

Evaluation of Montrose Settlements Restoration Program 2014 Fishing Outreach Mini-Grant Program



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MSRP Fishing Outreach

Public Information to Restore Lost Fishing Services

The Montrose Settlement Restoration Program (MSRP)¹ allocated \$1 million in its 2005 Final Restoration Plan (RP) and Environmental Impact Statement/Environmental Impact Report for education outreach products and programs, building upon the work of U.S. EPA's Fish Contamination Education Collaborative (FCEC), a federal, state and local partnership which addresses public exposure to contaminated fish in the Southern California coastal region. FCEC focuses on public education about the human health hazards associated with DDT and PCB contamination in fish and provides information to enable the public to reduce their exposure to these contaminants in local fish. MSRP Trustees augmented the existing effort of the FCEC program by providing information to anglers to allow them to make sound decisions about where and which species to fish, and helping anglers consume locally caught fish in a manner that minimized their health risk and exposure to DDTs and PCBs. MSRP worked to develop outreach materials to establish the linkage between the ecology and life history of a particular species of fish and its tendency to bioaccumulate contaminants, and fish species which are free of consumption advisories and locations where these fish can be found. These actions most directly and effectively address the loss of human fishing associated with the Montrose case. The implementation of this public information campaign is still ongoing and has incorporated the updated fish consumption advisories released to the public in June 2009.

MSRP Education Outreach Products

What's the Catch? Comic Book

An initial version of this comic book was developed in 2005 and was later updated and translated into Spanish and Mandarin. Ten thousand copies of the comic book are distributed annually through local education centers, outreach programs, aquaria, and events. New fishing advisory information was incorporated in the latest addition of the comic book printed in 2012.

Southern California Fish Identification Card

An initial version of the fish identification card was developed in 2005 and was later revised to include additional fish images, key sportfishing regulations, and general information updates. In 2014, we enhanced the utility of the fish identification card by indicating which fish species are considered "Do Not Consume" with yellow hazard

¹ The MSRP is a joint federal and state program made up of the following natural resource trustee agencies (or Trustees): National Oceanic and Atmospheric Administration, the U.S. Fish and Wildlife Service, and National Park Service, the California Department of Fish and Wildlife, the California State Lands Commission, and the California Department of Parks and Recreation.

symbols. Ten thousand copies of the fish identification card are distributed annually through local education centers, outreach programs, aquaria, and events.

Fishing Outreach Mini-Grants

In 2014 MSRP issued a ***Request for Proposals*** for education outreach programs which focused on teaching young people safe fishing practices. This report evaluates four mini-grant programs implemented during 2014 (SEA Lab, Marina Del Rey Anglers, City of Los Angeles, and Los Angeles Rod and Reel Club Foundation). The education and outreach programs utilize the MSRP comic book and fish identification card, with interactive components to their programs. Program activities include pier fishing, youth and community workshops, fish identification, safe fish preparation for consumption, safe fishing practices, and DDT/PCB contamination issues.

Fun Fishing Program at SEA Lab



The SEA Lab is a program of the Los Angeles Conservation Corps and is a coastal education facility in Redondo Beach, encompassing an aquarium and a native plant nursery. Since 1997, the SEA Lab has provided marine and habitat conservation projects while the aquarium has provided educational activities for thousands of school children and local South Bay beach community residents and visitors. It also provides job training, employment and internship opportunities for 18- to 24-year-old at-risk young adults (known as corpsmembers) who act as informal educators.

The fifth year of the Fun Fishing Program started in September 2014 and ended in December 2014. During this time period, 658 elementary school students participated in a three-hour Fun Fishing session at the SEA Lab and at Hermosa Beach Pier. Each participant spent 90 minutes at the SEA Lab where they learned about the history of contamination and the impact of DDTs and PCBs on the environment. Students also received a guided tour of the facility and learned how to identify fish that may pose a health risk. Students then headed to the Hermosa Beach Pier for a 90 minute fishing excursion where they learned

basic fishing techniques and proper fish handling. The students also learned how to correctly measure fish and comply with California Department of Fish and Wildlife regulations, to interpret fish consumption advisories, and how to properly fillet and cook fish to minimize their exposure to contaminants. There were twelve participating schools in the targeted communities.

