



2023 Connecticut National Estuarine Research Reserve Educator Needs Assessment: Estuarine-focused learning in your classroom

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This draft report summarizes the 2023 Needs Assessment results conducted by the Connecticut Reserve's Education Coordinator as a NOAA requirement for project planning. In Spring 2025, the Reserve will conduct a Needs Assessment for the Coastal Training Program. As part of this NA, a Market Analysis (MA) will be added, building off the information in this NA, to collect information about the educational programs and resources for classroom teachers offered by various groups in our region. Once the MA is complete, it will be added to this report and the report will be finalized.

Needs Assessment Overview:

Survey dates April 1 – May 31, 2023 (two months)

169 respondents / 141 participants from CT, 12 from NY, 7 from RI (Figure 1)

72% of respondents were high school teachers, grades 9-12 (Figure 1)

State well represented with slight increase of respondents from coastal communities (Figure 2)

Incorporating estuarine-learning in the classroom and field

Current curriculum

Participants were asked what activities they were already offering with their students, including an activity led by themselves, their school, or an outside organization. Most respondents reported they were offering inquiry-based activities (90%) and collecting data (85%). About half were offering nature walks (58%) and experiential learning opportunities (57%). Around 30% were offering service projects.

When asked what teachers were currently offering in their curriculum, more than half identified the following topics:

- Human impacts to the environment (82%)
- Data analysis/problem solving (82%)
- Experimentation and the scientific method (79%)
- Climate change impacts (79%)
- Ecology (72%)
- Technology/engineering (61%)
- Water pollution/quality (59%)
- Invasive species (59%)
- Sustainability (54%)
- Habitats/restoration (52%)

Participants said they obtain environmental, estuarine, or ocean information for use in the classroom from web resources/searching (94%), published resources (61%), outside groups (56%), and colleagues

(44%). Other answers (7%) included non-profit, federal, state and regional ed chapters and organizations, universities, experts in the field, student research projects.

Interest in new curriculum

When asked what they would like to add to their curriculum, the top ten topics were:

- Estuary science (44%)
- Emerging contaminants (44%)
- Emotional connection to nature (42%)
- Nature-inspired art (40%)
- Cultural history (37%)
- Marine debris (35%)
- Habitats/restoration (35%)
- Fisheries/wildlife ecology (35%)
- Coastal hazards (34%)
- Watersheds (29%)

More than half of participants said that they could use the following to incorporate more estuarine and/or environmental education in their classroom:

- Ways to use the outdoors to address Next Generation Science Standards (61%)
- Thematic trunks you can borrow, with age-appropriate resources (53%)
- Ideas and guidance on research and monitoring projects in the schoolyard (52%)
- Unstructured outdoor experiential activities (50%)

When asked about field-based opportunities, more than 75% of respondents said they were looking for data collection opportunities. Convenience/close to school and unique outdoor experiences were also important to more than 70% of educators. More than half said they are looking for a field-based experience that aligns with the Next Generation Science Standards. Other responses (5%) included active research projects, data collection, “outside” of classroom time, engaging topics, equipment loans, aligns with AP curriculum, emotional connection to nature

Preferences for teacher training events

When it came to participating in a teacher workshop, participants said it was most important that the workshop:

- Supports what I have to teach about (87%)
- Includes materials I can take back to use in my classroom (81%)
- Fits within my schedule (76%)
- Free (60%)

Participants identified the following as not as important:

- Provides professional development credits (53%)
- My administration wants me to take it (42%)

Time, cost, and scheduling were the most commonly mentioned barriers to attending a teacher workshop (Figure 3).

Respondents seemed flexible, overall, to the month for a workshop to take place however, more than half preferred October and March. September and December were the lowest ranking months. Most respondents would rather have a workshop during the week than during the weekend. More than half of respondents would prefer the structure of multiple days spread out over different months and multiple days and consecutive days were also highly ranked. More than half of participants preferred the training be in-person, with about 38% preferring a mix of virtual and in-person.

Throughout these series of questions, several respondents stressed the importance of knowing well in advance as to when a workshop was taking place so they could plan accordingly.

Figure 1. Respondents by state and grade level

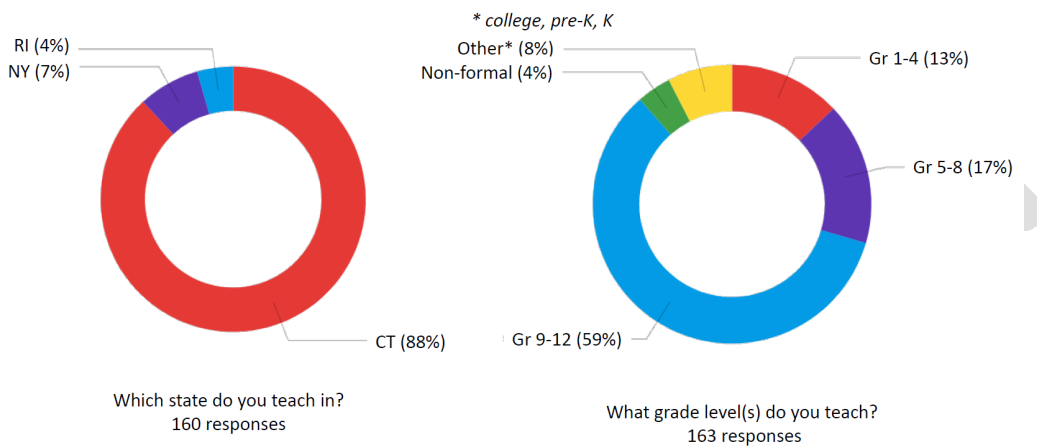


Figure 2. Responses by Regional Educational Service Centers (RESCs)

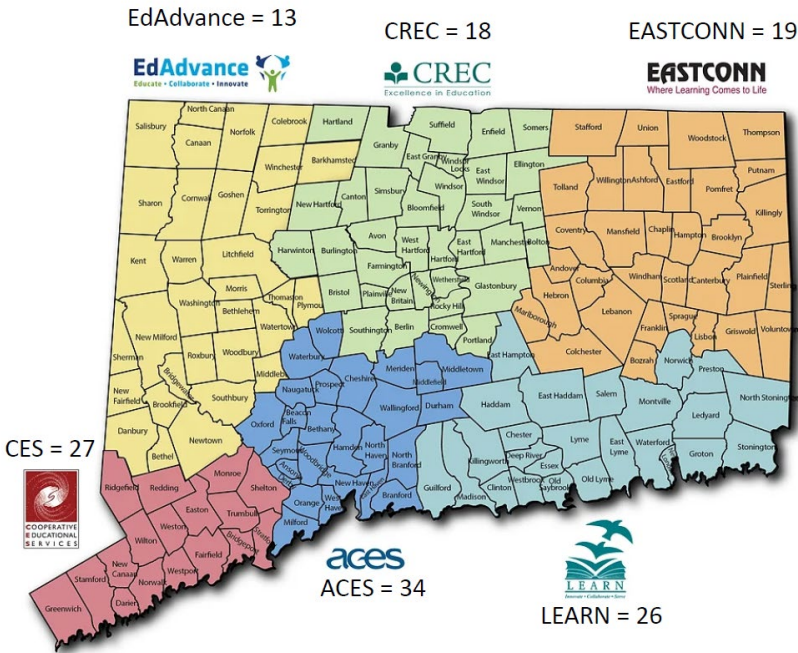


Figure 3. Specific barriers prevent teachers from attending professional development opportunities

