



Directions

1. Describe the 2025-2026 assessment activities and follow up for your program below. This form also is shared on the [CSU Pueblo Assessment web page](#).
2. Duplicate Table I and II for each SLO within the program being reported for the program.
3. You will create a separate report document for each undergraduate major, stand-alone minor, stand-alone certificate, or graduate major program in your department (e.g. B.A., B.S., B.A.S., M.A.) Stand-alone refers to minor or certificate programs which are not fully incorporated within the program's major courses. Many are interdisciplinary.
4. Please title your document **program name-degree-2026-assessment-report** for consistency and web posting. (e.g. biology-bs-2026-assessment-report or chicano-studies-minor-2026-assessment report)
5. Any addenda (e.g., rubrics) which are necessary for the review but not present in your posted assessment plan may be copied and pasted to the end of this document or saved in a clearly labelled separate file. Save and submit documents to the Dean of your college/school and to the SharePoint folder [here](#): by 6/1/26.
6. Address any questions to the Associate Provost for Academic Affairs, Helen Caprioglio at helen.caprioglio@csupueblo.edu

(This directions page may be deleted from your final submission.)



Program Name	Date Completed
Wildlife and Natural Resources	5-27-2026
Report Completed By	Report Contributors
Franziska Sandmeier	Daryl Trumbo, Fran Sandmeier, Moussa Diawara
Brief Statement of Program Mission and Goals	
<p>The major of Wildlife and Natural Resources (WANR) leads to a Bachelor of Science (BS) Degree. In addition, supporting courses and general education courses in biology are available to meet a wide range of interests, backgrounds and needs. The WANR Program emphasizes an understanding of fish and wildlife ecology and management with practical skills obtained during laboratory and field exercises. Graduates are prepared for positions with state and federal agencies, tribal departments, and conservation organizations or higher academic degrees. Carefully supervised career planning is provided to all students.</p> <p>Program Goals</p> <ul style="list-style-type: none"> • To provide students with the necessary background to successfully pursue graduate study towards a professional career in wildlife and natural resources; • To prepare students upon graduation to enter field positions in government or private industry; and, • To supply students with the necessary coursework to obtain professional certification as associate fishery or wildlife biologists. 	

Table I Closing the Loop

Report on at least one data-informed change to your curriculum during AY 2025-2026 that was implemented to improve student learning, in response to prior assessment cycles or other data.

<p>A. Describe issues or SLOs addressed in the AY 2025-2026 cycle. Paste SLOs verbatim below.</p>
<p>(SLO 1: Students will develop a broad-based knowledge of concepts and terminology in organismal, and ecological biology).</p> <p>Our students did not score at or above the 50th percentile in the (1) Organismal or (2) Population biology, Ecology and Evolution sections of the MFAT exam, administered in our capstone course (BIOL 493). In both sections, 75% scored at or above the 40th percentile.</p>



B. In which prior academic year and semester was this SLO last assessed to generate data that informed the change(s) this year?
2024-2025
C. What were the recommendations for change in the previous cycle?
Recommendations were to improve the (1) Organismal and (2) Population biology, Ecology, and Evolution performance of our WANR students on the MFAT exam. In particular, the assessment stated that students did relatively poorly in the sections addressing evolution.
D. How were the recommendations for change acted upon?
We are incorporating more evolutionary theory in taxonomy courses (Ichthyology, Herpetology, Ornithology, Mammalogy), as well as emphasizing organismal physiology (homeostasis, metabolism, etc). The faculty who teaches these upper division electives have agreed to use similar strategies to emphasize these topics. In particular, we will use lecture material/study guides/exams to re-iterate these topics across vertebrate taxa.
E. How did the change(s) implemented impact student learning? If the change was not effective, what are the next steps or new recommendations?
These changes in upper-division curricula may take several years to show changes in assessment, but synchronizing the emphases on these topics across courses should impact all WANR students as each student typically takes two of these courses as upper division electives. As seen in the assessment of SLO 1 below, it appears as if our efforts are partially effective – and we hope this trend in improvement will increase across the next few years.