Prior to the field trip, MSRP sent copies of the “What’s the Catch?” comic books to teachers in preparation for the student’s field trip. SEA Lab also sent a form to the teachers with field trip details that included information about using the comic book as a tool before their field trip, proper attire, pre-activities, and pre/post teacher and student surveys.

For this program year, post surveys were provided for teachers and students to evaluate the effectiveness of SEA Lab’s Fun Fishing Program. Survey feedback enabled SEA Lab staff to better understand which program activities worked for which audiences and to adjust the program as necessary. Seventeen teachers responded to the post survey for a 71% response rate.

Usefulness of Comic Book and Fish ID Card

Teachers strongly agree that the comic book was useful in preparing their students for their upcoming SEA Lab visit (71%). The comic book served as a resource that teachers could easily include in the classroom (65%), was in a useful format for presenting information (65%), captured their students’ interest (65%), as well as reinforces content learned during their visit (71%). The survey results for the fish identification card were similar to the responses for the comic book. These results show that the comic book and fish identification cards are a valuable resource to the teachers and the program. Results are shown in Table 1.

Table 1—Usefulness of Comic Book and Fish ID Card

| | Post Visit | |
|---|----------------|-------|
| | Strongly Agree | Agree |
| How Useful is the Comic Book | | |
| Presented useful information for my students | 71% | 24% |
| Captures my students' interest | 65% | 29% |
| Useful format for presenting information | 65% | 29% |
| Resource I can use easily in the classroom | 65% | 29% |
| Useful for preparing students for their visit | 71% | 24% |
| Reinforces content learned during their visit | 71% | 24% |
| How Useful is the Fish ID Card | | |
| Presented useful information for my students | 41% | 53% |
| Captures my students' interest | 41% | 53% |
| Useful format for presenting information | 41% | 53% |
| Resource I can use easily in the classroom | 53% | 41% |
| Useful for preparing students for their visit | 53% | 41% |
| Reinforces content learned during their visit | 53% | 41% |

Number of teacher survey respondents is 17 (71%) post visit from September 2014 to December 2014.

Classroom Discussion of Ocean Stewardship and Fishing Issues

The number of teachers who discussed ocean stewardship or fishing issues with their students at least once a month or more frequently also was assessed. Table 2 shows that the majority of teachers rarely or never discuss most of these topics in the classroom. The topics relating to the importance of taking care of the ocean and marine life and science career opportunities were discussed by some teachers on a more regular basis. This survey data shows that the majority of topics covered by the SEA Lab program were new for the students and the program seems to be introducing topics that are not normally covered in the classroom.

Overwhelmingly, teachers planned to utilize content learned from their visit in the classroom as part of a larger science lesson (76%); incorporate science, marine biology, environmental or conservation issues (88%); or follow up with additional curricula or science lessons (81%). These results are shown in Table 2.

Table 2—How Often do Teachers Discuss Ocean Stewardship and Fishing

| Frequency that Teachers Discuss the Following Topics | Somewhat (1x/week) | Occasionally (1x/month) | Rarely | Never |
|--|--------------------|-------------------------|-----------|----------|
| General information about fishing | 6% | 30% | 35% | 29% |
| General information about marine life | 30% | 35% | 35% | 0% |
| Importance of taking care of ocean and marine life | 35% | 47% | 18% | 0% |
| Opportunities for students to pursue career in science | 53% | 29% | 18% | 0% |
| How DDT/PCB in ocean harms wildlife and people | 0% | 29% | 71% | 0% |
| How to identify fish and which fish are safe to eat | 0% | 18% | 59% | 23% |
| Some commonly caught fish in S. CA are not safe to eat | 0% | 24% | 41% | 35% |
| Ways to safely prepare and eat fish | 0% | 18% | 41% | 41% |
| Bioaccumulation | 0% | 29% | 47% | 24% |
| How fishing is part of many cultures around the world | 17% | 24% | 41% | 18% |
| Plan to Utilize Visit into my Teaching | Yes | Maybe | No | - |
| As part of a larger science lesson in my classroom | 76% | 24% | 0% | - |
| Incorporate science, marine biology, environmental or conservation issues into my regular curriculum | 88% | 12% | 0% | - |
| Follow up with additional curricula or science lessons | 81% | 19% | 0% | - |

