

# Evidence-based community input for CyanoHABs signage

Lori Copan

Chief, Community Participation, Education and Evaluation  
CDPH, Environmental Health Investigations Branch (EHIB)

May 31, 2016 to select stakeholders



# Acknowledgements

## **CCHAB Guidance Update Subcommittee**

### **EHIB Staff**

- Alcira Dominguez, Health Program Specialist, EHIB
- Mariana Ponte-Cordova, Public Health Associate, EHIB
- Jessica Parry, Environmental Justice MPH Intern, EHIB

### **Impact Assessment Contractors**

- Beth Saiki, Health Educator/Evaluator
- Ian Walker, Health Educator
- Lauren Wohl-Sanchez, Graphic Designer



# Outline

- Background Information
- Sign Examples
- Participant Demographics
- Report of Findings
- Discussion on next steps
- Customizable signage plans (Sandy and Lauren)

# Background Information

# Brief Scientific Background

## Sandy McNeel



Environmental  
Justice

Health Equity



The ability of US adults to use printed and written health-related information to function in society, to achieve one's personal goals, and to develop one's knowledge and potential.

# CAUTION

Harmful algae may be present in these waters.  
For your family's safety:



**DO NOT SWIM OR WADE** near algae or scum



**DO NOT** let pets or livestock go into or drink the water, or eat scum on the shoreline.



**KEEP CHILDREN AWAY** from algae in the water or on the shore.



For fish caught here, **THROW AWAY GUTS AND CLEAN FILLETS** with tap water or bottled water before cooking.



**DO NOT** drink this water or use it for cooking.



**DO NOT** eat shellfish from these waters.

Call your doctor or veterinarian if you or your pet get sick after going in the water.

For more information, contact:

# WARNING

Toxins from algae in these waters can harm people and kill pets and livestock



**NO SWIMMING**



**DO NOT** let pets or livestock go into or drink the water, or go near the scum.



**STAY AWAY** from scum, and cloudy or discolored water.



**DO NOT** eat shellfish from these waters.



**DO NOT** use these waters for drinking or cooking. Boiling or filtering will not make the water safe.



For fish caught here, **THROW AWAY GUTS AND CLEAN FILLETS** with tap water or bottled water before cooking.

**For people, the toxins can cause:**

- Skin rashes, eye irritation
- Diarrhea, vomiting

**For animals, the toxins can cause:**

- Diarrhea, vomiting
- Convulsions and death

Call your doctor or veterinarian if you or your pet get sick after going in the water.

# DANGER

Toxins from algae in these waters can harm people and kill pets and livestock



**STAY OUT OF THE WATER UNTIL FURTHER NOTICE. Do not touch green scum in the water or on shoreline.**



**DO NOT** let pets or livestock drink or go into the water or eat algal scum.



**DO NOT** eat fish or shellfish from these waters.



**DO NOT** use these waters for drinking or cooking. Boiling or filtering will not make the water safe.

**For people, the toxins can cause:**

- Skin rashes, eye irritation
- Diarrhea, vomiting

**For animals, the toxins can cause:**

- Diarrhea, vomiting
- Convulsions and death

Call your doctor or veterinarian if you or your pet get sick after going in the water.

For more information, contact:

# Pre-test Field Testing Instrument





Signs

# CAUTION

Harmful algae may be present in these waters.  
For your family's safety:



**STAY AWAY FROM** algae and scum in the water.



**DO NOT** let pets or livestock go into or drink the water, or eat scum on the shore.



**KEEP CHILDREN AWAY** from algae in the water or on the shore.



For fish caught here, **THROW AWAY GUTS AND CLEAN FILLETS** with tap water or bottled water before cooking.



