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Not all are created equal: an analysis of the environmental programs/departments in U.S. Institutions of Higher Education from 1900 until March 2014.

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Abstract

Environmental academic programs in U.S. institutions of higher education have traditionally lacked definition of their nature and unifying principles. In order to ascertain how these programs are presently constituted in U.S. institutions of higher education, we surveyed 1050 environmental programs/departments between November 2013 and March of 2014. The states with the highest number of those programs/departments were New York (100), Pennsylvania (92), California (76), Ohio (56), Massachusetts (54), while those with the lowest numbers are Oklahoma, and Utah (4), Delaware (3), Arkansas, Hawaii, South Dakota, and Wyoming (2), North Dakota (1), and Idaho (0). However, when the state population is taken into account and the number of programs per 1,000,000 inhabitants is calculated, the results vary greatly for the ones that were at the top in absolute numbers but remain basically the same for those that were at the bottom in absolute number. Thus, the states with the highest number of programs/departments per 1,000,000 inhabitants are Vermont (30.364), Montana (15.160), Maine (15.056), the District of Columbia (14.957), Alaska (14.080), and Rhode Island (10.451), and at the bottom we find Idaho (0), Arkansas (0.686), Oklahoma (1.066), Texas (1.352), Florida (1.436), Utah (1.447), Hawaii (1.470), and North Dakota (1.487).

The names Environmental Science and Environmental Studies are, by far, the most common ones being applied to these programs, accounting for 52.40% of the programs in our study. Environmental programs are also housed in departments of Biology/Ecology/Conservation (9.93%), Policy/Analysis/Planning (7.19%), and Geology (4.79%).

Between 1900 (the year of the first program was created) and 1958, only 14 programs were established. For the period 1959-1999, there is a dramatic increase in the number of programs. There are two big "waves" in the creation of programs: one between 1965 and 1976 (with a high peak in 1970) and another starting 1988 and, probably, continuing to this date, with a peak in 1997. Representatives of the

programs surveyed cited students and faculty demand and job market opportunities as the most common reasons behind the creation of these programs.

The high diversity of names and emphases found in this study is consistent with the premise that Environmental Studies is a field where there is a lack of unifying principles and clarity of what environmental studies programs should be.

INTRODUCTION

There is some uncertainty about Environmental Studies (ES) as an academic field and about how to design environmental programs for institutions of higher education (Soulé and Press 1998, Maniates and Whissel 2000). This comes from the very nature of interdisciplinary programs in the sense of disciplinary boundaries. In general, the status of ES programs (ESPs) is characterized by competing proposals, that is, to what extent it is a crossroads of disciplines or a discipline in itself. There is neither agreement as to the characterization of the domain or a basis for identification and selection of accurate and appropriate subject matter of ESPs (Bennett 1996).

Traditionally, most ESPs were envisioned as an integrating concept that draws elements from many traditional disciplines, but actual integration or synthesis of that knowledge has been difficult to define and/or achieve. Thus it is not always possible to ascertain when that integration is accomplished. No consensus has been reached on whether ES is a field that can be described as an area for professional and technical preparation, interdisciplinary, multidisciplinary, metadisciplinary or a discipline in itself (Newell and Green 1982, Caldwell 1983, Mattes 1994, McLaughlin 1994, Wilke 1995, Horning 1996, Schneider 1997, Jacobson and McDuff 1998). Furthermore, whether or not its teaching must include certain ethical values and what those values should be, have also been a source of discussion (Orr 1990, Kim and Dixon 1993, Hunn 1996). Others have suggested that the fundamental mission for these programs must be to teach sustainability (e.g., Filho 2002).

Despite all these shortcomings, there is evidence that ESPs are increasing in number and importance among institutions of higher education (Kettl 1999, Maniates and Whissel 2000, Romero et al. 2000). Yet, there have been, to our knowledge, only six extensive, in-depth surveys of environmental programs/departments covering both graduate and undergraduates in U.S. academic institutions (Maniates and Whissel 2000, Romero et al. 2000, Romero et al. 2001, Romero and Eastwood 2002, Romero and Jones, 2003, Romero and Silveri 2006). Some past statistical analyses on their number in higher education have always been vague (e.g., Brough 1992).

The major goal of this paper is to present and discuss on a periodic basis as many environmental programs in U.S. institutions of higher education as possible as a continuation of our previous work so we can assess how this field is evolving on a continuing basis (Romero et al. 2000, Romero et al. 2001, Romero and Eastwood 2002, Romero and Jones 2003). We continue to study the following characteristics: 1) geographic distribution; 2) number of programs per institution; 3) how those programs define themselves by name (e.g., environmental studies, environmental science, etc.); 4) emphases of programs by areas of knowledge (natural sciences, social sciences, humanities, interdisciplinary); 5) degree offered (B.A., B. Sc., Masters', Ph.D.); 6) whether internships and study away/abroad opportunities were offered and if any

of those was required; 7) vital statistics (number of students enrolled, number of students graduated in 2004, 2005, 2006, 2007, 2008, 2009, 2011, 2012, number of faculty involved in those programs and the status of those faculty, i.e., number of faculty that: a) were assigned to the environmental program/department, whether they were b) full-time, c) shared with other departments/programs, d) part-time faculty, 8) year in which the environmental program/department was created, and 9) why the program was created. For this edition, we have also made some inquiries on the operating budgets of those programs.

