

2022 Program Evaluation Report

Inland Seas Education Association



Inland Seas Education Association (ISEA) was founded in 1989 as a non-profit charitable organization whose mission is to inspire a lifetime of Great Lakes curiosity, stewardship, and passion in people of all ages.

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Executive Summary

Inland Seas Education Association had an excellent 2022 season, **reaching over 7,000 participants and returning to pre-pandemic levels of educational programming and sailing days**. This programmatic year lends itself readily to comparison with the 2019 sailing season through participation in the Great Lakes Tall Ships Festivals. 2022 also marked the first year a summary was written immediately following each education program season (winter pilot of [Watershed Explorations](#), [Spring Schoolship](#), [Summer Sailing Season](#), and [Fall Schoolship](#)). This 2022 Program Evaluation Report will act as an executive summary of all seasons and programs. New to the program evaluation report this year is non-programmatic tracking of relevant STEM partners (including universities), program staffing, and participant demographic information when possible. These data are being tracked in an effort to establish goals for and track progress on ISEA's strategic plan goals 1 and 2, and to better frame ourselves as a regional leader in Great Lakes education.

Program Reach

In 2022, ISEA reached an audience of **7,179 individuals through 285 programs**. A comparison of 2022 to years past is seen in Table 1. This is comparable to 2019 in terms of Schoolship and ROV program numbers. It reflects the addition of 21 Watershed Exploration Programs in the non-sailing season, and the loss of Great Lakes Tall Ship Festival participation by the *S/V Utopia*, which served nearly 5,000 individuals in 2019. Omitting *S/V Utopia* participants, in 2019 ISEA reached 6,584 participants.

SHIPBOARD

S/V Inland Seas was utilized for a total of **128 sailing days out of a possible 184 sailing day season (91.4%)**, and the *S/V Manitou* was chartered for an additional 9 days, bringing the **total sailing days for ISEA to 137, 98% of the 2026 strategic goal of 140 sailing days/year**. A total of 95 Schoolship programs serving 2,386 participants were hosted in Spring and Fall, down slightly from 118 serving 2,733 in 2019. This primarily reflects a decision to charter the *S/V Manitou* for two weeks instead of four, but also reflects the 2022 decision to travel to Detroit for a final week of programs instead of conducting an additional week in Suttons Bay. When Detroit Schoolship programs were added to the **2022 total, 106 Schoolship programs were offered and 2,647 participants served**.

Public ticketed sails were also comparable to 2019, with **21 sails serving 530 individuals** (23 programs served 609 in 2019). The *S/V Inland Seas* reached 16% of the total participant-share through participation in Great Lakes **Tall Ships festivals in 2022, serving 1,133 individuals through 32 sails at two away ports**. Fewer overnight programs took place in 2022, with three youth and two adult programs (one was a transit) serving a total of 30 participants (6 programs served 56 in 2019). Single day sails and charters were similar in 2022 to 2021 and 2019, with an increase in programming with college and university partners.

SHORESIDE

The **ROV program was offered 33 times in 2022 and served an estimated 832 individuals**, on par with 2019. Actual participant numbers are still difficult to track accurately for the ROV programs as no manifest records are required or kept. This is true for all ROV programs listed in Table 1. Additionally, piloting of winter Watershed Exploration programs yielded a never-before-offered **21 programs serving 269 participants. Three educator professional development programs served 55 educators**, on par with 2021. No programs were offered on school campuses in 2022 as a grant for that service was depleted. Another grant to offer similar programs in 2023 was pursued and received, making this an expected area of growth in future years.

Table 1. Summary of 2022 educational programs as compared to previous years.