Number of teacher survey respondents is 17 (71%) post visit from September 2014 to December 2014.

Teacher Feedback on SEA Lab Activities

All of the teachers surveyed responded strongly agree or agree that the aquarium staff presentations, hands-on activities, and touch tank/animal interaction activities presented useful information, were interesting, pertinent to California Science Content Standards, and stimulated student interest in science careers. Results are shown in Table 3.

Table 3—Teacher Feedback on SEA Lab Activities

| Feedback on SEA Lab Activities | Responded Strongly Agree and Agree | | |
|--|------------------------------------|---------------------|-----------------------|
| | Aquarium Staff Presentations | Hands-on Activities | Touch Tank Activities |
| Presented useful information | 100% | 100% | 100% |
| Interesting | 100% | 100% | 100% |
| Pertinent to CA Science Content Standards | 88% | 94% | 100% |
| Stimulated student interest in science careers | 94% | 100% | 100% |

Number of teacher survey respondents is 17 (71%) post visit from September 2014 to December 2014.

Student Feedback on SEA Lab Activities

Student survey feedback included 472 students for a 72% response rate. Almost all of the students (97%) indicated that they enjoyed the fishing trip and activities that they did that day. Students responded very positively on all indicators to SEA Lab activities and felt a strong sense of environmental stewardship, with 95% responding that the ocean and marine life are important and that they need to take care of them. They also took away the main messages of the MSRP program such as safe fishing consumption practices (87%), knowing that some fish are not safe to eat (93%), and knowing that chemicals can harm wildlife and people (92%). Results are shown in Table 4.

Table 4—Student Feedback on SEA Lab Activities

| Student Feedback | Yes | Not Sure | No |
|--|-----|----------|------|
| I enjoyed the fishing trip and activities we did today | 97% | 2.5% | 0.5% |
| I learned how to identify fish and which fish are safe to eat | 84% | 13% | 3% |
| I learned that a few types of fish in S. CA are not safe to eat | 93% | 5% | 2% |
| I learned how chemicals can harm wildlife and people from the comic book | 92% | 4% | 4% |
| I learned how chemicals bioaccumulate up the food chain | 78% | 18% | 4% |
| If you eat fish, do you plan to eat fish which are safe to eat? | 87% | 11% | 2% |
| I learned to look for signs on piers telling me which fish are not safe to eat | 92% | 5% | 3% |
| I learned to return fish gently to the ocean if I don't plan on eating them | 86% | 7% | 7% |
| The ocean and marine life are important and we need to take care of them | 95% | 4% | 1% |

Number of student survey respondents is 472 (72%) post visit from September 2014 to December 2014.

Teacher and Student Benefits from SEA Lab Visit

Teacher feedback on the Fun Fishing Program described multiple benefits of participation for themselves and their students. Students got to participate in many hands-on activities and view marine life not available at their schools. Teachers learned a great deal of new information that they could use with their students in the classroom and were pleased to see their students so engaged and excited about marine life. Teachers felt that their students' participation in the Fun Fishing Program was beneficial. For many of their students, it was their first visit to the ocean or fishing. They were also able to better learn about contamination, safe fishing and consumption practices, and environmental stewardship and conservation. Teachers' direct quotes included the following:

- My students had the opportunity to interact with live sea animals! All of my students were amazed to see and touch these sea animals (for some of them it was their first time seeing a marine animal at a close range) Thank you so much for providing this opportunity to my students.
- The visit is a reference point for me to use with my students throughout the year. When we were discussing food chains last week, I referred to our visit several times.
- It was a great way to introduce the students to sea life and marine biology.
- The students will have something to connect to when we talk about the environment and conservation. It will be useful to draw on information from our trip when doing our Earth science.
- It was nice to see my students interacting with the SEA lab staff. Their interest in learning about marine life was quite evident.