MATERIALS AND METHODS

We define as an environmental program/department any of those that use the word environmental in their title, from the most commonly offered under the names of environmental studies, science, and engineering to the less common environmental journalism or law. We also include those that although their names do not carry the word environmental, define themselves as environmental in nature in their advertisement material. Therefore we are taking a much broder view of what an environmental-related academic program is.

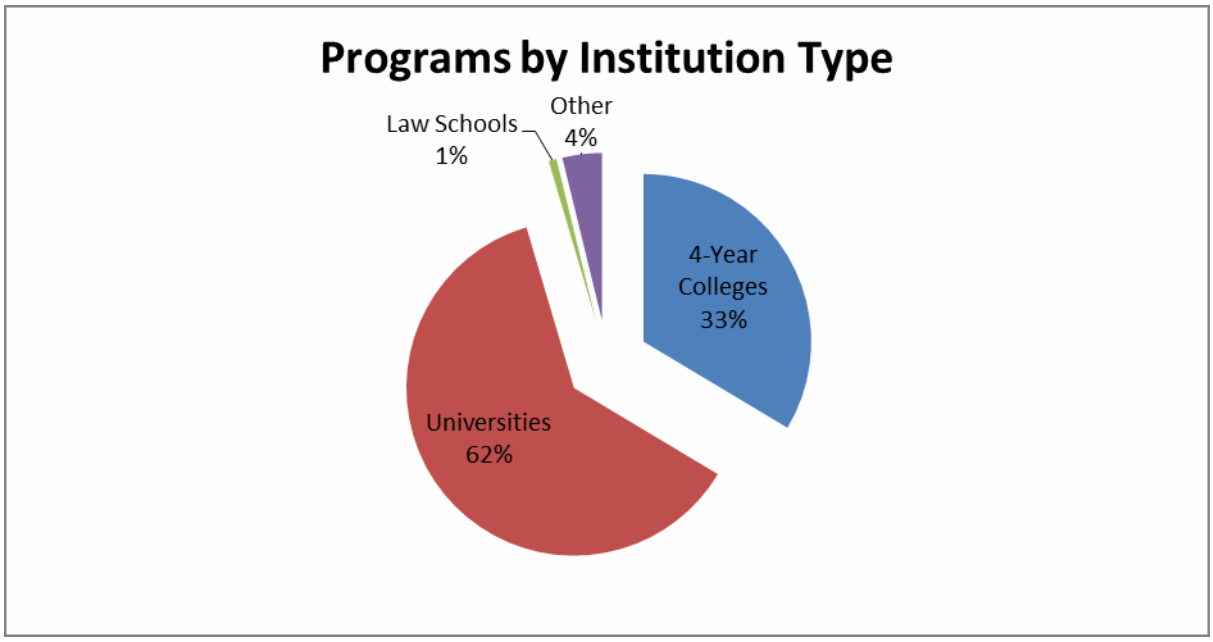
Much of the data presented here is taken from previous surveys by the authors (Romero et al. 2000, Romero et al. 2001, Romero and Eastwood 2002, Romero and Jones 2003, Romero and Silveri 2006). In addition to the methods described therein, we obtained the most recent information through direct contact with the administrators of the programs themselves via email and telephone. Administrators of these programs were asked to complete the entire survey. We also visited the websites of particular colleges and universities, and consulted Rodenhouse (2005). Direct responses (response rates, about 50% of the programs surveyed) were compiled. For those that did not reply to our request for information we based the data provided in this paper on their advertised information found either on-line or in their brochures. When there was no advertised information in a specific category, we assumed no changes and left the information as detailed in Romero and Jones (2003) (and reviewed since then) for the sake of parsimony. Each program was treated as an individual entry for statistical purposes even when there was more than one program for the same academic institution.

To locate the programs/departments, we used online search engines such as Peterson's guide to graduate schools and Peterson's *CollegeQuest* for undergraduate programs (www.collegequest.com). We also used other sites that carry extensive lists of higher education programs in the environmental arena, such as the web page of the National Council for Science and the Environment and Second Nature. We also looked at Brillault (2000) as a source for environmental law programs. Other programs were located through their web pages by typing in the words environment or environmental and matching those with the words program and/or department in the following search engines: Google, Excite, HotBot, LookSmart, Lycos, Snap, and About.com. In order to locate programs/departments that were more recently created and for which information was not readily available in the sources cited above, we have been scrutinizing job advertisements for academic positions in *The Chronicle of Higher Education* and *Science* since September 1999.

RESULTS AND DISCUSSION

General: Results are compiled in Table 1. We present information on a total of 1050 programs/departments in 605 institutions of higher education. 44 (33.59%) of them were 4-year colleges, 81 (61.83%) were institutions with both undergraduate and graduate programs ("universities"), 1 (0.763%) was exclusively a law schools and 5 were classified as other (3.82%) (Figure 1). Those programs are listed alphabetically according to the name of the associated academic institution. Each institution was counted only once regardles of the total number of programs at any given institution.

Fig. 1. Programs by Institution type.



The average number of programs per institution was 1.745 with a range of 1-24. We took into consideration that The University of California system throughout its campuses had 24. The UC System has six campuses with environmental academic programs and the Berkeley campus alone has 11 programs. Also included in Table 1 is the URL address from each program from which we obtained the initial information, whether or not people from that program/department responded to our survey, the name of the person we contacted or who at least appeared as responsible for the program/department based on his/her title (program director, coordinator, chair), and the email address of that program/department that we used or at least appeared to be the one for contact/further inquiry for that program are also included.