Enter Comments on Table I Closing the Loop Below
Overall, we are seeing improvements in our assessments of SLO 1.



Program Name	Date Completed
Wildlife and Natural Resources	5-31-2026
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Franziska Sandmeier	Daryl Trumbo, Fran Sandmeier, Moussa Diawara

Table II Annual assessment of Student Learning Outcomes (SLOs) in AY 2025-26

1. Include information to share assessment processes, results, and recommendations for improved student learning. Copy this table for each assessed outcome.

Enter Comments on Table II AY 2026 Assessment Below
This year (AY 2026), we assessed SLOs 1, 2, and 5. SLOs 1 and 2 are assessed annually, SLOs 3, 4, and 5 are assessed in alternating years.

A. Program SLO(s) assessed in this cycle. Copy the SLOs verbatim from the assessment plan.
SLO 1: Students will develop a broad-based knowledge of concepts and terminology in organismal, and ecological biology. This SLO is covered throughout the curriculum and is assessed primarily at the end of the program in BIOL 492 Senior Seminar.
B. Semester and year this SLO was previously reported on before this cycle.
Spring semester 2025
C. Describe the assessment method for this SLO(s).
To assess knowledge of organismal and ecological biology we will administer the MFAT exam to each class of Senior Seminar (BIOL 493). For each of these exams, only the organismal and ecological portions will be considered. The MFAT in particular is divided into Cell Biology, Molecular Biology and Genetics, Organismal Biology, and Population Biology, Evolution and Ecology. The first two will not be considered as they are not extensively covered in the WANR curriculum.
D. Described student group(s) assessed. Provide the number of students or number of artifacts assessed.
Nine students were assessed in Senior Seminar (BIOL 493) in spring 2026.



E. Explain the expected proficiency level and proportion of students who should reach this level.
Our goal is to have 75% of our senior students score at or above 50% of national percentile on the on both the (1) Organismal Biology portion and (2) Population Biology, Evolution and Ecology portion of the MFAT exam.
F. Provide Assessment results and number of students who met defined proficiency level.
66% of students (7/9) scored at or above the 50% national percentile on the Organismal Biology portion of the MFAT. 78% (8/9) students scored at or above the 50% national percentile on the Population Biology, Ecology, and Evolution portion of the MFAT.
G. Describe what the results or trends indicate about student performance.
This trend shows improvement over past scores in both sections of the MFAT administered in Senior Seminar (BIOL 493), even though we only met our goals completely in the Population Biology, Ecology, and Evolution portion. We were one student short of meeting the goal in the Organismal Biology portion of the exam. We will also compile trends across years, with greater accuracy in assessing student outcomes as our senior classes of graduating students continue to grow.
H. Describe program level changes/improvements planned for next AY (2026-2027?) which are informed by this assessment.
As addressed above (Section I), we will continue to emphasize both evolution and organismal physiology in the taxonomy courses that form part of curriculum for all WANR majors. By increased performance in 2025-2026, our students are moving towards achieving higher scores and demonstrating higher levels of comprehension.

A. Program SLO(s) assessed in this cycle. Copy the SLOs verbatim from the assessment plan.
SLO 2: Students will know the taxonomy, ecology and natural history of flora and fauna in southern Colorado and the desert southwest. This SLO is primarily covered in the taxonomy courses (BIOL 441 Freshwater Invertebrate Zoology, BIOL 479 Ichthyology, BIOL 481 Entomology, BIOL 482 Herpetology, BIOL 482 Mammalogy, BIOL 484 Ornithology, and BIOL 485 Plant Taxonomy).
B. Semester and year this SLO was previously reported on before this cycle.
2024/2025
C. Describe the assessment method for this SLO(s).
Knowledge of local flora and fauna will be measured in taxonomy classes (BIOL 479 Ichthyology, BIOL 481 Entomology, BIOL 482 Herpetology, BIOL 483 Mammalogy, BIOL 484 Ornithology, BIOL 485 Plant Taxonomy). All of these courses include taxonomy