Marina Del Rey Anglers (MDRA)



MDRA was founded in 1975 as a fishing club. The board of directors is comprised of dedicated professionals and retirees. The club already successfully leads youth fishing trips, conducts major fishing tournaments and partners with the California Department of Fish and Wildlife, Hubbs Seaworld Research Institute and United Anglers of Southern California on a major White Sea Bass restoration project.

MDRA completed 28 boat fishing trips for 716 children within the Santa Monica Bay from July 2014 to August 2014. The children came from at-risk environments in the Los Angeles area and ranged from 7 - 19 years of age. During the fishing trips, MDRA taught the children and their counselors about local fish contamination and safe fishing practices and introduced the kids to the MSRP "What's the Catch" comic book. Copies of the "What's the Catch" comic book and the Fish Identification Card were distributed to the children to take home and share with their families MDRA explained how to identify each of the fish that were caught and which ones are recommended for consumption and which ones should not be consumed. Fishing staff on the boat showed the kids and counselors how to properly fillet a fish for the safest possible consumption.

Youth counselor feedback (n=52, 100% response rate) on the MDRA boat fishing trips was extremely positive. Counselors felt that all of the kids enjoyed the fishing trip and activities they did that day and also were able to identify fish and which fish are safe to eat. They also felt that the children learned about how DDT, PCB, and mercury impact people (96%), and that they understand they have a responsibility to be good stewards of the ocean and marine life (100%). Counselor feedback is shown below in Table 5.

Table 5—Counselor Feedback on MDRA Pier Fishing Activities

| Student Feedback | Strongly Agree and Agree |
|---|--------------------------|
| Our kids enjoyed the fishing trip and activities we did today | 98% |
| The kids learned to identify fish and which fish are safe to eat | 98% |
| I received the comic book and the fish cards and will assure the kids read them and take them home to their families. | 90% |
| The kids learned that a small number of locally caught fish species are not safe to eat | 100% |
| The kids learned about how chemicals, DDTs, PCBs, and mercury can harm wildlife and people | 96% |
| The kids understand we have a responsibility to be good stewards and preserve our ocean's resources | 100% |
| I plan to eat fish which are safe to eat and reinforce this to our kids and their families | 98% |

Number of youth counselor survey respondents is 52 (100%) post fishing trip from July 2014 to August 2014.

Youth feedback (n=663, 93% response rate) on MDRA boat fishing trips was also extremely positive. Youth enjoyed the fishing trip and activities (85%) and about how chemicals spilled in the ocean harmed wildlife and people (87%). Results are shown in Table 6.

Table 6—Youth Feedback on MDRA Pier Fishing Activities

| Youth Feedback | Agree |
|---|-------|
| I enjoyed the fishing trip and activities we did today | 85% |
| I plan to eat fish which are safe to eat | 80% |
| I learned how to identify fish and which fish are safe to eat | 79% |
| I learned that a few types of fish caught in Southern California are not safe to eat | 84% |
| I learned about how chemicals were spilled in the ocean and how they can harm wildlife and people | 87% |
| I plan to teach my family which fish which are safe to eat and which ones are not good to eat | 74% |
| I took the comic book and Fish ID card home to share it with my family | 75% |

Number of youth survey respondents is 663 (93%) post fishing trip from July 2014 to August 2014.

Lead youth counselors clearly felt that their kids benefitted from the pier fishing experience and felt it was a healthy way for them to enjoy themselves and experience the ocean. Counselors’ direct quotes when asked what the strongest aspects of the program were include the following:

- Gaining knowledge of what fish to eat, educating kids about ecosystem and life cycle.
- The education factor and the exposure to something completely different.

