20th Year Evaluation
(2003-2007)

Program Performance and Results Report

Kentucky Space Grant Consortium
Grant Type: **Designated**

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Introduction

The 20th Year Evaluation is designed to assess the effectiveness of the National Space Grant College and Fellowship Program. The evaluation is intended to demonstrate to NASA's constituents and stakeholders the impact and overall merit of the Space Grant program in each state as well as the overall benefit to the agency. The 20th Year Evaluation contains three components: (1) Program Performance and Results; (2) Network Participation and Responsiveness; and (3) the Affiliate Survey.

The Program Performance and Results (PPR) report is the opportunity for each Space Grant (SG) Consortium Director to clearly demonstrate the overall success and value added of the consortium in the state and to NASA.

The PPR report guidelines comprised the following sections:

I. Title Page
II. Executive Summary and Consortium Impact
III. Table of Contents
IV. Executive Summary
V. Foreword
VI. Programmatic Elements
    A. Consortium Management
    B. NASA Education Outcome 1: Consortium Programs
        - Fellowship/Scholarship
        - Research Infrastructure
        - Higher Education
    C. NASA Education Outcome 1: National Program Emphases
        - Diversity of Participants
        - Workforce Development
        - Longitudinal Tracking
        - Minority Serving Institutions
    D. NASA Education Outcome 2: Consortium Programs
        - Precollege Education
    E. NASA Education Outcome 3: Consortium Programs
        - Public Service: General Public & External Relations

Guidelines stressed that the directors should analyze and synthesize results from the 2003-2007 five-year period.

Methodology

Scoring Development

A committee of Space Grant program content experts and a measurement/evaluation professional from Evaluation and Action Research Associates (EARA) developed a set of

rubrics based on the PPR report guidelines. The rubrics standardize assessment in areas where subjective judgment is required.

Reviewer Assignment and Training

Three categories of reviewers evaluated the PPR reports: SG Consortia Directors, SG staff and other subject matter experts. Reviewer assignments for each consortium ensured a cross section of reviewers. The goal was for each consortium to receive a minimum of six reviews. Reviewers were assigned a mix of grant types.

Reviewers attending the National Council of Space Grant Directors meeting in Atlanta, GA received training on the use of the rubrics. All other reviewers received group training via telecom (audio and web-based) conducted by a Space Grant staff member.

Guiding Principles

Five principles guided the scoring of the PPR Reports. These principles are:

- **Alignment**
- **Rigor**
- **Context**
- **Consistency**
- **Results**

Alignment refers to the consortium ability to demonstrate alignment with the Legislation, program objectives, and NASA programmatic guidance. There are clear statements on what each consortium should accomplish. *Each consortium will be evaluated on how well it delineates the state needs and aligns its programs with the Space Grant legislation, national program objectives and NASA programmatic guidance.*

Rigor refers to the consortium's ability to articulate its purpose and SMART goals and objectives. After reading the description section in each area, the reviewer should have a clear understanding of what the consortium was trying to accomplish and how its activities will be assessed. *Each consortium will be evaluated on how well it articulates its purpose, goals and objectives, and its assessment and evaluation plans.*

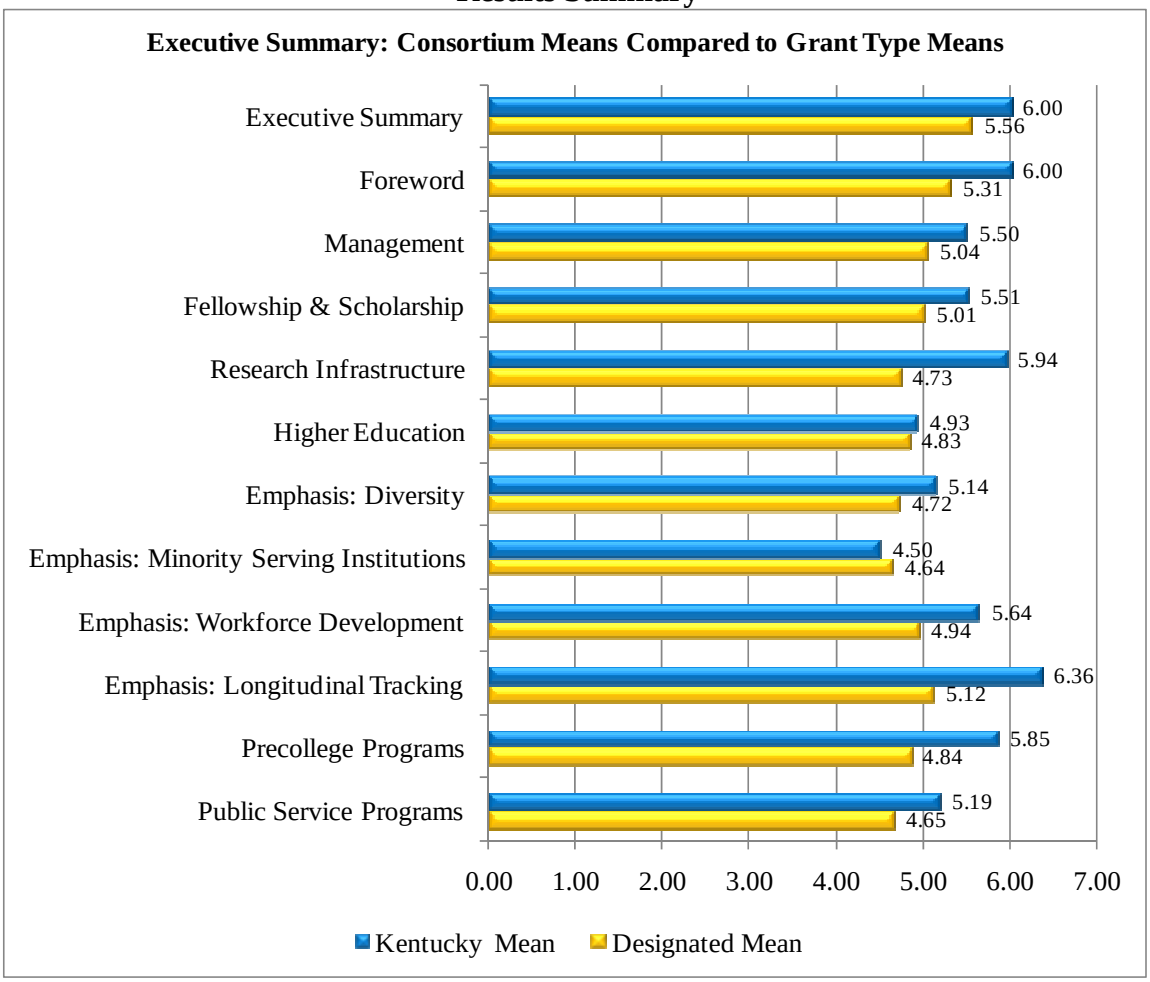
Context refers to an understanding of the resources a consortium dedicates to an area and evaluation of the PPR Report within this context. For example, if a consortium dedicates 5% of their resources to Precollege education, it is not correct to compare their results to a consortium that dedicates 25% of their resources to precollege education. *Each consortium will be evaluated on how well it justifies the portion of its resources allocated to each program element.*

Consistency refers to the alignment between what the consortium reports in the PPR Report and the CMIS data tables. The results the consortium reports in the PPR Report should be validated, where possible, by the data available in the CMIS tables. If a

consortium reports achievements in a certain area and the CMIS data contradict this, the PPR Report statements may be questionable. *The PPR Report analyses and the CMIS Data should be consistent with one another*.