Academic Program Assessment

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exams that focus on identification of local species. The raw score on these exams will be used to assess student knowledge of local species. WANR students commonly take 1-4 of these classes (dependent on a terrestrial or aquatic emphasis) as a required part of the program.	
D. Described student group(s) assessed. Provide the number of students or number of artifacts assessed.	
44 WANR majors in each class were assessed – 22 students in Ichthyology (Fall 2025) and 22 students in Mammalogy (Spring 2026).	
E. Explain the expected proficiency level and proportion of students who should reach this level.	
Our goal was for 75% of students to score 70% or better on these exams.	
F. Provide Assessment results and number of students who met defined proficiency level.	
In Ichthyology (Fall 2025), 22 out of 22 students received a 70% or higher. In Mammalogy (Spring 2026), 20 out of 22 students received a 70% or higher. Overall, 95% of students received a 70% or higher.	
G. Describe what the results or trends indicate about student performance.	
These results show sustained success in maintaining high standards for SLO 2 over time. This SLO is assessed yearly, with high success.	
H. Describe program level changes/improvements planned for next AY (2026-2027?) which are informed by this assessment.	
No changes are anticipated for 2026-2027.	

A. Program SLO assessed in this cycle. Copy the SLOs verbatim from the assessment plan.	
SLO 5: Students will demonstrate critical thinking and problem solving skills using experimental design and the scientific process. This is another focus throughout the curriculum, particularly in the coursework that includes applied and field work. This SLO is assessed in BIOL 492 Senior Seminar.	
B. Semester and year this SLO was reported on prior to this cycle.	
2022-2023	
C. Describe the assessment method for this SLO.	
Critical thinking and problem skills will be assessed in College Biology I (BIOL 181 Lab) and in Senior Seminar (BIOL 493) using a rubric (updated rubric (2026) submitted with assessment). In College Biology Lab (BIOL 181L) the second full scientific paper will be evaluated by the instructor/program	



<p>director (artifacts submitted to the program director). In Senior Seminar, the capstone research proposal will be evaluated by the entire faculty.</p>
<p>D. Described student group(s) assessed. Provide the number of students or number of artifacts assessed.</p>
<p>8 freshman WANR were assessed in BIOL 181L in Fall 2026. 9 senior WANR students in BIOL 493 were assessed in Spring 2026.</p>
<p>E. Expected proficiency level and proportion of students who should reach this level.</p>
<p>Our goal is to have 75% of our students in BIOL 493 receive an average score of proficient from the faculty.</p>
<p>F. Assessment results and number of students who met proficiency level.</p>
<p>100% of students in BIOL 181L scored at an ineffective level. Of those, they scored highest (ineffective-developmental level) at statement of the problem/hypothesis (see rubric). These results serve as a baseline for WANR majors entering our program.</p> <p>67% of students in BIOL 493 scored at a proficient level. However, two additional students were 2 pts (out of 100) away from scoring at the proficient level. Therefore, almost 8/9 students (89%) scored close or above a level of proficient.</p>
<p>G. Describe what results indicate about student performance.</p>
<p>Senior students performed slightly below our goal - but all showed much improvement above our baseline in freshmen classes. However, faculty used a new rubric to score students this year, and this may have led to some deviance from past results – when a larger proportion of students scored at a proficient level. As a department, we will compare performance scores of all students (both Biology and WANR) and analyze trends across years – including a discussion of effects of the new rubric.</p> <p>Overall, I feel like students scored similarly as in other years – but the new rubric had a greater focus on statistical analyses, which is often hard for students to communicate correctly at the undergraduate level.</p>
<p>H. Describe program level changes/improvements planned for AY 2025-2026 informed by this assessment.</p>
<p>No major changes planned at this time.</p> <p>Minor changes: We will re-evaluate the use of our new rubric by comparing results/trends before and after its use for both BS programs (WANR and Biology).</p> <p>We recently made Biostatistics a required course in the WANR curriculum. We will also evaluate whether students show increased performance in interpretation and presentation of quantitative data in their Senior Seminar presentations – evaluated by this SLO.</p>