	2018		2019		2021		2022	
Program Type	Programs	Participants	Programs	Participants	Programs	Participants	Programs	Participants
Schoolship Programs	109 46%	3,006 50%	118/41% (72 Spring, 46 Fall)	2,733 24%	43/32% (20 Spring, 23 Fall)	1,403 36%	95 /34% (62 Spring, 33 Fall)	2,386 33%
Detroit Fall Schoolship	–	–	–	–	–	–	11 4%	261 4%
ROV & Engineer and Explore Programs	33 14%	716 12%	33 11%	991 9%	19/10% (11 Spring, 3 Summer, 5 Fall)	396 10%	33 12%	832 12%
Watershed Exploration	–	–	–	–	–	–	21 7%	269 4%
Public Programs (hosted by ISEA)	50 21%	1,328 22%	23 8%	609 5%	29 20%	647 15%	21 /7% (incl. 2 deck tours)	530 7%
Overnight Programs	5 2%	38 1%	6 2%	56 <1%	4 2%	36 1%	5 2%	30 <1%
Single-Day Sail Programs (all charters)	25 11%	553 9%	37 13%	970 8%	45 24%	995 25%	42 15%	926 13%
Inland Seas Away Ports (Prog partners)	2 ports (not counted in total below)	See Single Day Programs	2 ports (not counted in total below)	See Single Day Programs	8 ports (not counted in total below)	See Single Day Programs	4 ports (not counted in total below)	See Single Day Programs
Inland Seas Tall Ship Festival Ports (every 3rd year)	–	–	2 ports (28 sails)	1,018 9%	–	–	2 ports (32 sails counted for total/ 11%)	1,133 16%
Utopia Tall Ship Festival Ports	–	–	2 ports	4,782 42%	–	–	–	–
Teacher Professional Development Programs	130 hours (GTSI)	26 (GTSI)	29 (GTSI)/10%	197 (GTSI)/2%	3 2%	54 2%	3 1%	55 <1%
Programming @ Schools and Events (estimates)	7 schools 3%	175 3%	No records	No records	13 7%	405 11%	19 7%	757 11%
Total	229	5,971	276	11,366	156	3,427	282	7,179

2022 Programming Summary and Evaluation

ISEA's 2021-'26 Strategic Plan is broadly broken into five goals: 1) ship-based programming, 2) year-round programming and campus utilization, 3) volunteers, 4) fundraising, and 5) public relations and marketing. This evaluation report is framed upon creating a baseline for evaluating goals 1 and 2, as well as the education-related components of goals 3-5.

Table 2 summarizes how sail days were spent among diverse audiences in 2022 and can be compared to ISEA strategic plan goal 1.1, 1.3, and 1.4 for 2026. **A total of 137 sail days, 98% of ISEA's 2026 goal of 140 sail days, were spent on programming in 2022.** This is up nearly two weeks from 2021. To reach this goal, 9 sail days were chartered on the *S/V Manitou* during Spring 2022, and 8 days of transit were added traveling to and from Detroit for a final fall Schoolship week. Days the ship spent 'off' at away ports were down from 16 in 2021 to 10 in 2022, meaning while the ship was away, the overall program schedule was more intense for staff and volunteers. Off days were not counted as sail days when the ship was in its home port.

ISEA has not yet met our 2026 audience distribution goals for K-12 and volunteer audiences. **ISEA used 49% of available sail days to reach K-12 audiences (goal: 57%) and 18% sail days with volunteer audiences (goal: 11%).** Transits make up the majority of 'excess' sail days for volunteer audiences, and while some were effectively transitioned into overnight programs, most were necessary to accommodate the Great Lakes Tall Ship Festival schedule, and the education team anticipates a return to a lower proportion in 2023. It is important to note that this is not because of a decrease in Schoolship programming, but rather an increase in other programs and in supporting volunteer crew growth.

Table 2. Sail days in 2021 and 2022 compared to ISEA strategic goal 1.1. The total number of sail days in 2022 was 137.

	Primarily K-12 Audience		Teacher Audience	GTB Region Audience		Charter and Partner Audiences	
Strategic Audience:	Schoolship Programming (Schools)	Educational Charters (All-ages)	Teachers (PD, appreciation)	General Audience (Public Programs)	Volunteers (training, transit, appreciation), Members, Donors	College/ University Partners	Group Charters (non-instructional)
2021	42	17	1	23	20	19	2
2021 (of 124 days)	34%	14%	<1%	19%	16%	15%	2%
2022	65	3	1	26	24	14	4
2022 (of 137 days)	47%	2%	<1%	19%	18%	10%	3%
2026 Goal*	57%		2%	18%	11%	7%	5%

K-12 Audience Programming

K-12 audiences are the primary demographic targeted by ISEA programs, demonstrated by the iconic Schoolship Program that runs in spring and fall during times when the sailing season overlaps with the academic school year. This audience is also reached in public, charter, and partner programs at home and away ports, but ISEA has significantly less control over who participates through those programs, selling tickets or time slots to the partner organizations or members of the general public who self-select for their own goals. In particular, K-12

audiences are a substantial portion of the audience reached with college and university partners, meaning ISEA sail days dedicated to K-12 populations was closer to 59% than 49%, even as revenue and audience from those sails came through partner organizations.

