UAA Geomatics 2010 Survey of Registered Surveyors in Alaska: A Preliminary Analysis

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Background

In October, 2010, UAA Geomatics mailed a survey questionnaire to every registered surveyor on the Alaska register. The questionnaire covered a wide range of topics relevant to the practice of surveying, and was designed to match surveys previously administered to surveyors in other parts of the US. Questions were updated and adapted to Alaska-specific situations, and a few new questions added. A reply-paid envelope was provided for responses, which was used in all cases.

Among the questions on the survey were two related to education and experience requirements for professional registration in Alaska. The results of these questions were tabulated ahead of the remainder of the questions, owing to the current debate on this issue, and preliminary results were made available to the AELS Board. The updated results are included in this document.

The other responses were tabulated later, and the results were checked for the degree to which they were representative of the total population of registered surveyors. This document presents the assessment of this level of representativeness of the sample of returned questionnaires.

Several people have suggested: that the survey results are not representative; that the survey was biased; that UAA Geomatics, as an interested party, somehow fabricated data or otherwise acted unprofessionally in undertaking this survey. We categorically reject these allegations, especially the suggestions and implications that the professionals at UAA acted unprofessionally or improperly, biased the results, or otherwise acted contrary to accepted practice. Since these accusations are all from individuals who have not seen how the survey was conducted, they are clearly based on supposition, not fact, and are themselves unprofessional and biased outbursts.

The Survey Questions

The following two questions were asked on the questionnaire. This is the exact format of the questions on the questionnaire.

28. Do you think the practice / experience requirements to obtain surveying registration should be made:

❏ more stringent ❏ less stringent ❏ as they are now.

31. Do you think the educational requirements to obtain a surveying license should be:

❏ High School Diploma	❏ 2 years of surveying coursework	❏ 2-year surveying associate degree
❏ Any 2-year associate degree	❏ Any 4-year degree	❏ 4-year surveying degree
❏ 4-year civil engineering degree	❏ Masters degree	❏ Other (please specify)

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Validation of the Survey

Return Rate

Questionnaires were mailed to all 475 Alaskan registered surveyors. Several were returned unopened owing to incorrect addresses. Not all questionnaires were completed, and this is reflected in the derived figures. We received 107 usable questionnaires, a return rate of 22.5%. This compares with return rates for equivalent surveys of 22.7% in 2000 in Ohio (672 from 3,083), and 28.6% in Minnesota in 2009 (167 from 584). This suggests that the survey results are reasonably representative of return rates, compared to similar surveys. This return rate is actually quite good by mailed questionnaire standards.

Male/Female Ratio

While gender is not recorded in the address data we used for mailing, looking at given names allows a reasonable guess as to gender to be made, although five names were omitted from this because of uncertainty as to gender. The questionnaires were distributed to a group that was 95.1% male and 4.9% female.

All respondents completed the gender question, and responses were 95.5% male and 4.5% female. The 0.4% percentage point difference comes down to less than 0.5 of a person, which indicates that responses are very representative of the gender of the entire population of registered surveyors in Alaska. In fact, they could not have been any more representative.

In-state/Out-of-state Ratio

The address records used for distribution included registrants with out-of-state addresses. Of the 475 questionnaires distributed, 78.5% went to addresses within Alaska, while 21.5% went to addresses out-of-state.

Of the returned questionnaires with an identifying state, 86.8% were from Alaska, while 13.2% were from out-of-state. Had the distribution percentage been maintained, we would have received 84 responses from within Alaska, rather than the 92 actually received. These additional eight responses, or eight fewer than expected from out-of-state, suggest that the usual situation of people being less concerned with events farther away had taken hold. Eight responses difference does not seem to be a large difference in this aspect of the representativeness of the survey, and may make the results a little more representative of those within Alaska than those Outside.

If the survey was examined with non-resident registrants excluded, the response rate would be 24.7%, which is a little better, but not much greater than the 22.5% overall.