Results refer to the achievements of the consortium. What tangible results can the consortium demonstrate? The PPR Report and CMIS data should give evidence that the consortium is making important achievements in alignment with the focus placed on each area. *Each consortium will be evaluated on the level of the results achieved relative to the resources allocated to each program element.*

Results Summary



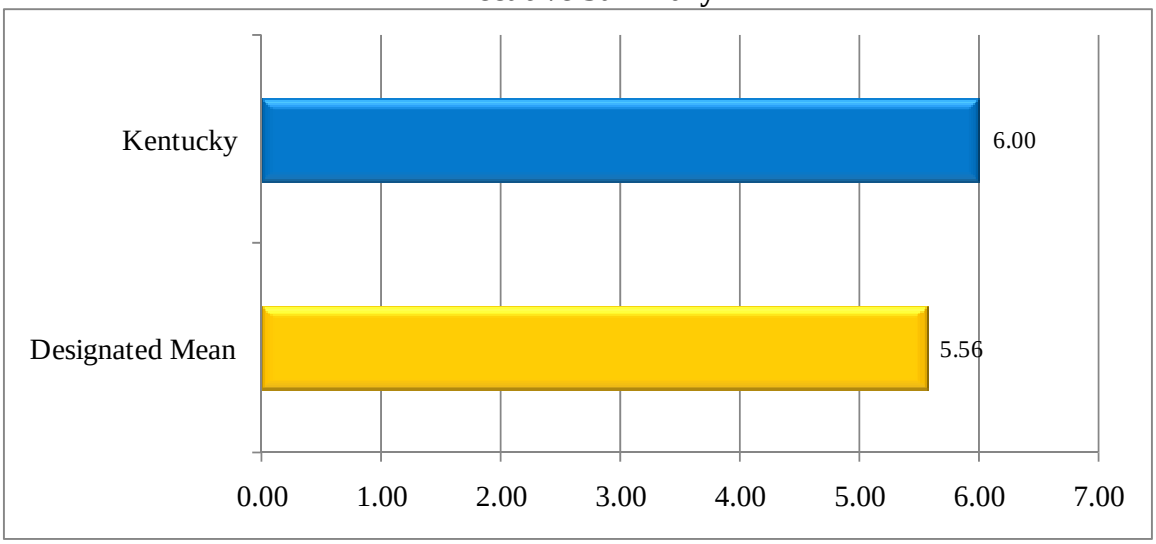
Results Report

Results for each PPR report area are presented in the subsequent sections. There are two types of data displays:

1. Bar Graph that displays the consortium average score and the program type average score
2. Strengths and Weaknesses table that lists all entries by each reviewer

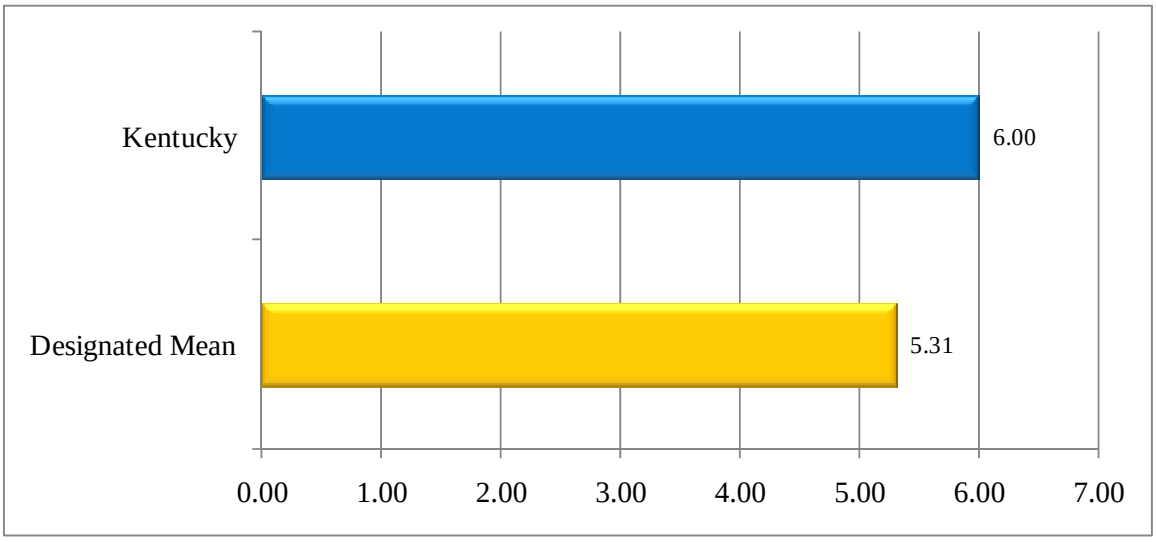
NASA OUTCOMES

Executive Summary



STRENGTHS AND WEAKNESSES

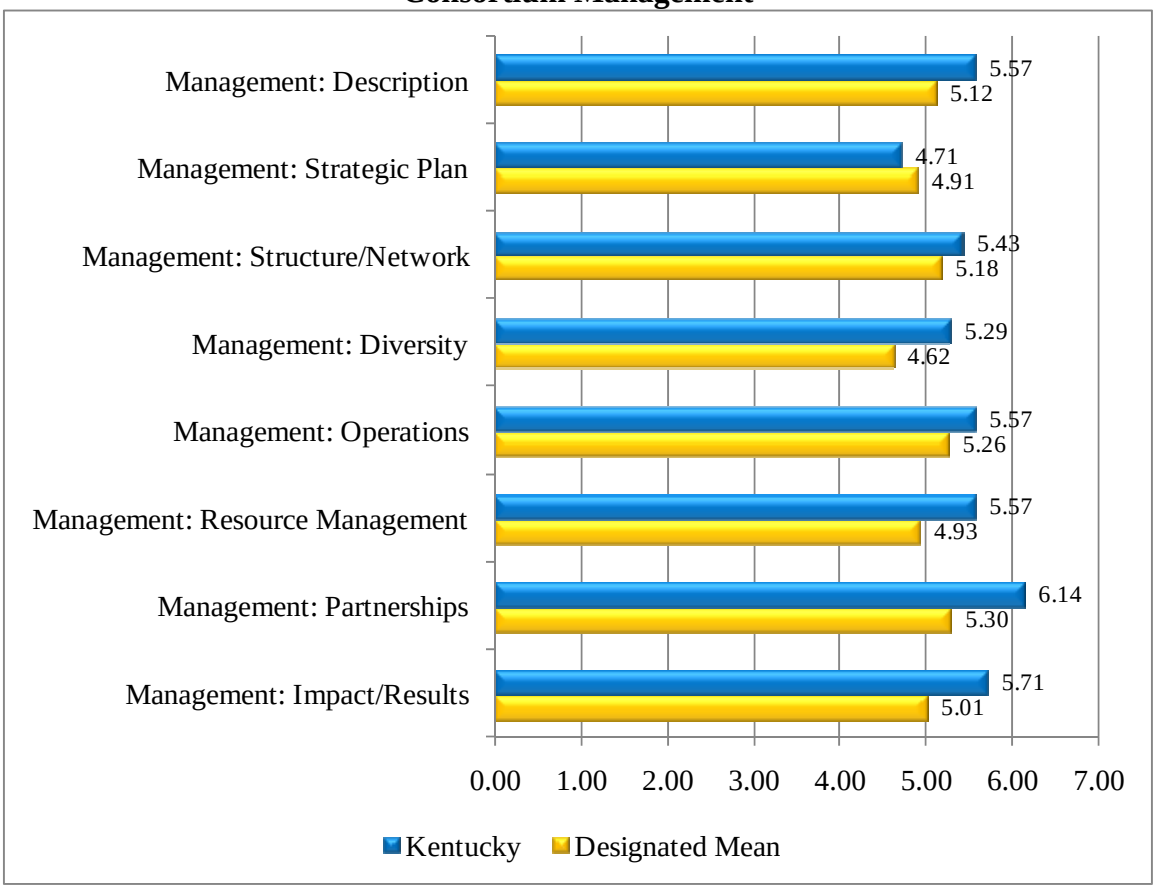
Strengths
• The Consortium has made remarkable progress including the transition from a Capability Enhancement Program to a Designated Consortium in 2005. The Consortium has shown success in reaching out to the public to increase awareness of NASA's goals. • Very clear presentation of emphasis on educational programs and good links to NASA program goals. Executive summary discussion ties directly to goals as indicated. Good examples of public outreach presentations, and useful summaries of research contributions and other activities • Helped developed STEM opportunities through seed grants, fellowship and scholarships, NASA ties and ensured diversity in their program. • Objectives are stated clearly and are aligned with NASA and State needs. Highlights include an impressive 441 collaborative research ties with NASA installations and directorates, and substantial collaborative ties with industry and other Space Grants. • Excellent summary, supported with great statistics and a good plan. • 1) Excellent summary - touching on all aspects of KY Space Grant.
Weaknesses
• Consortium has to translate K-12, public outreach, and teacher training activities to actual undergraduate and graduate driven NASA-based research programs. • Relatively little detail of workforce development capabilities or emphases. I assume that student scholarships/fellowships or internship experiences is considered separate from student participation in research, but this distinction seems implicit rather than explicit. • SMART goals not articulated in PPR • No major weaknesses identified. • none noted • None noted.