- The "hands on" experience with the crew's enthusiasm made the experience so enjoyable for our kids.
- The educational introduction prior to the beginning of the fishing trip.
- Learning a lot of different species of fish and what was being dumped in the ocean.
- Learning about the safety tips involving fishing. And also, about the types of fish we need to stay away from.
- Conservation, Catch & release. What is safe and why others are not.
- Helping the kids understand the connection between themselves and their environment and the food chain.

Cabrillo Beach Pier Fishing Program



The City of Los Angeles, Department of Recreation and Parks (City) operates and maintains the City's 16,000 acres of parkland, over 400 parks, 180 recreation centers, 59 pools, and two beaches. The City started a Cabrillo Beach Pier Fishing Program in 1988 instructing over 1,000 youth on how to fish. Due to budget constraints, the program did not receive funding and was cancelled for the summer of 2010. MSRP was able to provide funds to continue this program along with an educational component about safe fish consumption and the impact of the chemicals DDTs and PCBs to humans along the Los Angeles coastline.

From July to August 2014, the Cabrillo Beach Pier Fishing Program served 597 youth and from the greater Los Angeles area, ranging from 7-19 years old. Youth from various recreation center day camps run by the Department of Recreation and Parks and were transported to the Cabrillo Pier. These recreation center day camps were located in low-income areas of Los Angeles including Alpine, Banning, Cypress, El Sereno, Glassell Park, Green Meadows, Harbor City, Rancho Cienega, and Van Ness. Fifty-eight percent of the youth were boys and 42% were girls.

The fishing programs lasted three hours including a hands-on fishing activity on Cabrillo Pier. Prior to the fishing activity, City staff handed out comic books and fish identification cards to all participants, explained the risks associated with consuming fish which contained high concentrations of DDTs and PCBs, demonstrated ways to identify contaminated fish, and discussed the group’s fishing session at the Cabrillo Beach Pier, a highly contaminated area. Youth received instruction on safe fishing practices, including how to bait a hook, cast a fishing line, and catch and release techniques. The majority of youth participating on the fishing trips enjoyed the trip (96%), learned that some fish caught in Southern California are not safe to eat (85%), and felt a sense of environmental stewardship in the importance of marine life and the need to take care of them (94%). Youth feedback (n=597, 100% response rate) on pier fishing is in Table 7 below.

Table 7—Youth Feedback on Cabrillo Beach Pier Fishing Activities

| Youth Feedback | Responded Yes |
|---|---------------|
| I enjoyed the fishing trip and activities we did today | 96% |
| I learned how to identify fish and which fish are safe to eat | 83% |
| I learned how to filet a fish today and that this is the safest part of the fish to eat | 84% |
| I learned that a few types of fish caught in Southern California are not safe to eat | 85% |
| I plan to eat fish which are safe to eat | 86% |
| I enjoyed the tour at the Cabrillo Marine Aquarium | 95% |
| I learned how chemicals were spilled in the ocean and how they can harm wildlife and people | 88% |
| I want to learn more about fishing and marine life in the ocean | 77% |
| The ocean and marine life are important and we need to take care of them | 94% |

Number of youth survey respondents is 597 (100%) post fishing trip from July 2014 to August 2014.

Los Angeles Rod and Reel Club Foundation



LARRCF was founded in 1951 as a nonprofit to provide children in need with the opportunity to participate in recreational fishing. For 62 years, the LARRCF has sponsored and provided volunteers for various youth fishing programs including an annual Kids Fishing Trip since which in total has taken more than 15,000 kids fishing. The Foundation also conducts a yearly Trout Derby at Hansen Dam, attended by 40 to 60 severely handicapped youth participants from two Los Angeles Unified School District facilities. Another annual event called Marine Mentors, consists of two fishing boat charter trips departing Marina Del Rey for approximately 30 at-risk youth. The LARRCF also currently sponsors the fishing club at Port of Los Angeles High School in San Pedro, California, providing speakers and arranging local fishing trips.