SCHOOLSHIP PROGRAMMING SUMMARY -

Combining spring, fall, and Detroit Schoolship programs, **ISEA delivered 106 Schoolship programs and served 2,647 participants.** This is comparable to 2018 and 2019 Schoolship programs, and reflects the current capacity of ISEA Schoolship programming. To serve more schools during this time, an additional vessel must be utilized. To read more about spring and fall Schoolship programs, see the [Spring](#) and [Fall](#) Program Evaluation Reports. A summary of the modifications made to Schoolship programs in 2022, reflecting 2026 Strategic Goal 1.1, can be seen in Box 1.

Table 3. Grade band demographics of spring and fall Schoolship, excluding Detroit programs.

Grade Distribution	Schoolship	ROV
K-3	6	1
4-5	48	7
Middle School	27	16
High School	19	7
Adult	n/a	1
TOTAL Programs	100	32

Demographic information regarding populations served by Schoolship programming was quantified for 2022 (see Table 3). The largest audience by grade band in 2021 was Middle School, followed by Elementary, then High School groups. The largest **demographic in 2022 was elementary school, which comprised 53% of program participants. Middle schools represented 22% of participants, while high school groups accounted for 18%.** This is notably different from the 2021 audiences served. The 2026 Strategic plan encourages diversification of age bands. It may be **important for marketing and program coordination to consider which audiences were missed in 2022 that attended in 2021 and to establish a strategy for communicating with those audiences.** Table 4 shows the distance groups traveled to participate in Schoolship programs in Suttons Bay in 2022. The vast majority of participants (57 groups, 55%) traveled less than one hour. Seventeen groups (16%) traveled more than one hour but less than two, and 27 (25%) groups traveled three + hours to attend.

Table 4. Distance participants traveled to attend schoolship programs in Suttons Bay.

Distance from ISEA	Spring	Fall	Total
> 1 hr	39	18	57
1-2 hrs	11	6	17
2-3 hrs	7	0	7
3-4 hrs	9	5	14
4+ hrs	9	4	13

Unlike Watershed Exploration programs which require self-reporting of Title 1 status, ISEA does not currently have a way to obtain participant Title 1 status from Schoolship participants, making demographic reporting more difficult. For the purpose of this report, scholarship recipients are considered to be from underserved communities, as they must show a need to receive scholarship support. In the spring, 36 of 62 programs were supported with ISEA scholarships, and in the fall 27 of 33 programs were subsidized, bringing the number of **subsidized programs to 63% of all Schoolship programs in 2022**.

In terms of Schoolship audience, ISEA has an opportunity to expand in areas that are two to three hours away from Suttons Bay, as well as in early elementary and high school programs. ISEA can also integrate a question regarding the percentage of students on free/reduced lunch into the registration process to better assess the number of underserved groups the organization serves each year.

Box 1. Modifications to Schoolship Programs, 2022

Please see [Spring Schoolship Evaluation Report](#) for more details on all of these modifications.

1. An effort to integrate knowledge of standards alignment to each station was implemented during volunteer training to help minimize 'content'-heavy station delivery and prioritize from the many learning goals each station is inferred to accomplish.
 - a. This was generally poorly received by volunteers during training. Better framing of volunteer resources may help with acceptance in the future, but mentioning standards was a flash point for many volunteers and caused unnecessary tension during training.
 2. Differentiation of programming by grade band. ISEA now offers three distinct programs by age band - Early EI is a 2.75 hr experience for groups that are K-3 in age, Next Gen is now a 3.5 hour program for 4-8th grade, and Diving Deeper is a 4 hour program for HS groups.
 - a. Reduced program length of 2 of the three programs to better accommodate youth food and weather comfort, and reduced the program load on staff and volunteers for all but Diving Deeper programs.
 - b. An Early EI logbook was created to minimize cognitive burden to early learners without removing the logbook component of the program. Laminated data sheets were created for each station to support instructor data collection.
 - c. More differentiation in content could be integrated (e.g. different station choices + 3 staples) that align with curriculum goals of grade bands and allow school districts to return multiple times for a sailing experience. Enough differentiation currently exists to market as 3 separate programs, but improvement is called for longterm.
 3. Microplastics station modification in Next Gen and Early EI program was made to create a similar experience for all groups during station rotations, increase the experiential learning, and decrease the teaching load for potential volunteers who avoided the station previously.
 - a. Generally well-received modifications. Program runs differently when steering is available to groups - there is less time available for all three experiential components. ISEA staff will continue to experiment with best practices but is generally heartened by the progress made on this station.
 4. Water Quality station returned in 2022, with a pared down experience monitoring just dissolved oxygen.
 - a. This was generally well received by participants and staff, though few volunteers trained on the station. Additional changes may need to be made as database plans move forward and with additional information regarding titration chemical safety.
 5. A three-station pilot was administered to select groups in Spring, 2022. While it required two fewer instructors to staff the program, the response was overwhelmingly negative from volunteers and staff. However, many experiential activities created during the station were positively received, and teacher feedback was also positive.
 - a. While a three-station program is unlikely to work under the current staffing model, newly created activities can be scaffolded into current programming and as different staffing models are visited, some aspects of the pilot may be applied to future programs.
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DETROIT SCHOOLSHIP PROGRAMMING -