Geographic Distribution: The second column on Table 1, identifies the location of the institution by state. The programs/departments per state are summarized in Table 2. In order to assess whether these numbers accurately represent any level of demand for these kinds of programs in the academic institutions of these states, they must be correlated to the population in those states. Using U.S. Census Bureau data (July 2005), we normalized the number of programs/departments to the population of that state and region. Regions were defined using the U.S. Census Bureau definition for states comprising six U.S. regions: Northeast, South, Midwest, West, West Coast, and Alaska and Hawaii (www.census.gov).

Table 2. Number of Environmental programs/departments per state/population

Region (Total # of Programs)	State	# Programs/ State	Population (1 July 2005)	Programs/ 1,000,000 people
ALASKA/ HAWAII (12)	Alaska	10	710,231	14.080
	Hawaii	2	1,360,301	1.470
WEST COAST (123)	California	76	37,253,956	2.040
	Oregon	23	3,831,074	6.003
	Washington	22	6,724,540	3.273
ROCKY MOUNTAINS (73)	Arizona	10	6,392,017	1.564
	Colorado	24	5,029,196	4.772
	Idaho	0	1,567,528	0
	Montana	15	989,415	15.160
	Nevada	10	2,700,551	3.703
	New Mexico	8	2,059,179	3.885
	Utah	4	2,763,885	1.447
	Wyoming	2	563,626	3.548
MIDWEST (249)	Illinois	34	12,830,632	2.650
	Indiana	34	6,483,802	5.244
	Iowa	19	3,046,355	6.237
	Kansas	5	2,853,118	1.752
	Michigan	37	9,883,640	3.744
	Minnesota	18	5,303,925	3.394
	Missouri	12	5,988,927	2.004
	Nebraska	5	1,826,321	2.738
	North Dakota	1	672,591	1.487
	Ohio	56	11,536,504	4.854
	South Dakota	2	814,180	2.456
	Wisconsin	27	5,686,986	4.748
SOUTH (263)	Alabama	9	4,779,736	1.883
	Arkansas	2	2,915,918	0.686
	Delaware	3	897,934	3.341
	District of Columbia	9	601,723	14.957
	Florida	27	18,801,310	1.436
	Georgia	21	9,687,653	2.168
	Kentucky	7	4,339,367	1.613

	Louisiana	13	4,533,327	2.252
	Maryland	20	5,773,552	3.464
	Mississippi	14	2,967,297	4.718
	North Carolina	24	9,535,483	2.517
	Oklahoma	4	3,751,351	1.066
	South Carolina	12	4,652,364	2.579
	Tennessee	16	5,962,959	2.683
	Texas	34	25,154,561	1.352
	Virginia	30	8,001,024	3.750
	West Virginia	15	1,852,994	8.095
NORTHEAST (351)	Connecticut	20	3,574,097	5.596
	Maine	20	1,328,361	15.056
	Massachusetts	54	5,547,629	9.733
	New Hampshire	11	1,316,470	8.356
	New Jersey	22	8,791,894	2.502
	New York	100	19,378,102	5.160
	Pennsylvania	90	12,702,309	7.085
	Rhode Island	11	1,052,567	10.451
	Vermont	19	625,741	30.364

Table 2 shows that in absolute numbers of programs/departments with the highest number of programs/departments found in New York (100), Pennsylvania (92), California (76), Ohio (56), Massachusetts (54), while those with the lowest numbers are Oklahoma, and Utah (4), Delaware (3), Arkansas, Hawaii, South Dakota, and Wyoming (2), North Dakota (1), and Idaho (0). However, when the state population is taken into account and the number of programs per 1,000,000 inhabitants is calculated, the results vary greatly for the ones that were at the top in absolute numbers but remain basically the same for those that were at the bottom in absolute number. Thus, the states with the highest number of programs/departments per 1,000,000 inhabitants are Vermont (30.364), Montana (15.160), Maine (15.056), the District of Columbia (14.957), Alaska (14.080), and Rhode Island (10.451), and at the bottom we find Idaho (0), Arkansas (0.686), Oklahoma (1.066), Texas (1.352), Florida (1.436), Utah (1.447), Hawaii (1.470), and North Dakota (1.487) as a reflection for demand for that kind of programs in those states.