**DO NOT** drink this water or use it for cooking.



**DO NOT** eat shellfish from these waters.

Call your doctor or veterinarian if you or your pet get sick after going in the water.  
For more information, contact:

# PRECAUCIÓN

Puede haber algas dañinas en estas aguas.  
Para protección de su familia:



**MANTÉNGASE ALEJADO** de algas y agua espumosa.



**NO** deje que sus mascotas o ganado se metan o beban el agua, o coman la espuma lamosa en la orilla del agua.



**MANTENGA A LOS NIÑOS ALEJADOS** de algas en el agua o orilla del agua.



Al pescado que pesque aquí, debe **QUITARLE Y TIRAR LOS INTESTINOS A LA BASURA Y LIMPIAR LOS FILETES** con agua de la llave o embotellada.



**NO** beba de esta agua o use para cocinar.



**NO** coma mariscos de estas aguas.

Llame a su médico o veterinario si usted o su mascota se enferman después de meterse al agua.  
Para obtener más información, comuníquese con:

# WARNING

## Toxins from algae in these waters can harm people and kill pets and livestock



**NO SWIMMING**



**STAY AWAY** from scum, and cloudy or discolored water.



**DO NOT** use these waters for drinking or cooking. Boiling or filtering will not make the water safe.



**DO NOT** let pets or livestock go into or drink the water, or go near the scum.



**DO NOT** eat shellfish from these waters.



For fish caught here, **THROW AWAY GUTS AND CLEAN FILLETS** with tap water or bottled water before cooking.

### For people, the toxins can cause:

- Skin rashes, eye irritation
- Diarrhea, vomiting

### For animals, the toxins can cause:

- Diarrhea, vomiting
- Convulsions and death

Call your doctor or veterinarian if you or your pet get sick after going in the water.

For more information, contact:

# ADVERTENCIA

## Toxinas de algas en estas aguas pueden causar daño a la gente y matar animales domésticos y de ganado



**PROHIBIDO NADAR.**



**NO** deje que sus mascotas o ganado se metan o beban el agua, o se acerquen a la espuma lamosa.



**MANTÉNGASE ALEJADO** de la espuma lamosa, y agua turbia o descolorida.



**NO** coma mariscos de estas aguas.



**NO** use esta agua para beber o cocinar. Hervir o filtrar el agua no hace que sea segura.



Al pescado que pesque aquí, **DEBE QUITARLE Y TIRAR LOS INTESTINOS A LA BASURA Y LIMPIAR LOS FILETES** con agua de la llave o embotellada antes de cocinarlo.

### En las personas las toxinas pueden causar:

- Erupciones en la piel, irritación en los ojos
- Diarrea, vómito

### En los animales las toxinas pueden ocasionar:

- Diarrea, vómito
- Convulsiones y muerte

Llame a su médico o veterinario si usted o su mascota se enferman después de meterse al agua. Para obtener más información, comuníquese con:

# DANGER

**Toxins from algae in these waters can harm people and kill pets and livestock**



**STAY OUT OF THE WATER UNTIL FURTHER NOTICE. Do not touch scum in the water or on shore.**



**DO NOT** let pets or livestock drink or go into the water or go near the scum.



**DO NOT** eat fish or shellfish from these waters.



**DO NOT** use these waters for drinking or cooking. Boiling or filtering will not make the water safe.

**For people, the toxins can cause:**

- Skin rashes, eye irritation
- Diarrhea, vomiting

**For animals, the toxins can cause:**

- Diarrhea, vomiting
- Convulsions and death

Call your doctor or veterinarian if you or your pet get sick after going in to the water.