LARRCF sought funding for their annual Kid's Fishing Trip from MSRP this year. They took 159 youth for a half-day fishing charter trip. The children came from organizations that work with at-risk youth throughout the Los Angeles area and ranged from 6 - 22 years of age. During the fishing trips, LARRCF volunteers taught the children and their counselors about local fish contamination and safe fishing practices and introduced the kids to the MSRP "What's the Catch" comic book. Copies of the "What's the Catch" comic book and the Fish Identification Card were distributed to the children to take home and share with their families. LARRCF explained how to identify each of the fish that were caught and which ones are recommended for consumption and which ones should not be consumed. Fishing staff on the boat showed the kids and counselors how to properly fillet a fish for the safest possible consumption.

Youth counselor feedback (n=9, 100% response rate) on the LARRCF boat fishing trips was extremely positive. Counselors felt that all of the kids enjoyed the fishing trip and activities they did that day and also were able to identify fish and which fish are safe to eat. They also felt that the children learned about how DDT, PCB, and mercury impact people (100%), and that they understand they have a responsibility to be good stewards of the ocean and marine life (100%). Counselor feedback is shown below in Table 8.

Table 8- Counselor Feedback on LA Rod and Reel Club Fishing Activities

| Counselor Feedback | Strongly Agree and Agree |
|---|--------------------------|
| Our kids enjoyed the fishing trip and activities we did today | 100% |
| The kids learned to identify many fish which are safe to eat | 100% |
| The kids learned that a small number of fish species locally caught are not safe to eat. | 100% |
| The kids learned about how the chemicals, DDT, PCBs and mercury can harm wildlife and people. | 100% |
| I received the comic book, "What's the Catch?" and the fish cards and will assure the kids read them and take them home to their families | 100% |
| I plan to eat fish which are safe to eat and reinforce this to our kids and their families. | 100% |
| The kids better understand we have a responsibility to be good stewards and preserve our ocean's resources. | 100% |

Number of Lead counselor respondents is 9 (100%) post fishing trip.

Counselors' direct quotes when asked what the strongest aspects of the program were include the following:

- The volunteer support and guidance provided. Our students had an opportunity to meet new mentors and develop their love for fishing.
- The fishing aspect was extremely fun and rewarding for the kids.
- The hands-on experience, learning about the fish and how some were dangerous to eat.

Youth feedback (n=135, 85% response rate) on LARRCF boat fishing trips was also extremely positive. Youth enjoyed the fishing trip and activities (91%) and about how chemicals spilled in the ocean harmed wildlife and people (88%). The youth also learned that a few types of fish caught in southern California are not safe to eat (84%). Results are shown in Table 9.

Table 9- Youth Feedback on LA Rod and Reel Club Fishing Activities

| Youth Feedback | Responded Yes |
|---|---------------|
| I enjoyed the fishing trip and activities we did today. | 91% |
| I learned how to identify many fish which are safe to eat. | 81% |
| I learned that a few types of fish caught in Southern California are not safe to eat. | 84% |
| I learned about how chemicals were released in the ocean and how they can harm wildlife and people. | 88% |
| I plan to eat fish which are safe to eat. | 82% |
| I plan to teach my family which fish are good to eat and which ones are not good to eat. | 75% |
| I will take the comic book and fish card home and share them with my family. | 81% |

Number of youth survey respondents is 135 (85%) post fishing trip.

Key Messages

MSRP developed a set of key and secondary messages for their program in 2014 which they encouraged their fishing mini-grant program recipients to incorporate into their programming. This was the first year that mini-grant recipients incorporated these messages. Through the fishing activity, the programs touched upon the key and secondary messages.