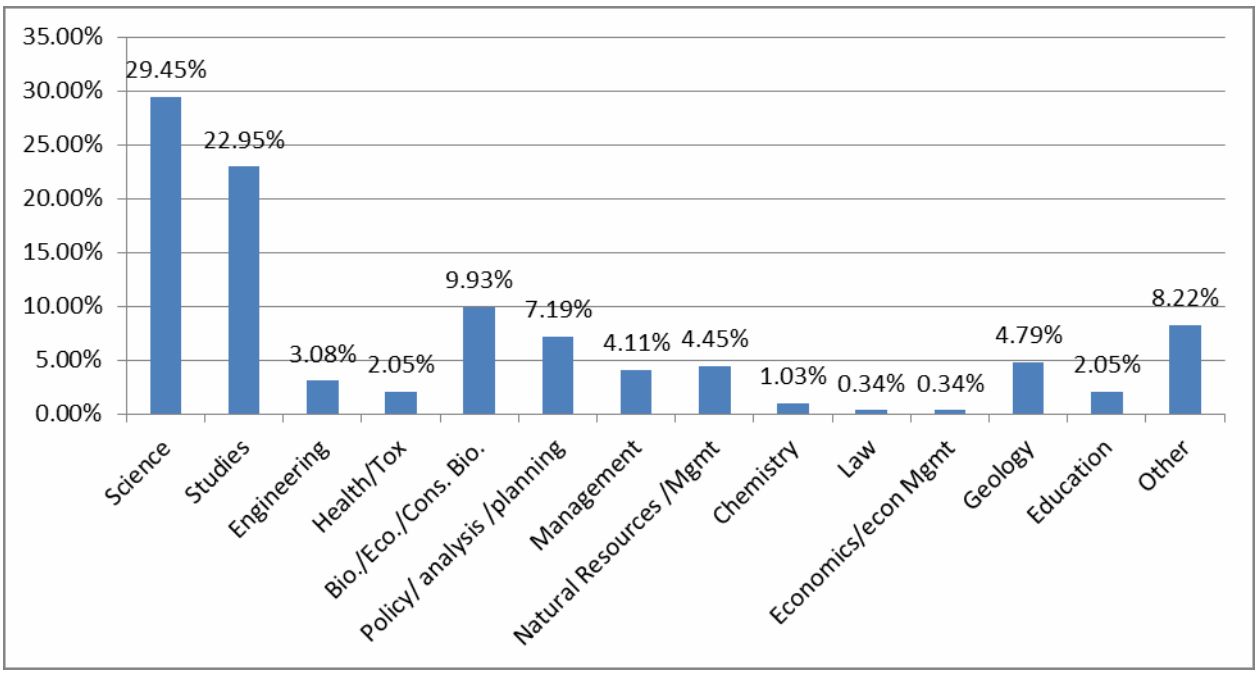
Of the above, the data for the District of Columbia needs to be qualified. The reason is that we can assume that a large number of people enrolled in these types of programs in D.C. institutions are actually residents of either Maryland or Virginia who commute to the D.C. area.

Programs by name: In order to see how programs wer named and/or makketed we compiled the program/department names based on the ones for which there were three or more using a particular denomination. They were: Environmental Studies, E. Science, E. Engineering, E. Biology/Ecology/Conservation Biology, E. Health/Toxicology, E. Policy/Analysis/Planning, E. Management, E. Law, E. Chemistry, E. Education, Natural Resources/Management, E. Economics/Economics Management, E. Geology. When the name of the program was dual (e.g., Environmental Science/Studies), we used the most inclusive denomination (Environmental Studies) unless they had two clearly distinct tracks (e.g., environmental science and environmental engineering). We created a column for "others" when there were fewer than four programs carrying a particular name. The results of programs according to their name are summarized in Table 3 and represented in Fig. 2.

Table 3. Environmental Programs/Departments according to their own denomination (March 2014).

Program Name	Number	Percentage
Science	86	29.45
Studies	67	22.95
Engineering	9	3.08
Biology/Ecology/Conservation	29	9.93
Policy/Analysis/Planning	21	7.19
Health/Toxicology	6	2.05
Management (i.e., business mgt.)	12	4.11
Law	1	0.34
Chemistry	3	1.03
Geology	14	4.79
Natural Resource Management	13	4.45
Education	6	2.05
Economics	1	0.34
Others	24	8.22

Figure 2. Environmental Programs/Departments - May 2014, n=1051



The names Environmental Science and Environmental Studies are, by far, the most common acocunting for 52.40% of the programs in our study. Environmental programs are also housed in departments of Biology/Ecology/Conservation (9.93%), Policy/Analysis/Planning (7.19%), and Geology (4.79%). Although the number for "Others" seems high, the reason is the broad diversity of names given to many programs.

In order to determine if there is a correlation between the name of the environmental programs and the nature of the institution, a chi-square test was performed. The null hypothesis was that the names given to environmental programs are independent of the type of academic institution in which they are found. Not surprisingly we found that the names "Environmental Studies" and "Environmental Science" are much more commonly used in college settings while more discipline-specific names such as "Environmental Engineering" are more common among universities ($p.< 0.5$) given that liberal are colleges rarely have engineering programs. Notice that the total number (n) reported for this statistical analysis is higher than the total number of programs mentioned for this study; more than one program reported a combination of two or more names cited here.