STRENGTHS AND WEAKNESSES

Strengths
• Quotes on workforce technical demographics (i.e. 39th State rank in terms of NASA funding) and population demographics help to paint a clear picture of Kentucky's position. • Overall, this description gives a good summary of objectives, with details regarding program mix, demographics, and needs. Important data regarding State needs helps to understand the context of Space Grant activity. • Good description of there overall goals and needs. • program portfolio and investment of NASA funding is consistent with NASA goals • Exceptionally in-depth description of the relevant state demographics and industry base (and their challenges) is provided, along with a good description of how the state needs, Space Grant programs, and NASA needs are aligned. • Very good summary, again supported with statistics and demographic information. • 1) Excellent summary of the KY landscape. Good expanded explanation of the KSGC objectives.
Weaknesses
• Asians are not underrepresented and may have skewed diversity demographics. Funding percentages of the total NASA budget add up to 67%. Where is the other 33% directed? • Goals seem disconnected from the local context, and do not seem specific to the needs of Kentucky. It is not clear if the percentages of program mix was intended to match to the objectives as presented. • Did not provide any in-depth analysis or impact that the programs is having on the state's needs. • No major weaknesses identified. • none noted • None noted.

Consortium Management

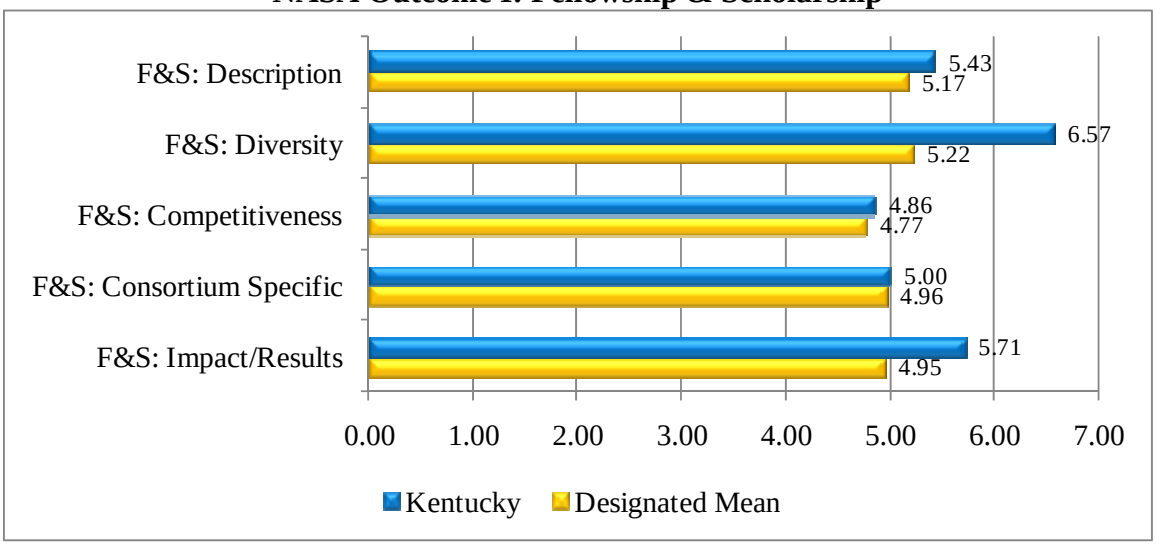


STRENGTHS AND WEAKNESSES

Strengths
• Program success is evident from transition to designated status. Excellent results and State-wide coordination especially given that the host institution is not a major research university in the State. • The cooperative spirit and broad participation by consortium affiliates is a positive aspect of the impact and results description. Adding a business and a non-profit affiliate should help improve the performance of the consortium. The leadership transition seems to have been managed as well as could be hoped given its unexpected and tragic context. • Good ties across all affiliates and outside contacts • There is conclusive evidence that a high degree of collaboration and partnership has been established with NASA centers and directorates. There is very good underrepresented membership on the KSGC Committee. The consortium management are aware of their strengths and weaknesses, and are taking active steps to address areas of concern. • Excellent summary, supported by data and statistics. Funds matching is detailed with significant funds leveraging. • 1) Succinct summary of the consortium management. 2) Identification and discussion of the weaknesses and areas targeted for improvement. 3) Evidence of strong involvement and participation from affiliate members. 4) Evidence of continuous improvement with respect to affiliate relations. 5) Minimal assessment of indirect costs is a strength for the consortium. 6) Acceptable amount of consortium admin costs. 7) Coordination with other consortia is a strength. 8) Ties to KY EPSCoR are appropriate and strengthen the consortium.
Weaknesses

- Consortium admin costs in 2006 and 2007 are trending upwards to 35% of the total NASA allocation. Consortium affiliates meet only once per year.
- Connections to the broader state population are implicit in some discussions, but not made explicit, particularly in impact and results. There has not been much change in overall organization over the PPR period, and it is not always clear what the strategic impact of the Designation upgrade has been on the consortium's choice of activities or priorities.
- No explanation of increases in consortium administrative costs over the period.
- The square footage of dedicated office space wasn't given
- There was no conclusive evidence presented to indicate any major collaboration and interaction existed among affiliates outside of the consortium meetings and proposal reviews. There is no plan in place for removal of affiliates.
- Admin costs seem to be high compared to the other states I reviewed, but indirect costs were very low (4.8%).
- 1) PPR report did not address the division of responsibilities among the Director and Associate Director/Program Manager and Coordinator/Admin Secretary. 2) Concern that the office location in a planetarium does not provide ideal visibility. 3) No indication if allocation of funds across elements is a result of a deliberate, rational strategy or ad hoc results. 4) No F/S awards to Kentucky State, the only HBCU. 5) No analysis of the external collaborations.