Enter Comments on Table II AY 2026 Assessment Below

Overall, our students showed high levels of performance – with some minor deficiencies in fully meeting our goals for SLOs 1 and 5. We feel that our minor changes to teaching and evaluation will show positive results over the next few years.

SLO4 Rubric (Biology)/SLO5 Rubric (WANR)

Students will demonstrate critical thinking and problem solving skills using experimental design and the scientific method

	Excellent	Proficient	Developmental	Ineffective
Evidence Selecting/Utilization of Literature	<p>Systematic review of literature</p> <p>Can utilize and integrate multiple sources to answer</p> <p>All information is taken from appropriate source(s)</p>	<p>Some important literature missing</p> <p>Can give individual sources without integration</p> <p>Most Information is taken from appropriate source(s)</p>	<p>Literature review is incomplete</p> <p>Can give some but insufficient examples from the literature</p> <p>Some Information is taken from appropriate source(s)</p>	<p>Literature review missing</p> <p>Does not have a grasp of the literature</p> <p>Information is taken from inappropriate source(s)</p>
Statement of Problem/Hypothesis	<p>problem/hypothesis is stated clearly</p> <p>hypothesis testable and fully supported by evidence, described comprehensively, and delivering all relevant information necessary for full understanding.</p>	<p>problem/hypothesis is stated</p> <p>hypothesis testable and mostly supported by evidence, and clarified so that understanding is not seriously impeded by omissions.</p>	<p>problem/hypothesis is stated but description leaves some terms undefined</p> <p>hypothesis testable, ambiguities unexplored, boundaries undetermined, and/ or backgrounds unknown.</p>	<p>problem/hypothesis is stated without clarification or description, hypothesis untestable.</p>
Experimental Design/Strategy	<p>Experimental strategies address all contextual (situational) factors as identified.</p> <p>Aims/predictions fully test hypothesis</p> <p>Methods achieve aims/test predictions entirely</p> <p>Methods include robust controls and statistics</p>	<p>Experimental strategies address some of the contextual (situational) factors identified.</p> <p>Aims/predictions test the hypothesis</p> <p>Methods achieve aims/test predictions</p> <p>Methods include critical controls and adequate statistics</p>	<p>Experimental Strategies indirectly addresses the problem.</p> <p>Aims/predictions test the hypothesis are not compelling</p> <p>Methods not fully connected to aims/predictions</p> <p>Methods missing controls or use incorrect statics</p>	<p>Experimental strategies are difficult to evaluate because they are vague or only indirectly address the problem.</p> <p>Aims/predictions do not test hypothesis</p> <p>Methods do not achieve aims/test predictions</p> <p>Methods lack controls and statistics</p>
Presentation of Data and Evidence	<p>Presentation of data and evidence contains a thorough and insightful analysis.</p>	<p>Presentation of data and evidence contains a thorough analysis.</p>	<p>Presentation of data and evidence contains a reasonable analysis but lacks depth.</p>	<p>Presentation of data and evidence contains a cursory, surface level analysis.</p>

Interpret Results	Results are thoroughly discussed and reviewed relative to the problem. Detailed consideration of the need for further work is identified (where applicable).	Results are identified and reviewed relative to the problem. Some consideration of the need for further work is identified (where applicable).	Results are identified but review lacks depth. Little consideration of the need for further work is identified (where applicable).	Results are identified but review is cursory and superficial. No consideration of the need for further work is included (where applicable).
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