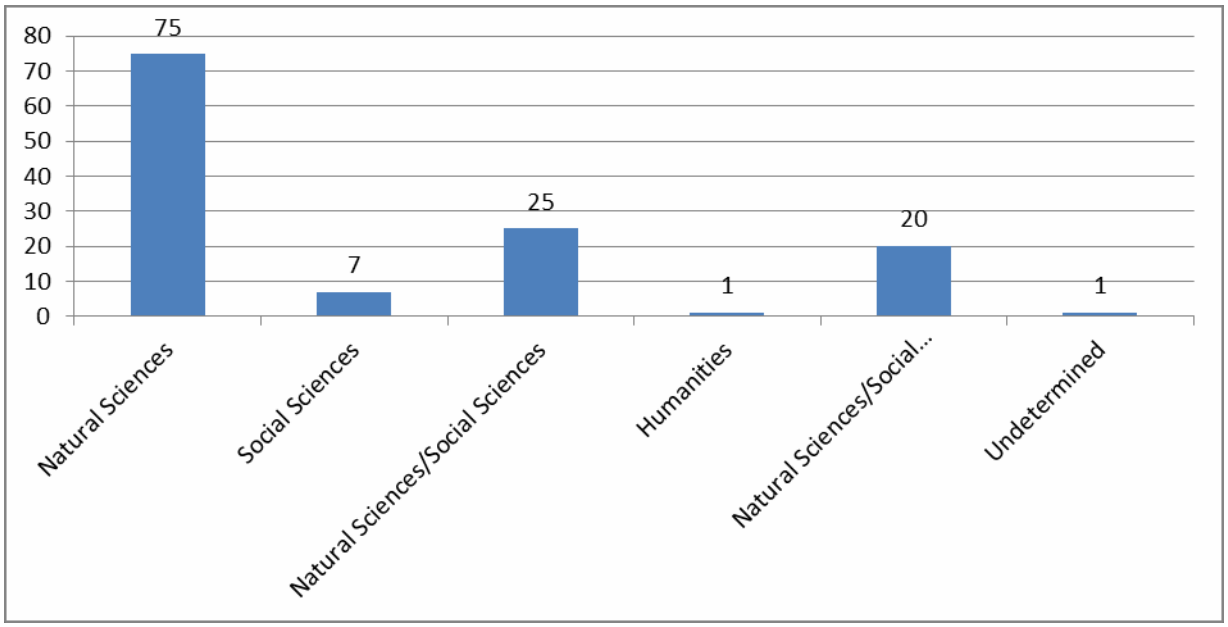
Area of Knowledge: In order to ascertain the particular area of knowledge (field of study) in which different programs could be placed and whether or not they have any degree of interdisciplinarity (two or more dicpliplines combined), we analyzed their course requirements. If 75% or more of the courses required were within a particular area (natural sciences vs. social sciences vs. humanities) then the program was categorized as belonging to that area of knowledge. Otherwise they were categorized as belonging to two or more areas of knowledge, but also using the 25% of courses within a particular area as the litmus test. Thus, programs that were classified as fully interdisciplinary were those that contain at least 25% from each of the above fields of knowledge. For the accounting of courses, courses that by themselves

were interdisciplinary in nature such as the capstone seminar were not assigned as belonging to any particular area of knowledge. The results of this analysis are summarized in Table 4 and Fig. 3.

Table 4. Programs by actual area of knowledge they emphasize.

Area of Knowledge	Number of Programs	Percentage
Natural Sciences	75	58.14
Social Sciences	7	5.43
Natural Sciences/Social Sciences	25	19.38
Humanities	1	0.78
Natural Sciences/Social Sciences/Humanities	20	15.50
Undetermined	1	0.78

Figure 3. Environmental Programs/Departments Emphases – March 2014



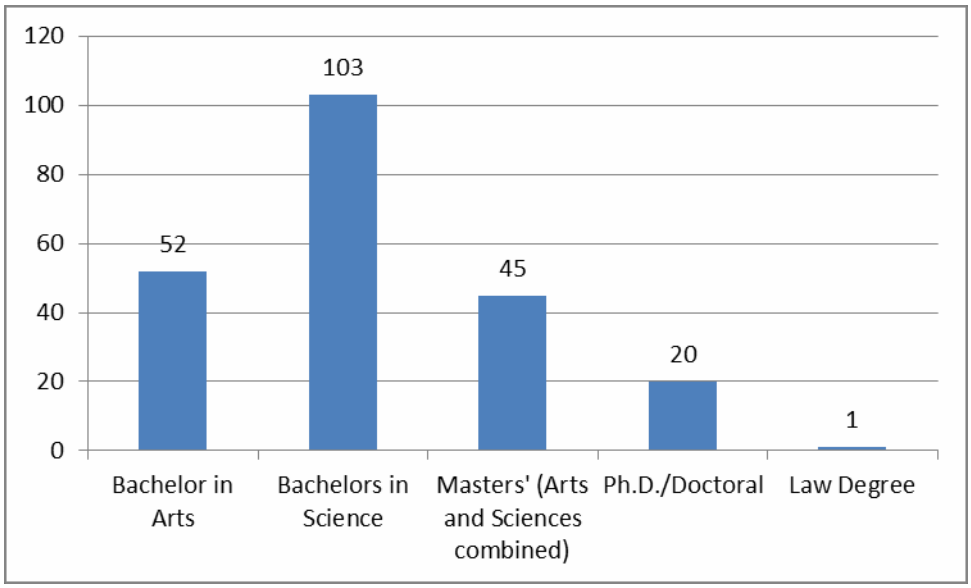
Of those curricula for which we could determine the area of knowledge, the vast majority of environmental programs fall within the realm of natural sciences (58.14%). There are 45 programs (34.88%) that are interdisciplinary in nature because of combining two or all three areas of knowledge, but only 20 (15.50%) are fully interdisciplinary by combining all areas of knowledge.

By degree offered: Results of are summarized in Table 5 and Fig. 4.

Table 5. Number of programs according to the degree they offer

Degrees Offered	Number of Programs
Bachelor in Arts	52
Bachelors in Science	103
Masters' (Arts and Sciences combined)	45
Ph.D./Doctoral	20
Law Degree	1
TOTAL	221

Figure 4. Degrees Offered – March 2014



As suspected from the high number of natural sciences-based programs, the larger proportion of undergraduate programs offered a Bachelor's in Science degree. Notice that the sum is higher than the number of programs identified for this study. The reason is that many programs offer more than one degree. Also, this figure is not complete, since we did not receive explicit information from some programs regarding the degree they offer and, thus, they were not included in this portion of the data evaluation.

Internships/Study Away-Abroad Programs: Results of the survey are summarized in Table 6.

Table 6. Programs/Departments according on whether they offer/require internships and study away opportunities.