NASA Outcome I: Fellowship & Scholarship

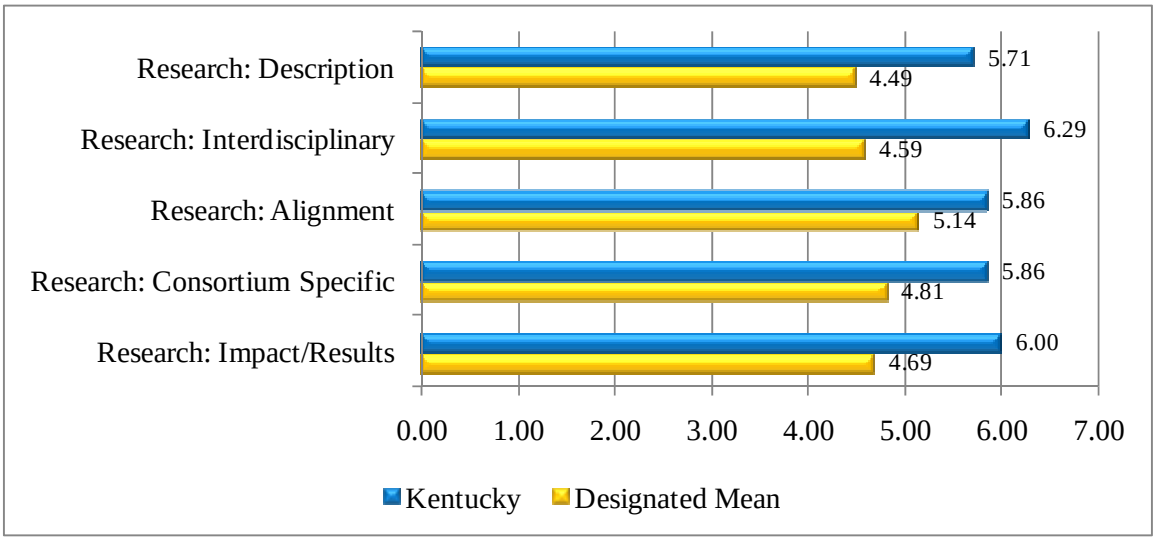


STRENGTHS AND WEAKNESSES

Strengths
• Great diversity statistics particularly with respect to the number of women awardees. • There is a clear presentation of the consortium's priorities to increasing the number and diversity of students supported by scholarship and fellowship funds. The inclusion of a program to incorporate research project activity in the experiences of undergraduate scholarship students is a positive element in supporting STEM education and workforce development. The support of female participants is very encouraging. • Have achieved good diversity and impact through published papers. • great publication outcomes from student awardees • Diversity objectives were all met or exceeded. The large number of student research papers and presentations indicate an excellent level of hands-on research involvement for award recipients, which is important for workforce development. • Very good summary with diversity well supported and documented. Weaknesses were stated and are being addressed. • 1) There is a mix of graduate and undergraduate awards. 2) Good suite of consortium-specific goals.
Weaknesses
• Awardees equals applicants so the fellowship application process does not seem competitive. Not clear if the fellowship awards are focused on STEM only or NASA research. Both are mentioned in the text. • Participation across the range of affiliates remains spotty and uneven. The consortium mentions that soliciting applicants from all eligible programs / affiliates is still behind expectations or desires. • SMART goals were not articulated in the PPR • It is noted that there has been a lack of participation by some member institutions and that the range of disciplines represented should be improved. No clear strategies were presented on how to respond to these issues. There was no quantitative information given to indicate the level of competitiveness for the awards. • Longitudinal numbers not clearly stated, although a summary was provided. • 1) PPR Report didn't fully describe the characteristics of the F/S program. For example, it appears that a student can receive a multi-year award but the report does not explain under what circumstances, for how many years, etc. 2) PPR report did not address how the consortium assess the overall success of the F/S program. 3) There is a discrepancy with CMIS -- Table I-B includes average graduate award to be $21K while PPR report state that graduate awards are up to $18K. The average exceeds the maximum. 4) No F/S awards to Kentucky State, the only HBCU. PPR report did not address this deficiency. 5) Evidence of

progress toward consortium-specific goal of student involvement with NASA Centers and industry was weak. 6) Seemingly low number of awardees -- only 64 in 5 years. 13/year. Report does not explain the multi-year concept. 7) Impact/Results not characterized in terms of objectives listed on page 13. 8) Impact/Results section was vague on some accomplishments. For example: Scholarships were provided for NASA Academy participants -- How many? To which Centers?

NASA Outcome I: Research Infrastructure

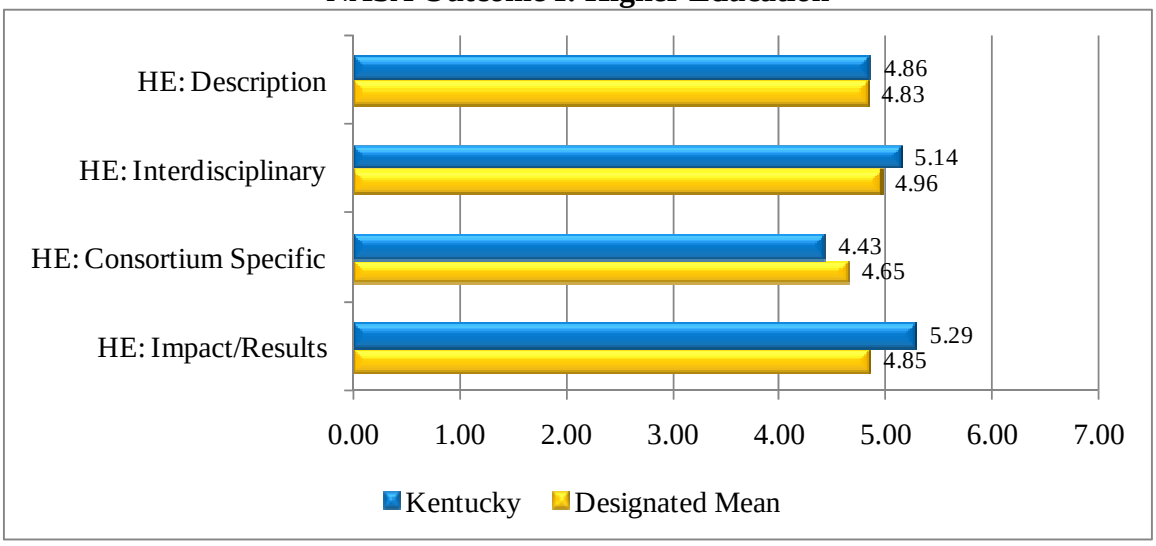


STRENGTHS AND WEAKNESSES

Strengths
• The consortium demonstrates a good ratio of seed-funded project money to follow-on research money acquired ($6M). • The consortium has demonstrated a level of productivity and impact in the research infrastructure that I would not have thought possible for this level of funding. The number of collaborations with NASA and the volume of research presentations both demonstrate conclusively that the implementation of the program has had a measurable effect on research participation across the consortium. Coordination with EPSCoR to prevent duplication of effort is an important addition. • Strong collaborations • The list of follow on funding is impressive • Conclusive evidence is provided indicating SMART goals have been achieved and have a direct correlation to STEM workforce development. This includes seed research funding resulting in 20 times the amount in follow-on funding to KSGC researchers. Collaborations with NASA have increased more than tenfold in the past five years, while collaborations with industry have doubled. There is a high level of publications and presentations, indicative of high quality research. There are examples of impact on minority and women research successes. • KSGC seed funding of $340K resulted in more than $6M in follow-on funding obtained by KSGC-funded researchers. Metrics for results and impacts are provided. • 1) Excellent suite of consortium-specific objectives. 2) Discussion of participation by minorities and women is good. 3) Excellent depiction of Results.
Weaknesses
• The consortium should clearly spell out that the follow-on research money was for NASA-related projects. An overall research infrastructure plan including a specific research focus (small satellite development, for example) should be added to the consortium RI plans to add focus. • Relatively weak participation by underrepresented groups is noted by the consortium; it is clear that greater recruitment and retention of participants is a systemic problem beyond the control of the consortium. • Only objectives and not SMART goals identified in this section • There are no major weaknesses. The consortium recognizes that funding a wider distribution of research areas is important, and are addressing this concern. • none noted • 1) Did not address how the consortium assesses the overall success of the RI program. 2) Many vague

statement including, 'several' female students, 'usually high' retention rates, and 'many' graduates pursing advanced degrees. 3) Lack of analysis or specific accomplishments cited regarding consortium-specific objectives. 4) Impact/Results seem to indicate that the current 5 years (when KY was a Designated state) are lower than the previous 5 years. PPR report indicates that the consortium has not met its' RI program objectives listed on page 16. 5) Presentation of data without assessment is a weakness.