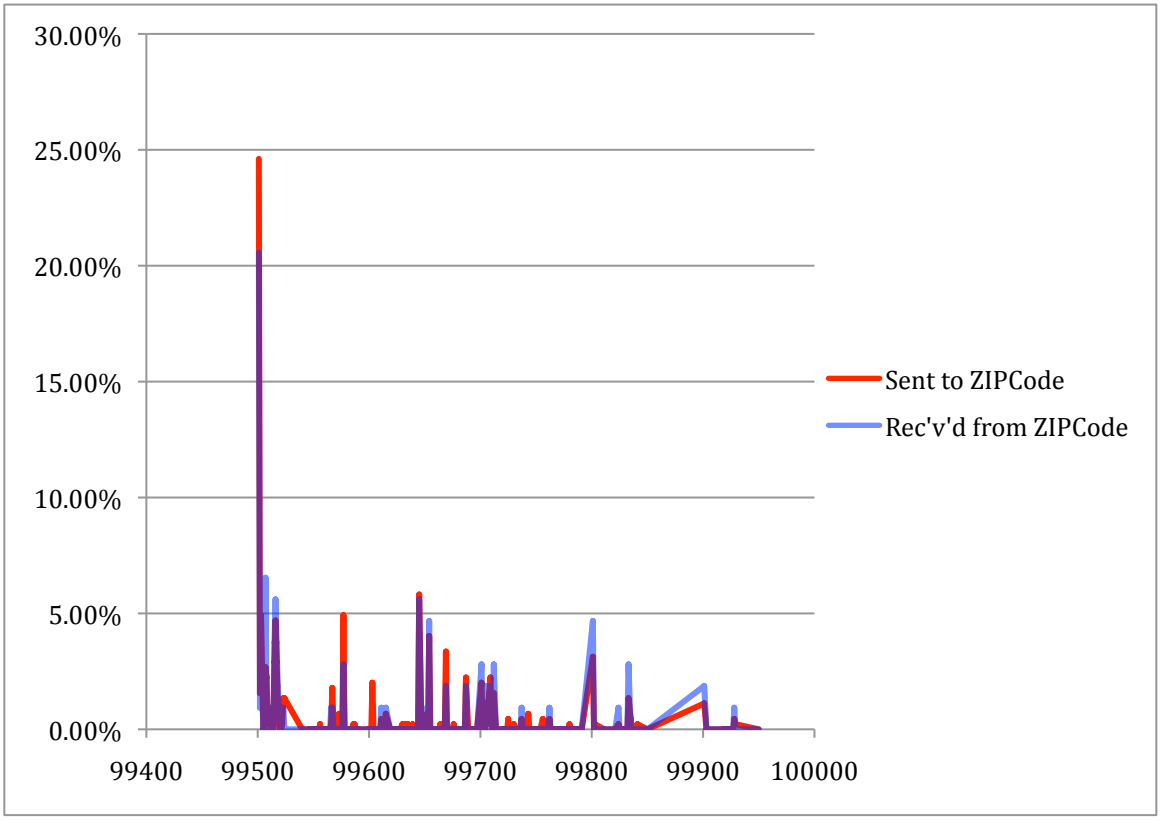
Alaskan ZIPCode Ratios

Of the responses from within Alaska, the response rate compared to the distribution rate in different ZIP Code areas was compared. A similar comparison with out-of-state ZIP Code areas would not have been meaningful owing to the small numbers involved.

Overall, we found that the return rates were pretty close to those expected from the distribution rates. In most cases, the differences came down to two or fewer responses different from

expected, which suggests a reasonable match. The comparison is presented in the graph on the next page, where different colored lines show the differences by ZIP Code area.

The ZIP Codes that exceeded these differences were: 99501, where we received four fewer responses than expected; and 99507, where we received four more responses than expected. Given that these may represent people moving within Anchorage, this suggests that the results of the survey are representative of registered surveyors by geographical location within Alaska.



ASPLS Membership

At the time of the survey, there were 140 members of ASPLS who were registered surveyors in Alaska (based on membership category numbers). This is 29.5% of all registered surveyors in Alaska.

A total of 44 survey respondents indicated that they were ASPLS members, which was 41.9% of the total responses. This difference indicates that 13 more ASPLS members responded compared to the number expected, based on the distribution rate. This does indicate that members of professional societies do tend to be more involved in professional activities, but I do not think that this significantly changes the results. It should be noted that 70.5% of respondents were members of some professional society.

It can also be seen that the respondents contained 31.4% of all ASPLS members in the membership categories that require licensure. This suggests that the survey is also a reasonable sample of ASPLS members. However, the gender distribution and geographical distribution of ASPLS members has not been compared with those of the sample, so this cannot be indicated any more strongly.

Summary

In summary, we feel that the sample of registered surveyors who responded to the survey is reasonably representative of the total population of registered surveyors in Alaska. The geographical distribution of the sample closely matched the geographical distribution of the population. The gender distribution of the sample matched that of the population. The return rate for the questionnaire was consistent with similar effort.

The sample was self-selected and did reflect those surveyors with a greater interest in professional matters, as shown by the higher proportion of those in the sample who were members of professional societies, compared to the general population of surveyors. The sample had a slight bias towards those registrants living in Alaska, but this may be a good thing. But these are the people who will preferentially involve themselves in professional matters, and their geographical distribution strongly suggests that they are as representative of Alaskan registered surveyors as any other group that could reasonably be sampled. We would suggest that only by asking every surveyor and forcing an answer will a better estimate of the feelings of the surveying profession be obtained. As such coercion is unlikely to occur, this survey is probably about as good as can be obtained for the investment of time and money. Any improvements will only come with greatly increased costs.

Results

The following results were obtained from the questionnaires.

Experience Requirements

28. Do you think the practice / experience requirements to obtain surveying registration should be made:

❏ more stringent ❏ less stringent ❏ as they are now.

There were 97 respondents for this question, i.e., 20.4% of all registrants.

More stringent:	35% (34)
Less stringent:	5% (5)
As they are now:	60% (58)

Clearly a large majority, 95%, want the experience requirements to be the same or more stringent than at present.