The new fall trip to Detroit was an opportunity to pilot the Detroit River program during the school year, a program that has been refined over the past two summers with our partners from U of M's Detroit River Story Lab (DRSL), but which had only been offered to summer youth groups. This 3-hour program still uses a model of small groups split across 5 learning stations, however 3 of the 5 stations are filled by local guest instructors, focusing their topics on the Detroit River. For Fall 2022 we had the following guest instructors: DNR's Outdoor Adventure Center (OAC) on the natural history of the beavers and osprey on the river; the Cranbrook Institute's Freshwater Forum on macroinvertebrates in the river; and several faculty or community partners through U of M on topics related to the cultural and social histories along the river. ISEA provided the facilitation and instruction at the plankton and seamanship stations. In this way, the Detroit Schoolship programs were much more interdisciplinary spanning history, humanities, and science, while zooming in to be very specific to the Detroit River itself. Teacher feedback was gathered on these programs and the feedback was all extremely positive. The areas for improvement relate primarily to the transportation, bussing and timing issues related to programs falling outside normal hours of the school day. See the 2022 [Fall Schoolship Eval](#) for more information.

TEACHER EVALUATION SUMMARY -

Based upon reflection from spring 2022 Schoolship programs, the education team recommended removing peer teaching from the Next Gen sails, which shortened program length by 30 minutes. While there were some issues associated with this change (namely in volunteers arriving earlier than needed for AM programs and ROV program participants sometimes arriving late to afternoon ROV programs), there was no negative feedback from teachers, staff, or volunteers. Specifically, **no teachers mentioned the loss of peer teaching** during the program, and **volunteers readily adapted to this shift** as it was commonly used with late-arriving groups in the past. The late start and earlier finish helped staff to feel adequately prepared to lead programs, and allowed staff, instructors, and crew to complete end-of-day tasks earlier each evening, lessening overall staff hours. It will be important to follow up with instructor and crew volunteers to hear their perception of this shift, but barring any significant negative feedback, the education team recommends continuing this in spring 2023.

Teacher responses to the 2022 Teacher Survey (n=43) were overwhelmingly positive. No negative ratings were given in any of the surveyed categories. "Neutral" ratings and specific suggestions were given related to certain aspects of the program experience. For example, getting the program started on-time, shortening-up the intro and safety talk before boarding the ship, and comments related to feeling a sense on their program that something was "off" or "running behind schedule". This tracks with internal discussions related to adequate instructor coverage for programs and how "missing instructor slots" might impact the overall experience. This will be a priority area for the ISEA education team over the 22/23 winter months, with special attention given to how many instructors are needed to run a given program. See the [2022 Fall Schoolship Eval](#) report for a more detailed discussion of teacher feedback, as well as detailed discussion of program staffing observations.

ROV ENGINEER AND EXPLORE -

33 ROV programs were delivered in 2022, comparable to the 33 offered in 2019. Small modifications incorporated over the past 2+ seasons were formalized into a quick guide, and a digital volunteer resource for facilitating the program is currently being created. Despite growing consistency in program delivery and anecdotal teacher feedback appreciating the maturation of the program, there is significant room for expansion of the program. 40 spaces in fall and 74 spaces in spring were available for ROV programs, **a total of 114**

programs possible during schoolship season, of which 33 programs (29%) were filled. Of these 33 programs, 24 were with groups that also participated in a Schoolship sail, meaning **there is substantial room for expansion of the ROV program both with groups that already attend Schoolship and with groups that come specifically for ROV.** In 2022, one group signed up for an ROV program that had not previously sailed with ISEA, suggesting that another audience of educators that are not drawn to Schoolship programming could be marketed to for the program.