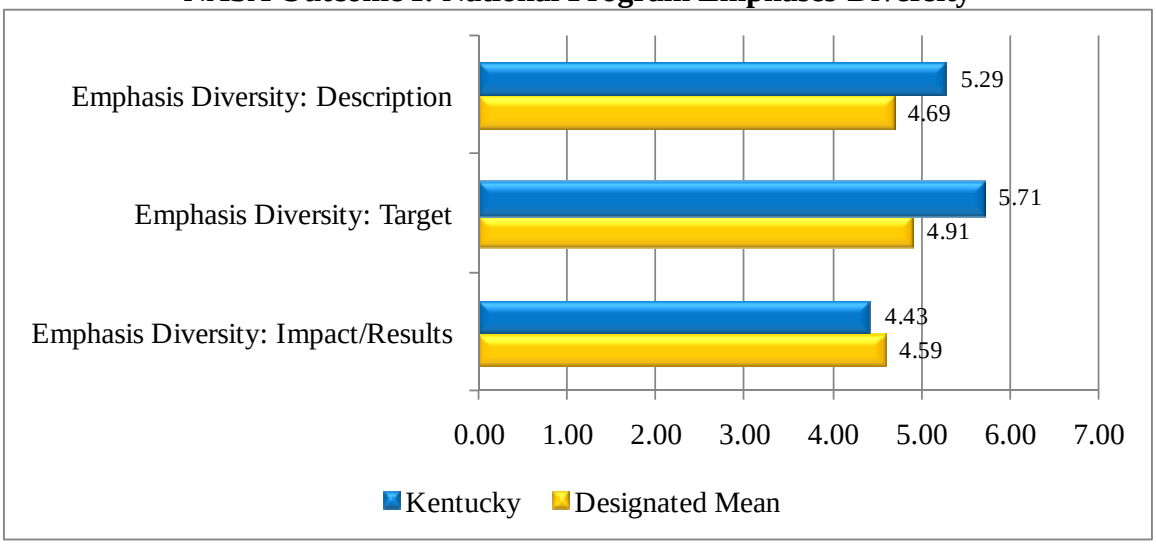
NASA Outcome I: Higher Education



STRENGTHS AND WEAKNESSES

Strengths
• Good progress with the development of an Aerospace Certificate Program at UK. • The consortium emphasis on higher education project and course development is a strong element of the effectiveness described in the report. Over 400 students have been directly affected by consortium efforts, along with opportunities to further affect students with Systems Engineering elective and Aerospace Certificate emphasis. • Hands-on projects for higher education have been developed. • The number of development projects, their involvement of faculty and students, and the opportunities for 'field trips' to NASA activities have a demonstrated impact on workforce development in the state. The state and NASA are also clearly well served by the strong curriculum development activities in Aerospace Engineering and Systems Engineering. • Overall a very good summary. High numbers of students reached for the funding used. Curriculum development was also accomplished. • 1) Consortium-specific objective related to undergraduate emphasis is good.
Weaknesses
• No discussion of strengths and weaknesses and ideas for improvement. Consortium specific activities should be expanded because the volume of information in this report is insufficient. • There seems to be a gap between the general public / brief exposure efforts (balloon launches, planetarium viewing) and formal course programs at a few research intensive campuses. What activities can be done across the range of undergraduate institutions? • The report claims a >80,000 participants in higher education which appears more of a mixture of higher education and outreach - no explanation is given. Objectives but not quantifiable SMART goals given • No major weaknesses are identified. • Diversity was 5% minority for HE, although it was excellent for all other KSGC activities. Since funding was used at a lower than 'significant support' for students, longitudinal data is not available to clearly assess impact/results. That is definitely an acceptable use of funding, but makes impact/results harder to assess. • 1) Did not address how the consortium assesses the overall success of the RI program. 2) Weak explanation of consortium-specific objectives and resulting accomplishment. 3) PPR report did not tie the RI program objectives to Impact/Results with specific objectives. How is success measured? Where is the demonstration of success?

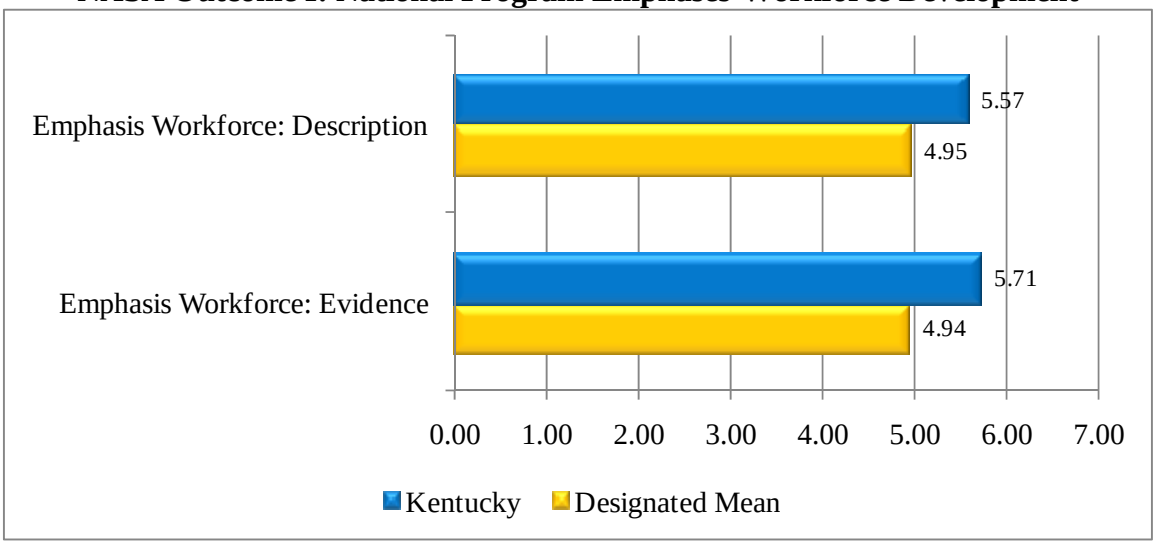
NASA Outcome I: National Program Emphases-Diversity



STRENGTHS AND WEAKNESSES

Strengths
• The Consortium reached its goals with respect to underrepresented populations (10.9%) and also female participants (50%). • The progress on increasing representation, visibility, and inclusion of female participants is well documented and very encouraging. There is good discussion of the importance of diversity issues and efforts towards improving representation. • Quantifiable achievements • The specific state demographics relevant to the STEM enrollments of underrepresented groups, particular for women, is explained in depth, as is the criteria for gauging success. • Diversity is clearly addressed and targeted, with definitive results, supported with statistics. • None noted.
Weaknesses
• None. • The discussions and participation of underrepresented minorities and persons with disabilities are uneven. Although overall targets are being met over a five-year period, participation does not occur each year. I do not see evidence of a coherent program to create a systematic and continuous pattern of recruiting and retaining underrepresented minority or disabled students. • Impact/Results statements section not included. • The strategy to engage underrepresented groups is given minimal explanation. It primarily consists of making researchers aware of the need for diversity and having them attempt to engage the students. This method can work extremely well, but can prove sporadic, and may limit opportunities to those students associated with a few highly motivated mentors. • the only weakness noted was 5% minority in HE program, which seems insignificant, with an overall diversity that matches state demographics. • 1) PPR report did not address strategy to ensure participation. 2) PPR report did not achieve appropriate diversity of participation in the RI and HE elements.