Education Requirements

31. Do you think the educational requirements to obtain a surveying license should be:

❏ High School Diploma	❏ 2 years of surveying coursework	❏ 2-year surveying associate degree
❏ Any 2-year associate degree	❏ Any 4-year degree	❏ 4-year surveying degree
❏ 4-year civil engineering degree	❏ Masters degree	❏ Other (please specify)

There were 106 respondents for this question, i.e., 22.3% of all registrants. As multiple responses were allowed, the following tabulation is based on the total responses, which were 124.

High School Diploma:	5.6%
Any 2-year associate degree:	1.6%
4-year civil engineering degree:	2.4%
2 years of surveying coursework:	8.1%
Any 4-year degree:	4.8%
Masters degree:	0.0%
2-year surveying associate degree:	23.4%
4-year surveying degree:	38.7%
Other:	15.3%

Most of the 'Other' responses suggested experience, or combinations of education and experience.

With multiple responses, one possible interpretation is that the respondent considered a progression of education. The following tabulation is based on the highest educational level suggested, and is based on 106 responses.

High School Diploma:	3.8%
Any 2-year associate degree:	0.9%
4-year civil engineering degree:	0.0%
2 years of surveying coursework:	6.6%
Any 4-year degree:	3.8%
Masters degree:	0.0%
2-year surveying associate degree:	23.6%
4-year surveying degree:	45.3%
Other:	16.0%

When these 'highest responses' were compared with the age range of the respondent, the numbers of respondents under 40 were too few to be significant, but when separated into those under 50, approximately equal numbers were in favor of the 4-year degree and in favor of something else, while 40% of those over 50 favored the 4-year degree. When the respondents were separate into those under 60, approximately equal numbers still favored the 4-year degree as anything else, while only 29% of those over 60 favored the 4-year degree.

Among those 44 respondents who identified themselves as ASPLS members, the 'highest responses' were as follows:

High School Diploma:	0.0%
Any 2-year associate degree:	2.3%
4-year civil engineering degree:	0.0%
2 years of surveying coursework:	6.8%
Any 4-year degree:	0.0%
Masters degree:	0.0%
2-year surveying associate degree:	25.0%
4-year surveying degree:	45.5%
Other:	20.4%

This is very similar to the general group of respondents, which suggests that ASPLS members have very similar opinions on these matters to the wider population of registrants in this survey.

It would seem that about half the respondents under 60 prefer the 4-year degree option. Among those over 60, support for a 4-year degree is markedly less.

Comment and Interpretation

About 69% prefer either the 2-year surveying degree or the 4-year surveying degree. This is interesting, as the UAA 2-year surveying program requires about 41 semester credits in surveying courses, while the 4-year programs at University of Florida and New Mexico State University require about 48 semester credits, while Alfred State requires 54. The UAA 4-year program requires 77 semester credits, as does the Ferris State University program (often consider one of the better programs in the nation).

This would suggest that the UAA 2-year degree is not far short of many 4-year degree programs around the country. As the UAA 2-year program is the one with which most registrants in Alaska will be familiar, this would suggest that almost 70% of people feel that something very close to a 'standard' 4-year degree is needed.

Summary

UAA Geomatics prepared and delivered a questionnaire to all 475 registered surveyors on the Alaska registry, using the most recent addresses possible. While some surveys were not deliverable, we received 107 usable responses, a return rate of 22.5%. This is comparable with similar surveys in other states at other times, and the mailed surveys in general.

Respondents represented 31.4% of ASPLS members in membership categories that require licensure. While these respondents were not compared with any data about ASPLS members to determine how representative they were of ASPLS members, they do seem to be part of a representative sample of Alaskan registrants.

Certain of the respondents' answers were compared with the known characteristics of Alaska registered surveyors, and the geographic distribution of the responses, while leaning a little towards responses from within Alaska compared to those from outside Alaska, was pretty close to balanced across the same geographical regions as the registered surveyors themselves. The gender balance was approximately the same in both the sample and the population of registered surveyors.

Respondents were clearly in favor of retaining the current experience requirements or making it more stringent, 95% preferring these options. 60% preferred retaining the current requirements.

Approximately 70% of respondents preferred either a 4-year surveying degree or 2-year surveying degree as a requirement for registration. Depending upon interpretation of responses, between 39% and 45% of respondents prefer a 4-year surveying degree as the primary educational requirement for licensure, with this preference rising to about 50% for those under 60. The 4-year degree was preferred ahead of all other educational options by a significant margin.

Given that the UAA 2-year program is the one with which most Alaskan registrants are familiar, and that this program is comparable in surveying content to a number of 4-year programs in other states, it is interesting that 69% of respondents prefer either a 2-year surveying degree or a 4-year surveying as their 'highest' educational requirement. This suggests that something very close to a basic 4-year degree is preferred by over two-thirds of the respondents.

Testing the data suggests that the sample that self-selected itself for this survey were reasonably representative of surveyors in Alaska as a whole, and that the results of this survey are therefore reasonably representative of Alaskan registered surveyors. The data would also seem to be reasonably representative of ASPLS members, as almost a third of them participated in this survey. ASPLS members' responses to the educational requirements question were collectively almost identical to those of the entire group of respondents, suggesting that the ASPLS members who responded are reasonably representative of the surveying profession in Alaska.

Acknowledgements

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