For more information, contact:

# PELIGRO

**Toxinas de algas en estas aguas pueden causar daño a la gente y matar animales domésticos y de ganado**



**MANTÉNGASE LEJOS DEL AGUA HASTA NUEVO AVISO. No toque la espuma lamosa en el agua u orilla del agua.**



**NO** deje que sus mascotas o ganado beban o se metan al agua, o se acerquen a la espuma lamosa.



**NO** coma pescado o mariscos de estas aguas.



**NO** use esta agua para beber o cocinar. Hervir o filtrar el agua no hace que sea segura.

**En las personas** las toxinas pueden causar:

- Erupciones en la piel, irritación en los ojos
- Diarrea, vómito

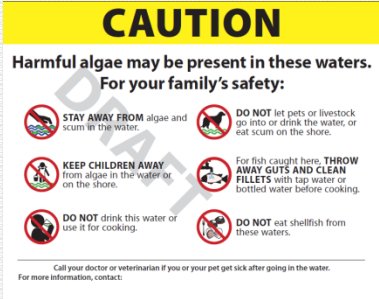
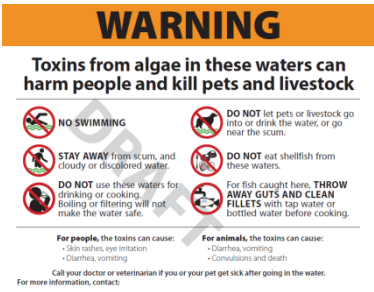
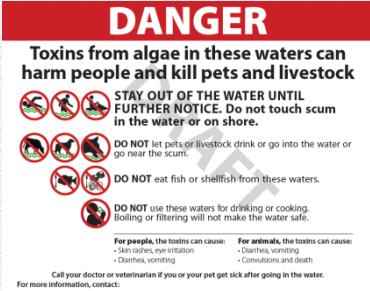
**En los animales** las toxinas pueden ocasionar:

- Diarrea, vómito
- Convulsiones y muerte

Llame a su médico o veterinario si usted o su mascota se enferman después de meterse al agua. Para obtener más información, comuníquese con:

# Participant Demographics

# Participant Recruitment

Signs	Participants (N= 40)
 <p><b>CAUTION</b></p> <p>Harmful algae may be present in these waters. For your family's safety:</p> <ul style="list-style-type: none"> <li><b>STAY AWAY FROM</b> algae and scum in the water.</li> <li><b>DO NOT</b> let pets or livestock go into or drink the water, or eat scum on the shore.</li> <li><b>KEEP CHILDREN AWAY</b> from algae in the water or on the shore.</li> <li>For fish caught here, <b>THROW AWAY GUTS AND CLEAN FILLETS</b> with tap water or bottled water before cooking.</li> <li><b>DO NOT</b> drink this water or use it for cooking.</li> <li><b>DO NOT</b> eat shellfish from these waters.</li> </ul> <p>Call your doctor or veterinarian if you or your pet get sick after going in the water. For more information, contact:</p>	14
 <p><b>WARNING</b></p> <p>Toxins from algae in these waters can harm people and kill pets and livestock</p> <ul style="list-style-type: none"> <li><b>NO SWIMMING</b></li> <li><b>STAY AWAY</b> from scum, and cloudy or discolored water.</li> <li><b>DO NOT</b> use these waters for drinking or cooking. Boiling or filtering will not make the water safe.</li> <li><b>DO NOT</b> let pets or livestock go into or drink the water, or go near the scum.</li> <li><b>DO NOT</b> eat shellfish from these waters.</li> <li>For fish caught here, <b>THROW AWAY GUTS AND CLEAN FILLETS</b> with tap water or bottled water before cooking.</li> </ul> <p><b>For people, the toxins can cause:</b> - Skin rashes, eye irritation - Diarrhea, vomiting</p> <p><b>For animals, the toxins can cause:</b> - Diarrhea, vomiting - Convulsions and death</p> <p>Call your doctor or veterinarian if you or your pet get sick after going in the water. For more information, contact:</p>	14
 <p><b>DANGER</b></p> <p>Toxins from algae in these waters can harm people and kill pets and livestock</p> <ul style="list-style-type: none"> <li><b>STAY OUT OF THE WATER UNTIL FURTHER NOTICE. Do not touch scum in the water or on shore.</b></li> <li><b>DO NOT</b> let pets or livestock drink or go into the water or go near the scum.</li> <li><b>DO NOT</b> eat fish or shellfish from these waters.</li> <li><b>DO NOT</b> use these waters for drinking or cooking. Boiling or filtering will not make the water safe.</li> </ul> <p><b>For people, the toxins can cause:</b> - Skin rashes, eye irritation - Diarrhea, vomiting</p> <p><b>For animals, the toxins can cause:</b> - Diarrhea, vomiting - Convulsions and death</p> <p>Call your doctor or veterinarian if you or your pet get sick after going in the water. For more information, contact:</p>	12