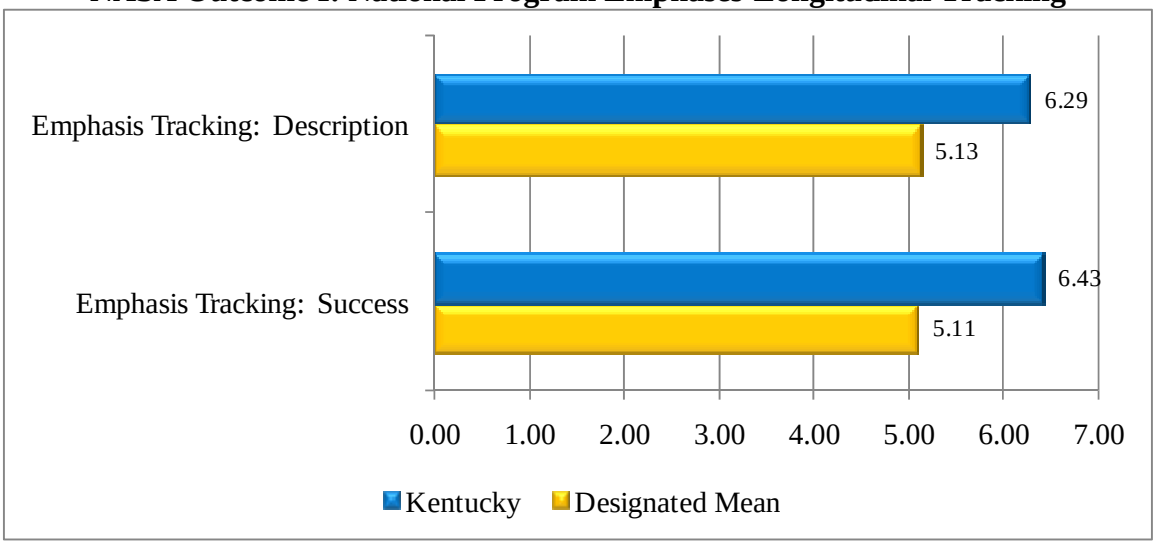
NASA Outcome I: National Program Emphases-Workforce Development



STRENGTHS AND WEAKNESSES

Strengths
• The consortium identifies workforce development as an important lens through which to view programs. The consortium gives examples of target goals for workforce development activities and ideas about how those goals will be achieved. • The evidence provided by the Research Infrastructure and Higher Education program emphases demonstrate a very effective and consistent strategic direction to highlight workforce development. Good description of Longitudinal Tracking efforts • Excellent retention within STEM • All three areas (F/S; Research Infrastructure; and Higher Ed) have clear workforce objectives as a common thread. Specific and compelling metrics are cited for the effectiveness of the workforce projects. One specific common thread is the emphasis on projects that involve not only hands-on experience, but interdisciplinary teams of students. • Scope, plan, and target metrics are all clearly provided, well thought out and well documented. MSI involvement has been targeted and addressed. • 1) WFD is clearly inherent throughout the projects and activities.
Weaknesses
• Metrics and targets may be limited. Again, not having a specific research focus (such as the search for interstellar dark matter or development of small states) may hurt the development of a workforce and necessary research infrastructure. • Participation across campus types and involvement of internship opportunities seems spotty--present in some areas and years, but not with a consistent basis to grow on. Perhaps the research collaborations with NASA are being used in place of internships and co-ops as workforce development efforts as an intentional strategy, but this should be made explicit rather than left to the reader as a perceived weakness. • Missing information on how 1) Fellowship/Scholarship, 2) Research Infrastructure, or 3) Higher Education add to workforce development. • There are no major weaknesses. • I did not give them an excellent only because outcome metrics are not provided, although they state they have had a 100% response rate. • 1) Report seems to reiterate items already presented in other sections of the report.

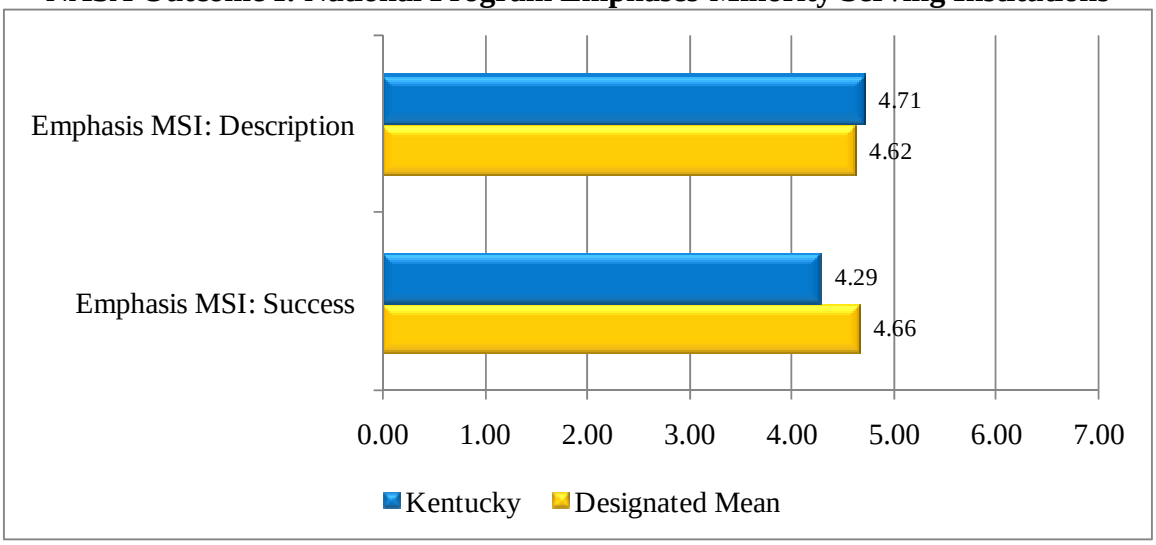
NASA Outcome I: National Program Emphases-Longitudinal Tracking



STRENGTHS AND WEAKNESSES

Strengths
• Consortium reports 100% success rate for longitudinal tracking of students. • I think the use of multiple criteria for inclusion in Longitudinal Tracking (monetary amount, number of hours of participation) makes for an improved emphasis on student participants as important customers and products of the consortium efforts. The consortium has developed an ongoing relationship with the NSGF to institutionalize the longitudinal tracking process. • Using a well established system. • The consortium had a 100% response rate for tracking students, primarily through the faculty advisors. However, they have recognized that with the definitions for significant support that are now in place, moving the longitudinal tracking to the National Space Grant Foundation service will ensure a continued high response rate. • Great plan for future, and they state they have had 100% response rate to previous plan. • 1) Consortium appears to have a good process in place and seeks to improve in order to reach students without a single, specific faculty mentor.
Weaknesses
• None. • No critical weaknesses in this area. • Interactions with NASA of students within tracking not described. • No major weaknesses are identified. • Outcome metrics were not provided, so I could not give an excellent rating. • None noted.