Program Type	Number
Internships (required or not)	122
Required Internship	42
Study Away/Abroad	122

The values shown in Table 6 represent a lower number of the actual internships and study away/abroad programs offered at those institutions because a number of programs did not return our surveys. Yet, it is possible that most programs include internships opportunities and that about one third of them require an internship to be completed as part of the graduation requirements. Study away/abroad opportunities also seem to be fairly common. We could not find any single program that requires taking such opportunities as a requirement for graduation.

Demographics: Table 7 summarizes the demographics for those programs that responded to our request for information. It includes the number of students enrolled, number of graduates since 1998, number of full-time faculty involved in the program, number of faculty assigned to that program and/or department, number of faculty shared with other department/program, and number of part-time faculty working in that program/department. For this compilation, we used data only from the programs/departments that responded to our survey.

Table 7. Vital statistics of those programs/departments that responded to our survey.

Data	Number
Number of Students	9,619
Number of 2004 graduates*	1,048
Number of 2005 graduates*	1,062
Number of 2006 graduates*	1,106
Number of 2007 graduates*	1,304
Number of 2008 graduates*	1,398
Number of 2009 graduates*	1,652
Number of 2010 graduates*	1,841
Number of 2011 graduates*	2,065
Number of 2012 graduates*	2,470
Full-time faculty	965
In Department/Program	868.25
Shared	530.8
Part-time	315

*These are possibly underestimations since the numbers depend upon the responses to interviews. Student and faculty statistics for ESPs are, by far, the most problematic to obtain. First, the data depend entirely on feedback from the person in charge of the program. Those statistics are highly variable because of the continuous flow in the number of students and faculty assigned to a program at a particular time. Finally, the interpretation of the terms "shared" faculty , "full-time" (tenure track or non-tenure

track), and part-time (for the program itself or for the entire institution) varies drastically among institutions. Given that half of the programs responded to our survey, we extrapolated the missing data by multiplying the reported figures (as sampling data) by a factor if two but always bearing in mind the above-referred shortcomings. It seems that the only way to obtain more accurate statistics is via phone interview where the meaning of our categories can be better explained.

The number of institutions for which we have number of graduates per program information in 1998 is 335, for 1999 it is 46, for 2000 it is 43, and so on. Because of these large discrepancies in sample size, the only statistic that is somewhat interesting here is the average number of graduates per program (for which we have information) across the three years. In 1998, average number of graduates was 23.7, in 1999 it was 38.7 and in 2000 it was 33.1. Numbers decrease from 1998 to 2000 largely due to the lack of more complete data and poor survey response rates. There are not enough data to make any claims about a trend, especially since the institutions for which we have graduate information in one year may not be in the same set as that for another year. This means that any change, such as student graduation rates from a large university in 1999 not reporting their information for 2000 would skew these averages.

Year of creation: Based on the information provided by those who responded to our survey, we used the year in which the program/department was created by the institution irrespective of whether the program was initiated in effect that very same year.

To see if there are historical patterns in the creation of environmental academic programs, we displayed the number of programs/departments created per year in two figures. Fig. 5 shows the number of programs/departments created between 1900 (the first year for which a program that can be described as environmental in nature, was created) and 2005. Fig. 6 shows the number of programs/departments created between 1959 and 1999. The cut-off date of 1959 was selected because before that year very few programs/departments were created and they appeared very sparingly while beginning in 1959 at least one program/department was created every year. We did not find information about programs that, after being created, may have been eliminated. Therefore this covariate trend is not accounted for here.