# Participant Gender and Age

	CAUTION (n=14)		WARNING (n=14)		DANGER (n=12)		TOTAL (n=40)	
	n	%	n	%	n	%	n	%
<b>Gender</b>								
Male	6	42.9	6	42.9	5	41.7	17	42.5
Female	8	57.1	8	57.1	7	58.3	23	57.5
<i>Total %</i>		100.0		100.0		100.0		100.0
<b>Age</b>								
14-17 years	0	0.0	1	7.1	1	8.3	2	5.0
18-29 years	2	14.2	1	7.1	1	8.3	4	10.0
30-49 years	6	42.9	6	42.9	2	16.7	14	35.0
50-65 years	2	14.2	4	28.6	4	33.3	10	25.0
65 and above	4	28.6	2	14.2	4	33.3	10	25.0
<i>Total %</i>		100.0		100.0		100.0		100.0



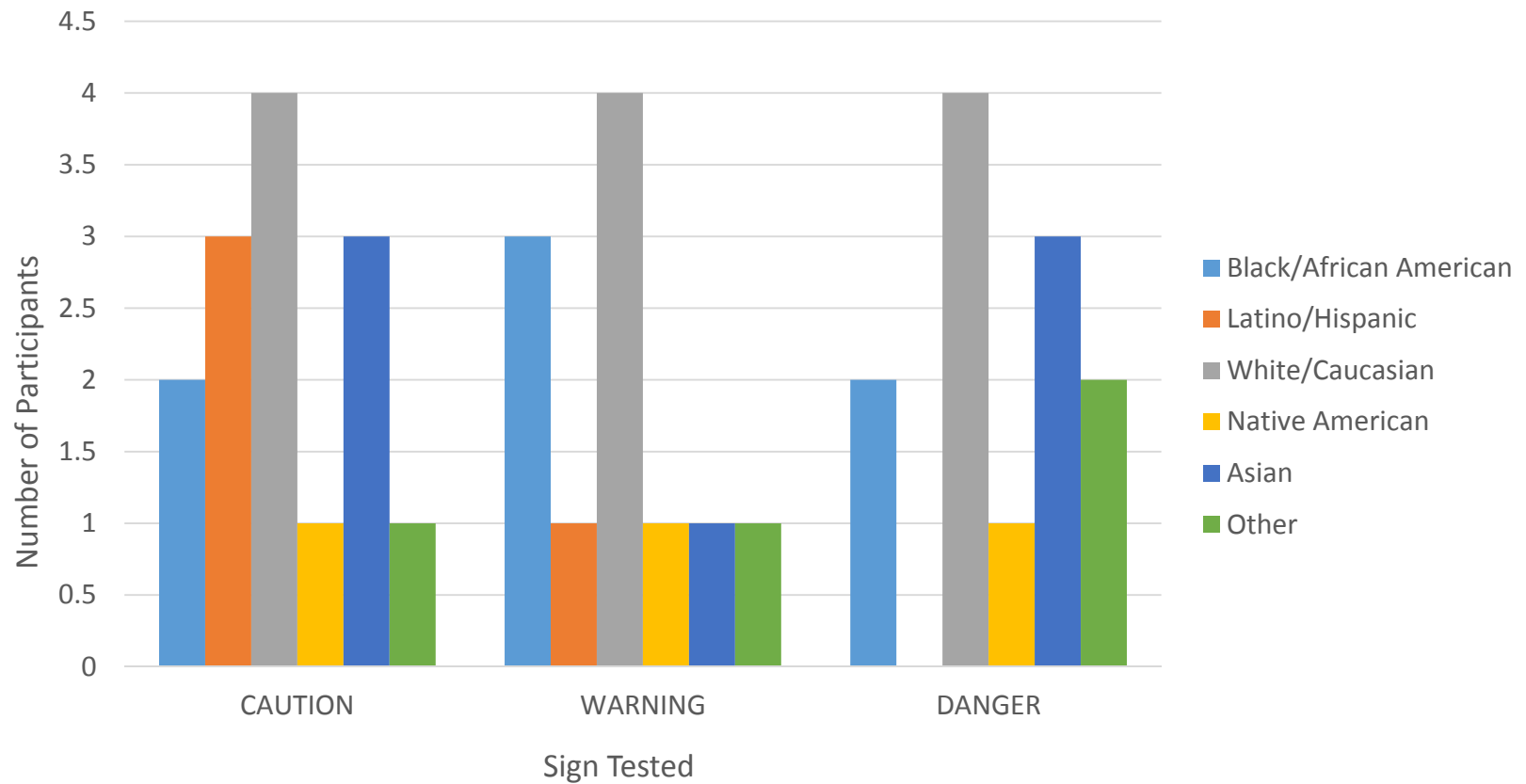
## Participant Race/Ethnicity

Race/Ethnicity	N	%
Caucasian	12	30.0
Asian	10	25.0
Black/African Am.	7	17.5
Latino/Hispanic	4	10.0
Native American	3	7.5
Other	4	10.0
<i>Total %</i>	40	100.0

---



# Number of participants for each sign pilot test by race/ethnicity



# Participant Primary Language

	CAUTION (n=14)		WARNING (n=8)		DANGER (n=12)		TOTAL (n=40)	
	n	%	n	%	n	%	N	%
Primary Language								
English	10	71.4	11	78.6	9	75.0	30	75.0
Spanish	1	7.1	1	7.1	0	0.0	2	5.0
Mien	1	7.1	0	0.0	3	25.0	4	10.0
Khmu (Lao)	2	14.2	2	14.2	0	0.0	4	10.0
<i>Total %</i>		100.0		100.0		100.0		100.0

# Participant Education

Education	N	%
None	5	12.5
Elementary School	2	5.0
Middle School	2	5.0
Some High School	12	30.0
High School Degree	5	12.5
Associate's Degree	4	10.0
Some College	8	20.0
Bachelor's Degree	2	5.0
<i>Total %</i>		100.0

# Sign Icons

## CAUTION SIGN

*“In your opinion, what do you think this picture is trying to say?”*