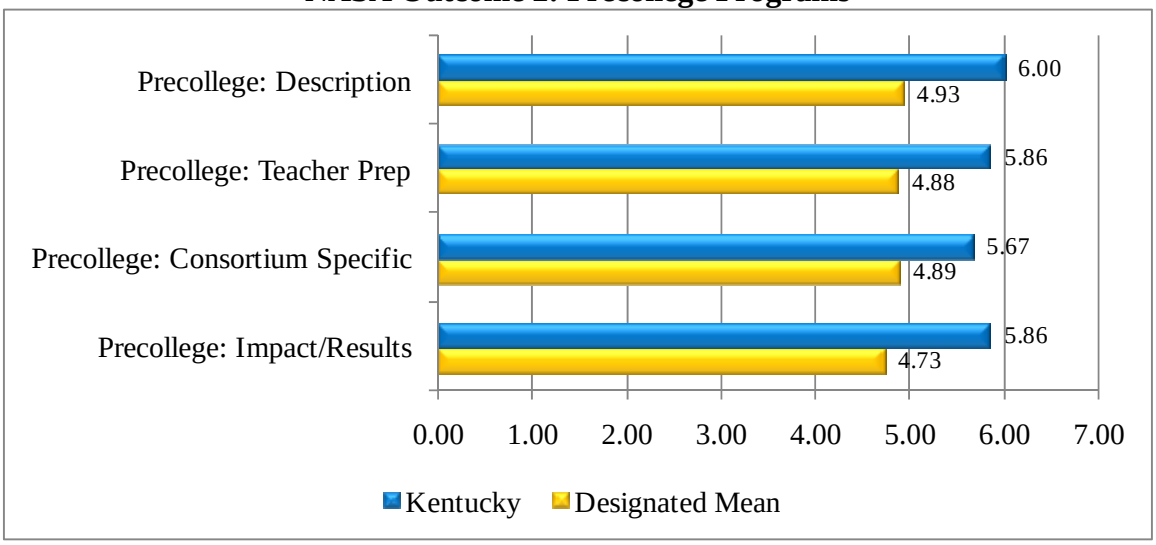
NASA Outcome I: National Program Emphases-Minority Serving Institutions



STRENGTHS AND WEAKNESSES

Strengths
• The consortium is working with an HBCU in its jurisdiction. • The consortium has been making clear efforts to improve in this area over the past two years. • Have one HBCU since the inception of the program • The consortium includes one affiliate HBCU. A program called 'Campus Objective Grants' is geared to the funding needs of the students. However, there have been programmatic difficulties in higher level engagement. In recognition of this, positive and specific steps have been taken to establish a meaningful partnership with an out-of-state HBCU. • Great summary of MSI involvement. • 1) Appears to be a good strategy that the consortium is considering involvement with Tennessee State Univ.
Weaknesses
• The consortium notes that the competition for students at the HBCU is fiercely competitive with other Federal programs. Efforts are being redoubled to include KSU in programs, but a redoubling of 'what' should be explained clearly. • The consortium admits that participation of the one member minority serving institution has been uneven, and that funding has resumed 'after a hiatus'. Some of the programs with an emphasis toward majority research institutions would have to be significantly revised to provide a more supportive and appropriate inclusion of the undergraduate comprehensive campus model. • Interaction with the HBCU looks very weak. No section of Evidence of Success is included. • There was apparently a 'drop out' in engagement of the in state HBCU, in large part due to health issues. However, renewed efforts are taking place to re-engage this institution. • no weaknesses noted • 1) Concerns about the lack of meaningful involvement with KSU.

NASA Outcome 2: Precollege Programs

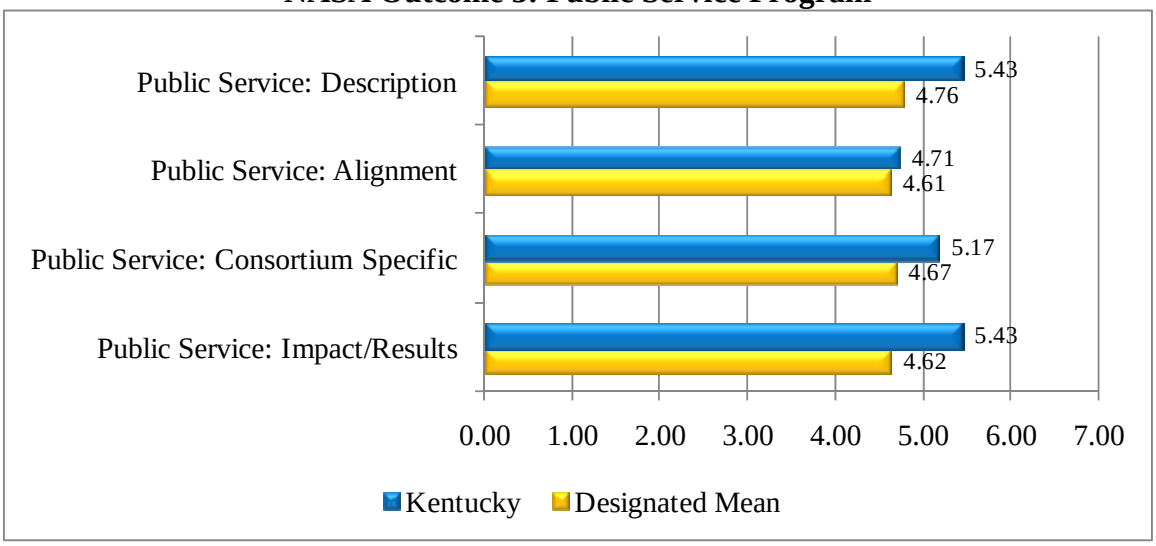


STRENGTHS AND WEAKNESSES

Strengths
• The planetarium is a major draw for the consortium and helps as an exciting precollege and outreach tool that has a direct relation to NASA. A variety of precollege programs are described, and the reviewer agrees with the consortium assessment that students have to be engaged at precollege in order to pursue STEM careers at the higher education level. • The consortium has provided a clear indication of its strategy and choice of funding for K-12 programs. There is a strong case made for providing exposure and short-term teacher preparation opportunities that effectively utilize the small budget provided. • Demonstrated broad impact • There is a direct impact on the state educational standards through the use of workshops, teacher training and development aligned with both STEM-educational and Kentucky education reformation needs. There is a large number of affected persons in the state, particularly through the planetarium presentations, which is at minimal cost to the program. Majority of funding goes to teacher-oriented projects. The projects that are directly student-oriented are Moon Buggy and Physics Olympics competitions, which are directly STEM-related. • Overall, a very good plan for maximizing impact while minimizing budget. Teachers are clearly targeted through collaboration with a state wide reform effort as well as leveraging AESP efforts. • 1) Impact/Results are tied back to program characteristics in the Description section. 2) The purpose and goal of the precollege program appears to focus on student objectives and activities appear to be teacher-focused. 3) Involvement at the state level with K-12 education policy.
Weaknesses
• None. • Many of the efforts reported seem left too much to individual campus directors, who may or may not have a consistent idea of consortium priorities and local campus opportunities. Perhaps a consortium-wide discussion of other cost-effective models of supporting K-12 student activities and emphases that tie into non-research institutions could be of benefit. • Limited discussion of success relative to SMART goals. • No major weaknesses are identified. • Because these students are not longitudinally tracked (which is permitted), KSGC cannot quantitatively demonstrate how the project consistently increases enrollment in STEM disciplines, so I cannot give them an excellent. • 1) Consortium lacks metrics to determine success. 2) Student-based projects do not quantitatively demonstrate

how the project consistently increases enrollment in STEM disciplines. Student-based projects are conducted with no evidence of pipelining the participants. 3) It appears that only planetarium presentations have bee reported in CMIS (as K-12 vs. general public) and no data on other K-12 activities such as Moon buggy or the Science Olympiad. 4) Impact/Results provided little quantitative results for the projects cited. 5) No source given for the number of 184,477 served, not verifiable through CMIS.