Finding staff and volunteers to facilitate these programs has been difficult, and at least one group in 2022 was denied a program due to educator capacity. In 2021, a few ROV programs were offered during the summer, but finding program facilitators was too difficult in summer so no programs were scheduled in summer 2022. **The ROV program is currently facilitated by two staff and a small group of 5 volunteers,** and has not attracted more volunteers to date. The number of required facilitators for a program has been reduced from four to three, still 10% of programs run in 2022 were understaffed (see Staffing, [Fall 2022 Evaluation Report](#)). Considering the very real safety concerns associated with operating on a dock with no guard rails and the lack of chaperone requirements ISEA has for groups, understaffing an ROV program with 32 students has real programmatic and safety impacts. **As we create additional and advanced ROV programs, and reintegrate expensive professional grade ROVs into those programs, which is an important 2026 strategic goal, it will be important to increase the number of trained facilitators for the program through volunteers and staffing.**

WATERSHED EXPLORATION PROGRAMS -

ISEA is in the process of expanding program offerings, shifting from seasonal delivery of youth programming through spring and fall Schoolship field trips toward a year-round model incorporating the *S/V Inland Seas* and the Thomas M. Kelly Biological Station (TMKBS). These expansions are integrally tied to the mission and 2026 strategic goal 2.1, 2.2, and 2.5. Great Lakes Fishery Trust (GLFT) and Gerstacker Foundation grants awarded in 2021 have provided funding to support the development and implementation of these pilot programs. Evaluation of these programs and ISEA expansion, more broadly, are ongoing.

Development of pilot programming was multi-phased: remodeling lab space (Aug-Sept), surveying educator interest and needs (Sept-Oct), matching facility strengths with those interests and needs (June-November), program development and training (Oct - Feb), and program implementation (Feb-April, Summer). Around 15 program topics were identified based on past programming, NGSS/Michigan State content standards, relationship to existing programming, capabilities of remodeled facilities, and connection to ISEA mission. These topics were presented to educators through surveys, which were administered to over 60 educators (response rate: 27/60+). In addition to program topic, educator opinions were solicited on program length, administration buy-in, general field trip hurdles, and best time of year to offer programs.

Program development involved ISEA staff and dedicated volunteers working collaboratively to design and test activities, create materials, and revise as needed. Through this process, a core group of volunteers and ISEA staff were trained in program delivery. An intentional effort was made to design programs that utilized the TMKBS exhibit and classroom space, and to incorporate indoor and outdoor activities into the program.

From mid-February to mid-April, a total of **12 groups participated in 16 programs with 233 participants. In summer, three additional programs served 36 participants. In sum, 269 participants benefited from 15 programs.** The most popular field trip option was a single, 3-hour program, though three full-day and one overnight program were also facilitated. In alignment with 2026 Strategic goal 1.3 for reaching a broader, more diverse audience, over 50% of groups attending were from Title 1 schools. Limitations of using the TMKBS space became apparent as pilot programs were implemented, including staff capacity and space for large classes, as

well as a lack of winter weather gear for unprepared participants. For details about winter pilots, educator feedback, and logistical limitations, see the [Watershed Exploration Evaluation Report](#).

To be successful long-term and with large class sizes, **Watershed Exploration programs will need to establish a core volunteer group of 10+ volunteers** to fill up to three facilitators per program (one per every 10-12 participants). These volunteers may **need support in developing skills that have not previously been asked of ISEA volunteers**, to lead parts of programs away from ISEA staff or other lead support, for up to 50% of a program. Additionally, at the current TMKBioStation capacity, large classrooms are difficult for one staff to lead whole group portions. When the program has more than around 24 participants, each facilitator will need to feel comfortable leading an entire, three hour program without staff support. This requires additional training and the incorporation of first aid equipment.

Public Programming -

Ticketed and Chartered Sailing Programs, University and College Partnerships, Tall Ship Festivals

Summer is the primary season in which non-Schoolship programs (i.e. the audiences are more general, not restricted to a formal classroom field trip) are scheduled, although some programs are also scheduled for fall when the weather is pleasant and tourism is still common in the area. The 2022 summer season took place from June 15 to September 4, spanning just over 11 weeks. **S/V Inland Seas was utilized for 72 sailing days out of a possible 82 calendar days, reaching 2,485 participants through 95 sailing trips or programs during the summer.** This includes traveling to 6 different ports, delivering programs on Lakes Michigan, Huron, Erie, and Superior, as well as on the Detroit River. While the actual number of public sails that ISEA was able to offer to our general community was overall lower in 2022 (21 programs) than in previous years (29 in 2021), public audience participation and reach was the highest it's been since 2019. This is largely due to ISEA's participation in two of the Great Lakes Tall Ship festivals (Cleveland, OH and Two Harbors, MN), offering more youth overnight trips, as well as an upkeep in the number of partners who charter us in the summer (Table 1). It is anticipated that more public sails will be offered to our local community in 2023, as there will not be the same travel demands upon the ship's schedule from Tall Ship festivals.