Stay away from algae and scum in the water.

Understood the icon's message:	Yes	No
Number (n=14)	9	5
Percentage	64.3%	35.7%
Response	<p><i>Additional comments:</i></p> <ul style="list-style-type: none"><li>• Green lines look like seaweed</li><li>• At first it looks like someone diving</li></ul>	<p><i>Examples:</i></p> <ul style="list-style-type: none"><li>• Something you shouldn't be touching (but did not recognize as algae).</li><li>• Dirty water.</li><li>• There is something in the water.</li></ul>

## CAUTION SIGN

*“In your opinion, what do you think this picture is trying to say?”*



Keep children away from algae  
in the water or on the shore.

Understood the icon's message:	Yes	No
Number (n=14)	9	5
Percentage	64.3%	35.7%
Response	n/a	<i>Examples:</i> <ul style="list-style-type: none"><li>• Did not mention child</li><li>• Not sure, something with bucket and sand</li><li>• Holding a bucket to get something in water</li></ul>

# DANGER SIGN

*“In your opinion, what do you think this picture is trying to say?”*



**Do Not** let pets or livestock drink or go into the water or go near the scum.

<b>Understood the icon's message:</b>	<b>Yes</b>	<b>No</b>
<b>Number (n=12)</b>	9*	3
<b>Percentage</b>	75.0%	25.0%
<b>Response</b>	n/a	<i>Examples:</i> <ul style="list-style-type: none"><li>• Dog that is tired and stopped to rest</li><li>• Warning there are dogs around the lake</li></ul>