NASA Outcome 3: Public Service Program



STRENGTHS AND WEAKNESSES

Strengths
• The consortium has demonstrated impressive numbers of participants for the 1% of the program funds invested. The consortium has reported a diverse series of activities to engage the public. • Very strong numbers of persons served, with potential leveraging of impact, based on limited funds expended. Statistics are consistently and reasonably reported. • The program is involved with state programs and initiatives • The program elements are highly effective at minimal cost (1% of allocation). This includes a NASA Benefits of Space exhibit and Space Day activities at the Louisville Science Center. Most efforts are leveraged by other funded elements, such as including a public outreach element within the student KC-135A reduced gravity flights. There is clear collaborative efforts with a number of external partners, including NASA partners. • Great plan for maximizing impact while minimizing budget dollars spent. Other resources are effectively leveraged. Large numbers of public are reached, providing significant output numbers for budget allocated. • 1) A large suite of External Relations activities.
Weaknesses
• None. • Some of the evidence of persons served or critical involvement of space grant funding seems tentative--audiences of television shows can be good for name recognition, but are not systematic exposures about local opportunities. • Little discussion of outcomes relative to SMART goals. • No major weaknesses are identified. • Tangible impact (clear outcomes) are virtually impossible to measure for this section, but are requested for an excellent rating, so I could not give them an excellent. • 1) PPR report does not tie the assessment of targets of level of interest, number of attendees, and public evaluation to Impact/Results. 2) PPR report cites the planetarium activities as both K-12 and Public Service. 3) Activities such as Star Date and NOVA do not support the Informal Education definition.

SPACE GRANT OBJECTIVES

This analysis considers the National Space Grant College and Fellowship Program Goal of:

Contribute to the nation's science enterprise by funding education, research, and public service projects through a national network of university-based Space Grant consortia.

The five Space Grant Objectives supporting this goal are:

1. Establish and maintain a national network of universities.
2. Encourage cooperative programs among universities, aerospace industry, and Federal, state, and local governments.
3. Encourage interdisciplinary education, research, and public service programs related to aerospace.
4. Recruit and train U.S. citizens, especially women, underrepresented minorities, and persons with disabilities.
5. Promote a strong science, mathematics, and technology education base from elementary through secondary levels.

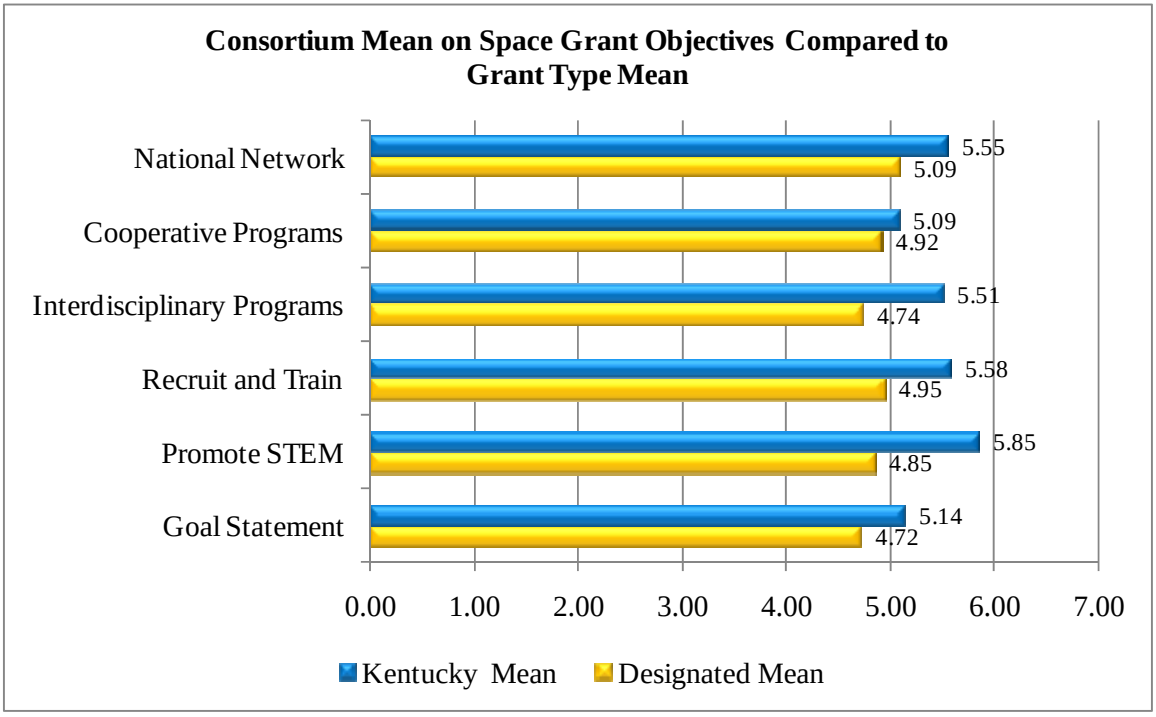
The PPR Rubrics were organized by the Space Grant Objectives. The table below lists the association between the rubric areas and the objectives. The mean ratings for each area are also listed. As a note, two Consortium Specific rubrics did not directly align with a Space Grant Objective. These were coalesced into a Goal Statement category in the summary chart.

Rubric Aligned with Space Grant Objectives	Kentucky Mean	Designated Mean
Objective One: National Network		
Executive Summary	6.00	5.56
Foreword	6.00	5.31
Management: Description	5.57	5.12
Management: Strategic Plan	4.71	4.91
Management: Diversity	5.29	4.62
Management: Operations	5.57	5.26
Management: Resource Management	5.57	4.93
Management: Impact/Results	5.71	5.01
Composite	**5.55**	**5.09**
Objective Two: Cooperative Programs		
Management: Structure/Network	5.43	5.18
Management: Partnerships	6.14	5.30
HE: Description	4.86	4.83
National: Minority Serving: Description	4.71	4.62
National: Minority Serving: Success	4.29	4.66
Composite	**5.09**	**4.92**
Objective Three: Interdisciplinary Programs		
Research: Description	5.71	4.49

Rubric Aligned with Space Grant Objectives	Kentucky Mean	Designated Mean
Research: Interdisciplinary	6.29	4.59
Research: Alignment	5.86	5.14
Research: Impact/Results	6.00	4.69
HE: Interdisciplinary	5.14	4.96
HE: Impact/Results	5.29	4.85
Public Service: Description	5.43	4.76
Public Service: Alignment	4.71	4.61
Public Service: Consortium Specific	5.17	4.66
Public Service: Impact/Results	5.43	4.62
Composite	**5.51**	**4.74**
Objective Four: Recruit and Train		
F&S: Description	5.43	5.17
F&S: Diversity	6.57	5.22
F&S: Competitiveness	4.86	4.77
F&S: Consortium Specific	5.00	4.94
F&S: Impact/Results	5.71	4.95
Emphasis Diversity: Description	5.29	4.69
Emphasis Diversity: Target	5.71	4.91
Emphasis Diversity: Impact/Results	4.43	4.59
Emphasis Workforce: Description	5.57	4.95
Emphasis Workforce: Evidence	5.71	4.94
Emphasis Tracking: Description	6.29	5.13
Emphasis Tracking: Success	6.43	5.11
Composite	**5.58**	**4.95**
Objective Five: Promote STEM		
Precollege: Description	6.00	4.93
Precollege: Teacher Prep	5.86	4.88
Precollege: Consortium Specific	5.67	4.89
Precollege:: Impact/Results	5.86	4.73
Composite	**5.85**	**4.85**
Consortium Specific Goal Statement		
Research: Consortium Specific	5.86	4.80
HE: Consortium Specific	4.43	4.65
Composite	**5.14**	**4.72**

Objective Composites

The reviewer ratings for each rubric were combined to form a composite for each objective. The composite for the state is compared to the average for the grant type in the subsequent figure.



DIVERSITY

Seven rubrics provide evidence on the consortium's performance related to diversity. Five rubrics are from Outcome One National Program Emphases. The two remaining areas are from Consortium Management and Fellowship & Scholarship. The Diversity Composite is a combined mean of all rubrics. The consortium's performance on each is displayed below along with a comparison to the overall grant type.