One important subset of the summer audience is our College and university partnerships. In 2022, our primary partner in terms of program and participant numbers was the University of Michigan's Detroit River Story Lab (DRSL). **In 2022, 15 sail days (8 summer, 7 fall) were exclusively used for delivering Detroit River specific programming in partnership with UM's DRSL** (not including any of the associated transit and travel days. This programming has been successful in creation, recruitment, and delivery due to the significant amount of on-going collaboration between ISEA and DRSL (primarily ISEA's Program and STEM coordinators with DRSL's founder and principal investigator). More detailed information about all of our summer programs, including feedback from these audiences, can be reviewed in the [Summer Evaluation Report](#).

Thomas M. Kelly Biological Station Usage

EXHIBIT USAGE -

The TMKBioStation exhibit space serves a variety of audiences, including classes awaiting transport from Schoolship programs, classes conducting Schoolship programs during foul weather, Watershed Exploration classes, volunteers during training and ISEA Cafes, and visitors to the space year round. While available, the primary audience for this space has not been identified, and shifts in usage (e.g. a QR code led self-guided tour, scavenger hunt or other educator resource, guided tour, etc.) would increase its appeal and marketability. This

marks the first effort to quantify use of exhibit space at TMKBioStation. There is currently no way to monitor Wetland Walk usage, but this could be considered in future years.

Schoolship Audience - No records are kept of Schoolship groups that eat in, visit, or otherwise interact with the exhibit space. Anecdotally, this space is used 2-4 times each spring and fall for programming when the weather does not permit sailing.

Watershed Exploration Program Audience - The Navigation, Watershed Watchers, and Dissect the Watershed programs incorporate portions of the exhibit space into their programming. As a result, 9 programs and 198 participants actively engaged with the exhibit space in 2022.

Volunteer Audience - The space was passively used for six training sessions as well as four ISEA Cafes in 2022.

Public Audience - During summer, traffic in the ISEA exhibit space increases notably because of foot traffic in the community. When staff were in the office for a full day during summer 2022, foot traffic was counted and recorded on a calendar. On these days, attendance averaged 10 visitors per day. Highest observed attendance was 17 individuals on July 8th. Typical visitors included families with children, retirement-aged couples, and visitors traveling the TART trail via bicycle. If this pattern was consistent throughout the summer, an **estimated 660 visitors passed through ISEA in 66 days in June, July, and August.**

Exhibit Recommendations -

Events like ISEA Cafes could be broadly advertised to attract a wider audience, and coordination with groups who may be inclined to use ISEA space, like the Watershed Center or 5to1, may create recurring users. Considering some groups already use the exhibit or lab space (and newly this year, scientific equipment) for their own programming, this is an additional area of outreach that has not been tracked and could be potentially valuable to monitor. A small pot of funds exists to incorporate indigenous craft and knowledge into exhibit spaces, but was put on hold in 2022. This needs to be revisited in 2023.

There is potential for volunteers to act as guides/docents in exhibit or wetland walk programs at scheduled intervals throughout the year. With minimal effort by education staff, a narrative could be produced to support volunteers in leading this style of program. The addition of a few manipulatives and signage to the exhibit space could add much to the experience of self-led exhibit visits. A door counter could allow ISEA to track visitors year-round. Strategic planning time should be dedicated to considering the goals of ISEA's exhibit space on TMKBioStation, which should then be tracked to monitor ISEA reach.

DORMITORY USAGE -

Tracking overnight lodging can be difficult, and metrics were not established in the 2026 Strategic Plan for best practices. In 2021 and 2022, a number of metrics were tracked to monitor dorm usage. Most straightforward are metrics like number of individuals housed, like volunteers and interns, or number of groups housed, like schools or university classes. Number of days stayed is also somewhat straightforward, as ISEA policy does not allow two groups to stay at the same time - this can be an effective way to assess capacity, (e.g. 8 nights filled, 30 were available, capacity is 27%). However, multiple volunteers and interns use the space at the same time, sharing with one another and with visiting groups, so while the metric can be effective for schools it is not for all dorm-using audiences. Finally, the metric of evenings lodged/person considers how many hotel room stays are saved for each individual or group staying with ISEA. For groups, evenings lodged considers 4

individuals per room per night, and for volunteers and interns it considers one person per night. This metric allows ISEA to assess the value added by dorms to the various audiences and could eventually allow for an estimation of cost savings on behalf of interns, volunteers, and school group stays. In 2021, rooms used were also tracked, but this metric was difficult for ISEA to track since manifest changes were often made last minute. It was not formally tracked in 2022.