\* One participant was initially unsure about the icon when looking from a farther distance

# DANGER SIGN

*“In your opinion, what do you think this picture is trying to say?”*



**Stay out of the water until further notice.** Do not touch sum in the water or on the shore.

Understood the icon's message:	Yes	No
Number (n=12)	9	3
Percentage	75.0%	25.0%
Response	n/a	<i>Examples:</i> <ul style="list-style-type: none"><li>• Unsure if the icon was a jet-ski</li><li>• A person on top of animal</li></ul>



# DANGER SIGN

*“In your opinion, what do you think this picture is trying to say?”*

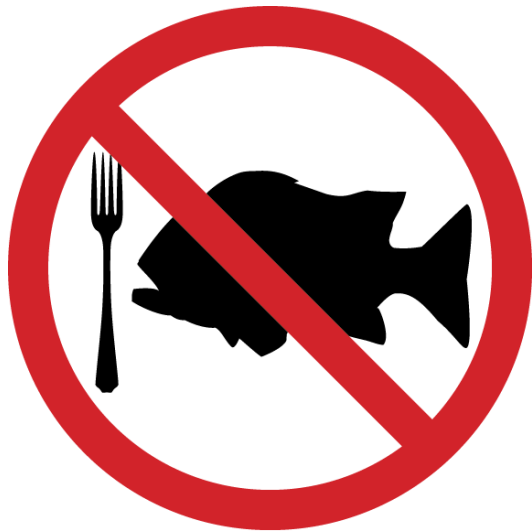


**Do Not** let pets or livestock drink or go into the water or near the scum.

Understood the icon's message:	Yes	No
Number (n=12)	8	4
Percentage	66.6%	33.3%
Response	n/a	<i>Examples:</i> <ul style="list-style-type: none"><li>• No animals allowed</li><li>• Cow eating the grass</li></ul>

# DANGER SIGN

*“In your opinion, what do you think this picture is trying to say?”*



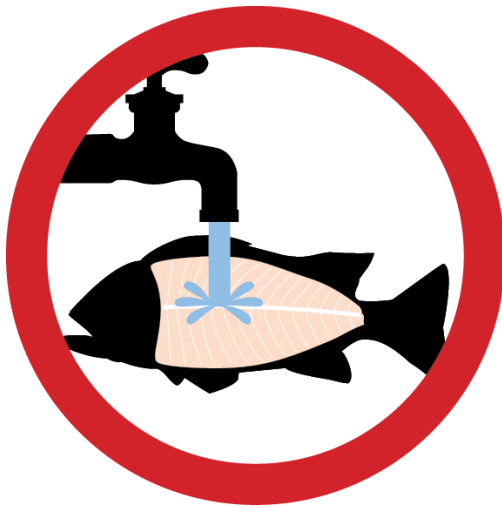
**Do Not** eat fish or shellfish  
from these waters.

Understood the icon's message:	Yes	No
Number (n=12)	10	2
Percentage	83.3%	16.7%
Response	n/a	<i>Examples:</i> <ul style="list-style-type: none"><li>You can't go get the fish because the water is dirty</li></ul>

## CAUTION SIGN

## WARNING SIGN

*“In your opinion, what do you think this picture is trying to say?”*



For fish caught here, **Throw Away Guts and Clean Fillets** with tap water or bottled water before cooking.

Understood the icon's message:	Yes	No
Number (n=28)	14	14
Percentage	50%	50%
Response	<p><i>Examples</i></p> <ul style="list-style-type: none"> <li>• You should clean the fish</li> <li>• Wash fish when you catch it</li> </ul>	<p><i>Examples:</i></p> <ul style="list-style-type: none"> <li>• Station to wash fish</li> <li>• Don't wash fish with faucet water</li> <li>• Don't clean the fish</li> </ul>

## WARNING SIGN

## DANGER SIGN

*“In your opinion, what do you think this picture is trying to say?”*



No Swimming.