Figure 5. Chronological 1900-2014

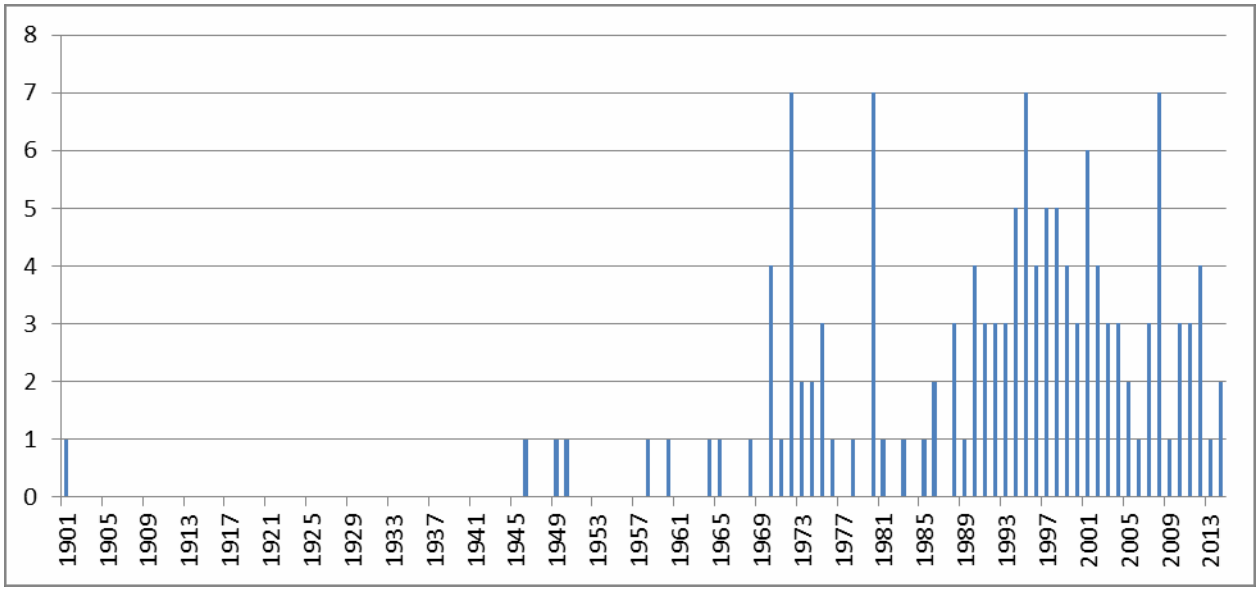
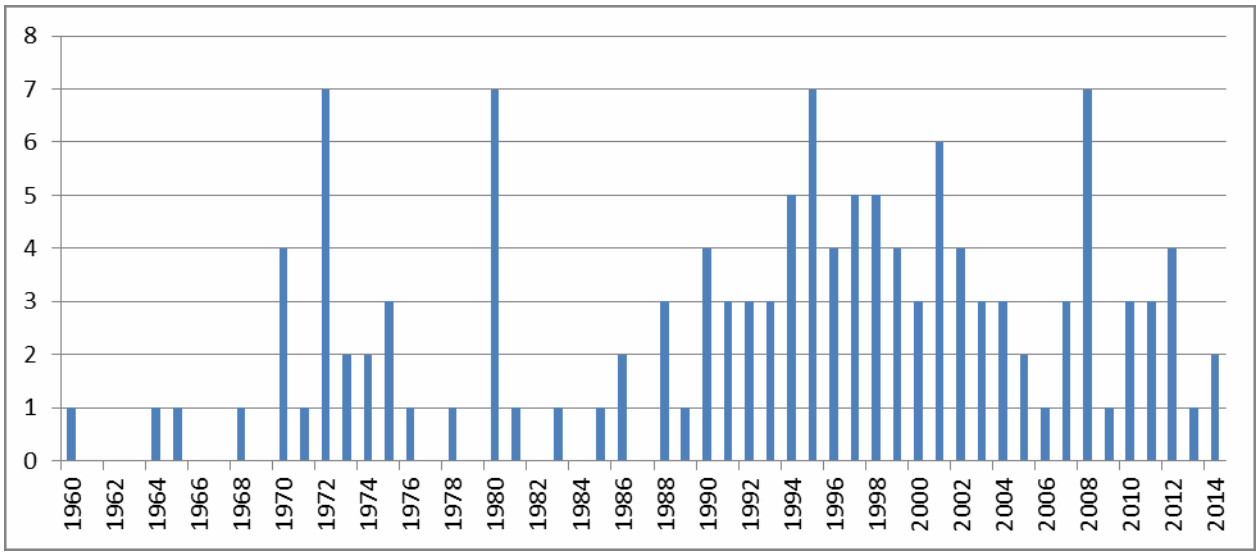


Figure 6. Chronological 1959-2014



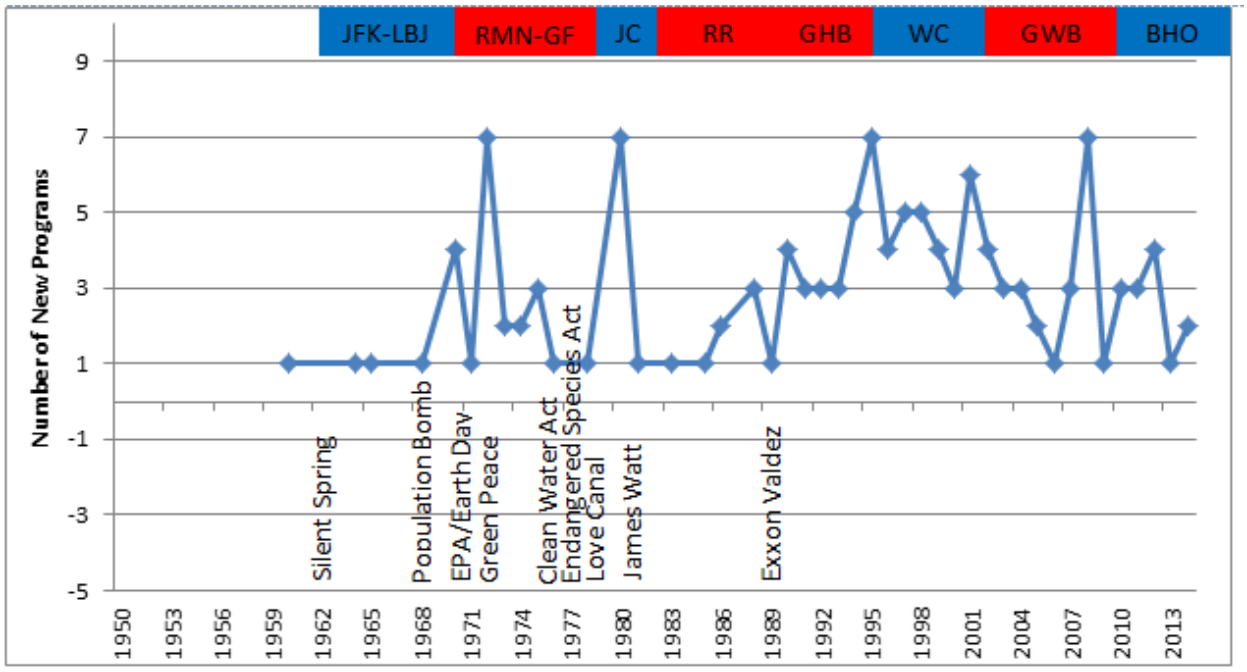
Although the data represent less than half of all the programs, patterns are clearly defined. For example, between 1900 (the year of the first program created) and 1958, only 14 programs were created. Only one year, 1944, shows more than one being created the same year. Only between 1948 and 1950 and between 1955 and 1956 we see programs being created in consecutive years.