Key Messages

- Fishing is one of the most widely pursued outdoor activities in the world. The sport of fishing provides kids/families a direct connection to nature. (1)
- There are many fish that you can catch in southern California that are safe to eat. (2)
- A small number of fish that are commonly caught in southern California are not safe to eat because of contaminants. (3)

Secondary Messages

- DDT and PCB contaminants bioaccumulate up the food chain. (4)
- DDTs and PCBs, harmful chemicals to wildlife and humans, were dumped into the ocean for more than 30 years in southern California and are still in the environment today. (5)
- Eating only the filet and throwing away the insides of the fish is a safe way to eat. (6)
- Grilling a filet is the safest way to prepare fish to eat. (7)
- Look for signs on piers telling you which fish are not safe to eat. (8)
- All fish are an important part of the ocean ecosystem. If you do not keep a fish for the table, gently return it to the ocean. (9)

- You play an important role in preserving our ocean resources. Follow fishing rules and regulations to be good ocean stewards. (10)

Table 10—Implementation of Key Messages

| Use of Key (1-3) and Secondary Messages (4-10) | Relates to Message | Students Responding Yes/Agree (%) | | | LARRCF |
|---|--------------------|-----------------------------------|------|----------------------------|--------|
| | | SEA Lab | MDRA | City of Los Angeles (City) | |
| a) Plan to eat fish which are safe to eat | 2 | 87 | 80 | 86 | 82 |
| b) Learned how to identify fish and which fish are safe to eat in this area | | 84 | 79 | 83 | 81 |
| a) A few fish are not safe to eat in this area | 3 | 93 | 84 | 85 | 84 |
| Contaminants bioaccumulate up the food chain | 4 | 78 | -- | -- | -- |
| a) Chemicals can harm wildlife & people | 5 | 93 | 87 | 88 | 88 |
| Grilling and eating fillet safest way to eat fish | 6, 7 | -- | -- | 84 | -- |
| Look for signs telling which fish are not safe to eat | 8 | 92 | NA | -- | NA |
| Return fish to ocean if you do not plan to eat them | 9 | 86 | -- | -- | -- |
| a) Ocean & marine life are important, we need to take care of them | 10 | 95 | -- | 94 | -- |

Students responded yes to SEA Lab and Cabrillo Beach Pier surveys and agree on MDR Anglers surveys. A double dash indicates where data was not collected for a particular message. An “NA” notation indicates that this question doesn’t apply to the group since they were fishing from a boat.

Table 10 indicates the degree to which key elements of MSRP education outreach were incorporated into the fishing mini-grant programs. This includes the use of key and secondary messages (see previous section for these messages) and survey items from youth participant surveys. We can see in Table 10 that two of three the key messages (2 and 3) and one of the secondary messages (5) were incorporated by all programs and had at least a 79% or higher rate of retention from all of the programs. Secondary messages (4, 6, 7, 8, 9, and 10) were emphasized differently among the various programs and with a 69% or higher retention for all of the programs. The surveys were administered to youth

immediately after the fishing activity for all programs except for the SEA Lab program so longer term impacts of these messages cannot be determined at this time.

Conclusions

The fishing mini-grant programs accomplished the goals of the MSRP program in relaying the key and secondary messages from the program, and disseminating educational materials such as the comic book and fish identification card.

Survey instruments for teachers, students, youth counselors, and youth have proven to be useful tools to evaluate the effectiveness of the mini-grant programs in conveying key messages and to solicit feedback on future improvements to the programs. Some additional slight revisions of the survey instruments for all mini-grant programs were done for the 2015 program year. The revisions allow for consistency and collection of additional pieces of information.

The MSRP program benefits greatly from funding different types of programming. The SEA Lab program targets teachers and their students which includes Target I schools. The SEA Lab program can be reinforced because of the long term relationship that teachers have with their students during the course of the school year. The City program takes advantage of informal opportunities of learning by taking youth fishing who participate in their recreation center day camps during the summer months. MDRA and LARRCF work with youth camps and programs that have disadvantaged or disabled children which also lack the funding to take these youth fishing from a boat. These programs have a diversity of beneficial impacts reaching different populations of students and youth. They all offer different ways for MSRP to connect youth to fishing opportunities and to conduct education and outreach about safe fishing practices.