Table 5 below summarizes 2021 and 2022 dormitory usage on ISEA campus, each reflecting a different user audience. **2022 saw an increase in both the number of volunteers (12 vs 5) and the length of their stays (64 days vs 22 days) over 2021.** Though the number of interns was fewer in 2022, the number of days those interns used the dorm space, as well as the number of evenings lodged, about doubled in 2022. In 2021, only two school groups used the dorm space, but in 2022, 11 school groups stayed in the dorm facilities. Other groups, like research academic groups and college and university partners, also increased in 2022.

In total, **326 individuals were housed, including 11 school groups (260 individuals), 4 other groups (50 individuals), 4 interns and 12 volunteers, for a total of 502 days, saving 1,568 evenings of lodging.** All audience stays increased in 2022. The education team recommends making goals for audience populations for future years, and considering the impact of intern stays on group size and group stays on the cleanliness of intern spaces. A number of other recommendations for dorm accommodations were made based on dorm feedback - 2022 was the first year it was taken from all audiences. See the [Fall Education Evaluation Report](#) for dorm evaluation results.

Table 5. Dorm Usage by Audience

Volunteer Dorm Usage	# Volunteers Housed	# Days Stayed (volunteers typically did not share rooms)	#Evenings Lodged/person
2021	5	22	22
2022	12	64	64

Intern and Seasonal Staff Dorm Usage	#Interns Housed	# Days Stayed	#Evenings Lodged/person (#days/intern, summed)
2021	8	163 (UofM cohort was 4 individuals counted as 1 group)	406
2022	4	415	999

School Dorm Usage	# Groups Housed	#Individuals Housed	# Days Stayed (occupied for a total of x nights)	#Evenings lodged (assuming 4 ppl per hotel room)
2021	2	68	2	34
2022	11	260	12	195

Other Group Dorm Usage	# Groups Housed	#Individuals Housed	#Days Stayed	#Evenings lodged (assuming 1 hotel room per person)
2021	3	49	7	176
2022	4	150	11	310

Teacher Professional Development

ISEA hosted three separate educator professional development (PD) workshops this summer: 2021 GLWFC reunion PD, EcoSEEDS PD, and 2022 GLWFC. In sum, ISEA staff offered 55 educators 52 hours of SCECH-approved professional development, as well as additional hours of networking and Great Lakes experiences, which do not qualify for 'hours' but are immensely valuable in the PD experiences being offered. Additionally, ISEA staff met with cohorts of 2022 GLWFC in 1-1.5 hour increments in October, totaling ~6 hours of educator support. These hours haven't been, but could in the future be, SCECH-approved, but do require preparation and follow up from ISEA staff. ISEA also plans to offer alumni office hours for support of past GLWFC groups in 2023. For more details about 2022 educator professional development programs, see the [Summer Education Evaluation Report](#).

Areas of Growth - ISEA staff are building momentum for the creation of a teacher advisory board, creating a forum for educators to offer feedback on changes and additions to ISEA programming in exchange for SCECHs, networking, and a complimentary stay at the TMKBioStation. This will allow ISEA to both receive feedback on programs and offer additional PD to allied educators. ISEA is coordinating with the Freshwater Forum at Cranbrook Institute for Science as part of a Hagerty Grant each organization received. This will culminate in training and funding for implementation of ISEA-aligned lessons that staff and volunteers can run in the classroom with educators. ISEA has also spent time in 2022 building the capacity to increase PD offerings in partnership with other organizations, like EGLE, and looks forward to offering more PD for educators in future years.

Building Relationships, Outreach, and Marketing Programs

RELATIONSHIPS WITH K-12 PROGRAMS -

Recruiting diverse audiences for ISEA programs as it expands is important to organization stability. The majority of teachers who participate in ISEA programs are those that readily connect the Great Lakes food web to their curriculum (typically biology teachers), and a marketing expansion into physical science, math, and social studies educators could help those educators see the value in ISEA programming for their classes. It may also increase the draw to ROV and other engineering programs ISEA offers, or plans to offer in the future, expanding the K-12 audience reach ISEA has.