For the period 1959-1999, there is a dramatic increase in the number of programs being created. There are two big "waves" in the creation of programs: one between 1965 and 1976 (with a peak in 1970) and another starting in 1988 and, probably, continuing to this date, with a peak in 1997.

Is there any explanation for this swing in the creation of programs? Fig. 7 points out two major events took place in environmental issues per year. In addition to that, we added on the top the initials of the presidents of the United States in that period and signifying whether they were Democrats (blue) or Republicans (red).

As an example of how major social interests may have spaked environmental interest and awareness, we included some events retaled to these issues that have a great deal of publicity. The first peak (1965) is after the publication of Rachel Carson's *Silent Spring* (1962). The next peak, 1968, coincides with the publication of Paul Ehrlich's *The Population Bomb*. The big peak for 1970 coincides with the creation of the Environmental Protection Agency (which was also the year of the enacting of the Clean Air Act and the creation of the League of Conservation Voters, and the first year celebrating *Earth Day*). There is a dramatic drop in programs created for 1971 (the year Greenpeace was founded) and a rebound for 1972 (the year of the enacting of the Clean Water Act, the Coastal Zone Management Act, the Marine Mammal Protection Act, and the publication of Club of Rome's *The Limits of Growth*). It drops again for 1973, the year of the enacting of the Endangered Species Act, and from then on there is steady decline with a low for 1977. Until virtually 1992, the creation of new programs seem to be stabilized despite big ecological news in the media in 1978 (Love Canal), 1979 (Three-Mile Island), 1988 (Exxon Valdez), and the public uproar by the policies implemented in 1982 by Ronald Reagan's Interior Secretary James G. Watt. The latter should not be underestimated because that triggered a exponential increase in membership among environmental organizations.

Figure 7. Chronological 1959-2014 with Major Social and Political Events



However, these data may lead to false conclusions such as that the creation of the EPA convinced college and university administrators about the need of offering careers that would satisfy public sector demand for those professionals. Although that might have been the case for some institutions, the decision on commitment of faculty, staff, and financial resources is not something that usually takes place within a few months period in academic institutions given the complex governance system (i.e., multiplicity of committees with a say in such matters, approval by the board of trustees, etc.) that operates in most of them.

A much safer, parsimonious interpretation is that those were the years of rise in environmental awareness and that colleges and universities were competing for students with expectations to graduate with a degree in that area. The low plateau reached between 1977 and 1991 coincides with the country's preoccupation on other matters (Watergate, the U.S. hostages in Iran, the more conservative views in government during the Reagan administration). The resurgence observed from the early 1990's may well be explained by two factors: 1) the increased respectability of environmental careers as a source of professionals needed not only in government but also in the private sector (e.g., consulting firms, in-house environmental professionals) as well as in the increasingly professionalized non-profit organizations; and, 2) Interdisciplinary programs became more and more acceptable, particularly among Liberal Arts Colleges. To see whether or not the above hypothesis is sound, we asked, in our survey, why the environmental program was created in the institution being surveyed. Among the 95 respondents to our question as to why the institution began its environmental programs, the answers were (in number of schools)

1. Student demand/interest (54)
2. To respond to the job market demands (36)
3. Faculty interest/demand (34)[1]
4. Pedagogical reasons (i.e., curricular structure) (31)
5. Response to environmental concerns either local or global (12)
6. To fill a niche academically (5)
7. Accreditation in public health (3)
8. Because of the mission of the institution (3)
9. Because of an endowment (2)
10. Unique reasons: Alabama A&M University initiated its program in 1969 to attract more African Americans to the natural sciences. Dordt College in Iowa, cites that an environmental program fits with the Christian belief that humans are to care for the earth as their reason for starting the program 1985. While several respondents named need for an interdisciplinary program as a reason for up, only the University of Colorado at Denver noticed a lack of interdisciplinary skills among its with different backgrounds. It began its environmental program in 1970 to, in some sense, force the faculty to learn to relate to one another.

The student and faculty demand responses are somewhat unrevealing in that there are probably other underlying reasons why the students and faculty were demanding such programs at the times they were. We would have to actually obtain direct evidence that describes the actual underlying motivation to their demands. Nonetheless, it is important to note how many institutions responded to this demand by actually creating programs. In this case, it is clear that the students and faculty had a voice in their institutions' curriculum process. Interestingly, most of the institutions that cited student or student and faculty demand

[1] Note that those schools that responded with "student and faculty demand" were added into both the "student demand" and "faculty demand" categories.

as their reason for starting a program are small colleges. This perhaps demonstrates the larger student voice at such institutions than at large universities.

CONCLUSIONS

The high diversity of names and emphases found in this study is consistent with the premise that environmental studies is a field lacking unifying principles and clarity of identity. Based on the information discussed above, we suspect that patterns regarding graduation requirements (e.g., number of courses) and tracks (majors, minors, cores, etc.) are ever more diverse which reflects the lack of consensus of what are/should be environmental studies as a discipline of study.

We plan to continue this research each year not only maintaining current information but also improving the quantity and quality of information through phone interviews with those responsible for programs.

We encourage our readers not only to forward their general comments on this article, but also to update the information we have on their environmental academic programs and their academic institutions.

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