to consider your spouse/partner's professional career?  Yes  No  NA

34. During your professional career, have you or your spouse/partner had children, disabled, elderly, or others in your home who depend on you for their care?  Yes  No

**IF YES:**

- a. For what kind of dependents have you been responsible (check all that apply):
  - children
  - elderly
  - disabled adult
  - hospice for terminally ill
- b. Do you feel that having dependents has affected your career goals?  Yes  No
- c. Have you had to put your career "on hold" because of your dependents?  Yes  No
- d. Have you changed the number of hours you work per week because of dependents?  Yes  No
- e. Do you feel your employer is supportive of family and career?  Yes  No
- f. Did you/or your partner delay having children because of your career?  Yes  No
- g. Does your employer provide childcare?  Yes  No
- h. Would you prefer that childcare was available through your employer?  Yes  No

**IF NO:**

- a. Has your career affected your decision regarding dependents in your home?  Yes  No
- b. Do you plan to have children?  Yes  No  Unsure
- c. Have you delayed having children because of your career?  Yes  No
- d. Do you think having children would adversely affect your career?  Yes  No
- e. Have you decided not to have children because of your career?  Yes  No

35. Does your employer provide maternity leave?  Yes  No  Don't know

IF YES: Is it:  paid leave  unpaid leave

36. Does your employer provide paternity leave?  Yes  No  Don't know

IF YES: is it:  paid leave  unpaid leave

37. Do you feel that maternity/paternity leave and childcare are important issues?

- Yes, I have used it or plan to use it in the future
- Yes, I think everyone has the right to time off for maternity/paternity leave
- No, I do not plan on having children
- No, I think annual leave or leave without pay is adequate
- Other \_\_\_\_\_

38. Do you have dependent children living at home?

No → GO TO QUESTION 42  YES → CONTINUE

39. Which scenario below fits your household with dependent children living at home?

- You work at home and care for children
- Your spouse/partner stays home and cares for children
- Both work and adjust schedules to fully accommodate child care needs
- Both work and adjust schedules to accommodate part-time care for children
- Both work outside the home and require full-time care for children from other caretakers

40. When the children are sick, who takes responsibility for caring for them (Check all that apply)?

I do  Spouse/partner  Other family members  Day care or sitter

41. Has lack of childcare/family-oriented services ever prevented you from attending a professional meeting/conference or training?  Yes  No  NA

-----**AFS Participation/Leadership Roles**-----

42. Have you ever been elected or nominated for an AFS position?  Yes  No

43. Do you feel you would be qualified to serve on one or more AFS committees?  Yes  No

44. At which of the following levels have you served AFS? (Indicate number of years that you have participated.)

National	Division	Chapter	Section
<input type="checkbox"/> Committee member	<input type="checkbox"/> Committee member	<input type="checkbox"/> Committee member	<input type="checkbox"/> Committee member
<input type="checkbox"/> Committee chair	<input type="checkbox"/> Committee chair	<input type="checkbox"/> Committee chair	<input type="checkbox"/> Committee chair
<input type="checkbox"/> Officer	<input type="checkbox"/> Officer	<input type="checkbox"/> Officer	<input type="checkbox"/> Officer
<input type="checkbox"/> Governing board	<input type="checkbox"/> Other _____		

45. Please check if you have participated in the AFS Hutton Program as:

a mentor  an intern  other \_\_\_\_\_

46. Have you utilized travel grants/awards (i.e. EOS, Joan Duffy, Division funds) from AFS to attend meetings/trainings?  Yes  No

47. Have you applied for AFS scholarships (i.e. John E. Skinner, J. Frances Allen)?  Yes  No  
IF NO, why not (check all that apply)?

- Did not know about them  Did not feel qualified  Did not have time  
 Did not need  Missed the deadline

48. Please check if you have done any of the following at an AFS meeting within the past 2 years:

Type of AFS Meeting	Chapter Meeting	Regional Meeting	National Meeting
a. Attended meeting			
b. Presented poster			
c. Made an oral presentation			
d. Attended workshop			

I did not attend an AFS meeting in the last 2 years →: Why not? (Check all that apply):

- Lack of financial support from employer or graduate advisor  
 Travel restriction from employer  
 Lack of time available → due to  work or  home/personal  
 Conflict with other activities →  at work  at home  
 No interest  
 Other \_\_\_\_\_

49. How many other professional societies do you belong to? \_\_\_\_\_

50. Please provide any additional comments regarding your level of participation and the level of participation of women or underrepresented groups in AFS:

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**Please use the space below for any additional comments you wish to make.**

**THANK YOU VERY MUCH FOR YOUR ASSISTANCE AND COOPERATION**