ISEA Schoolship programs are running at capacity with a waitlist, and current infrastructure and staffing does not allow additional programs to run. The education team is working to expand offerings on ISEA's TMKBioStation and in nearby educators' classrooms to provide alternatives for waitlisted groups to participate in ISEA programs and continue the relationship with those audiences. Having the appropriate staffing to engage

with educators this way, and to help them build unique programs that combine ISEA's content strengths, scientific equipment, and campus with the educators' goals will allow ISEA to fund staff year-round, pilot new off-season program ideas, and deepen relationships with educators.

RELATIONSHIPS WITH EDUCATORS -

One of the quickest and most valuable ways to connect ISEA to educators is through funded professional development experiences. ISEA has seen significant return on investment in the GLWFC and 21st CCLC educator PD programs, both building multi-year relationships with educators who bring their students for programs and share their experiences with their colleagues. As difficulties planning field trips continue to mount for educators, creating a relationship with them helps ensure ISEA has a pipeline of educators for programs as capacity expands into the future. Without these programs, the likelihood of attrition as teachers retire or school district rules change is significantly higher.

Presenting ISEA programs to a wide variety of educators, formal and informal, life and physical science, math and humanities disciplines, etc., is important to maintaining a diverse educator pool. ISEA is a staple at MSTA, MAEOE, and other science conferences, but should consider expanding to reach other target audiences (e.g. physics and math teachers, social science teachers).

RELATIONSHIPS WITH COMMUNITY -

The educator community is just one important component of future success. As detailed in this and the 2021 education evaluation report, ISEA is beginning to quantify the places where outreach is delivered in the community through tabled events, visiting lectures, and other outreach events. The education team recommends evaluating ways to partner intentionally with the community through outreach events in order to best reach ISEA's ideal audiences. Further, the intention behind which audiences ISEA should reach through these kinds of events would help establish a protocol for accepting or soliciting invitations to appropriate events in the future.

Staffing Considerations

As summaries of staffing for summer programs described in the [Summer Evaluation Report](#) and Schoolship staffing for spring and fall programs in the [Fall Evaluation Report](#) suggest, ISEA education staff and volunteers are doing significantly more programming with the same number or fewer individuals as in past seasons. Reliance on interns increased dramatically in 2022, and was still not enough to fully staff spring and fall schoolship programs. As a result, program fidelity suffered. Changes have been made in Schoolship program length to lessen the impact on the staff and volunteers implementing programs. This alleviated some feeling of burnout among staff and volunteers, but did not increase the amount of time staff had to work on other projects.

ISEA programs in 2022 fully rebounded to pre-covid levels. However, unlike in 2019, staff played a significantly greater role in program delivery in 2022. Of the instructor slots needing to be filled for teaching roles, **volunteers filled significantly fewer slots in 2022 (321/46% vs 587/68% in 2019)**. This still fills a critical role, as volunteers accounted for nearly half of ISEA's instructors, but is down significantly from 68% in 2019. As a result, **staff filled 195 (38%) of the available roles in 2022**, up from 133 (15%) in 2019. Interns also played an increasingly valuable role in 2022, with **six interns filling 136 slots in spring, alone (20% of overall slots in 2022, and over 30% of spring programs)**. Staffing remained largely unchanged from 2019, with three FTE education staff and a seasonal instructor providing the bulk of staff instruction, and **FTE filling an average of 5-6 programs weekly (and 8+ in busy weeks) in Spring and Fall, up from around 3 programs per week in 2019**, in

addition to their other responsibilities. The seasonal instructor was also tasked with crew responsibilities, making them less available as an instructor, especially in the spring.

Despite the increase in reliance on staff to fill programs, 41 instructor slots went unfilled in schoolship and ROV programs in 2022, which resulted in each of those nearly 41 programs being negatively impacted. **That's 6% of ISEA instructor slots that impacted nearly 30% of programs.** Staff were spread so thinly that they could not cover these open slots - usually they were already teaching elsewhere or had a meeting that could not be rescheduled. At 2022 staffing and programming levels, an additional seasonal full time or FTE educator would drop average programs slightly to 4.3/week, but filling instructor holes would be prioritized to improve programming, meaning that each would need to serve on 5 programs per week to remove all instructor vacancies. See discussion in [Fall Evaluation Report](#) for more details. Ultimately, **changes to the staffing model must be considered for ISEA to continue operating at current capacity**, and significant staffing changes may be required to increase programming year-round and as the campus expands.