**Stay Out Of the Water Until Further Notice.** Do not touch scum in the water or on the shore.

Understood the icon's message:	Yes	No
Number (n=26)	23	3
Percentage	88.5%	11.5%
Response	n/a	<i>Examples:</i> <ul style="list-style-type: none"> <li>• Walking</li> <li>• Do not go there</li> <li>• Safety</li> </ul>

## WARNING SIGN

## DANGER SIGN

*“In your opinion, what do you think this picture is trying to say?”*



**Stay Away** from scum, and cloudy or discolored water.

**Stay Out Of the Water Until Further Notice.** Do not touch scum in the water or on the shore.

Understood the icon's message:	Yes	No
Number (n=26)	23	3
Percentage	88.5%	11.5%
Response	n/a	<i>Examples:</i> <ul style="list-style-type: none"><li>• Walking</li><li>• Don't go there. Green lines are road or grass</li><li>• Safety</li></ul>

## CAUTION SIGN

## WARNING SIGN

## DANGER SIGN

*“In your opinion, what do you think this picture is trying to say?”*



Do not use water in the lake  
for drinking or cooking.

Understood the icon's message:	Yes	No
Number (n=40)	26	14
Percentage	65.0%	35.0%
Response	n/a	<i>Examples:</i> <ul style="list-style-type: none"> <li>• No drinking alcoholic beverages.</li> <li>• No drinking.</li> <li>• Participant confused about what was in the cup.</li> <li>• Holding a sign</li> </ul>

CAUTION SIGN

WARNING SIGN

DANGER SIGN

*“In your opinion, what do you think this picture is trying to say?”*



**Do Not** let pets or livestock go into or drink the water.

Understood the icon's message:	Yes	No
Number (n=40)	31	9
Percentage	77.5%	22.5%
Response	n/a	<i>Example:</i> <ul style="list-style-type: none"><li>• Dogs should be on a leash</li><li>• Dog is dangerous and might bite you</li></ul>

CAUTION SIGN

WARNING SIGN

DANGER SIGN

*“In your opinion, what do you think this picture is trying to say?”*



**Do Not** eat shellfish from these waters.





**Do Not** eat fish or shellfish from these waters.

Understood the icon's message:	Yes	No
Number (n=40)	25	15
Percentage	62.5%	37.5%
Response	n/a	<i>Examples:</i> <ul style="list-style-type: none"> <li>• Not shelling. (Participant very confused).</li> <li>• No catching clams.</li> <li>• Something to eat on a table</li> </ul>







# Icon Summary





# Total number of participants that Do Not understand the icons' messages

Icon	# of signs	# participants/ total participants tested	% participants NOT understand
	2	14/28	50.0%
	3	15/40	37.5%
	1	5/14	35.7%
	1	5/14	35.7%

# Total number of participants that do NOT understand the icons' messages

Icon	# of signs	# participants/ total participants tested	% participants NOT understand
	3	14/40	35.0%
	1	4/12	33.3%
	1	3/12	25.0%
	1	3/12	25.0%

# Total number of participants that do NOT understand the icons' messages

Icon	# of signs	# participants/ total participants tested	% participants NOT understand
	3	9/40	22.5%
	1	2/12	16.7%
	2	3/28	10.7%
	2	3/28	10.7%

# Non-English Speakers with Low Literary

Most of these 9 participants demonstrated adequate understanding of the following icons:



# Non-English Speakers with Low Literacy

Most of these 9 participants did not adequately interpret the meaning of the following icons:



## Common misunderstandings:

- Circle with slash is not generally understood
- Clams look like eggs or mushrooms
- Did not recognize that the “child” icon represents a child
- Dog icons were interpreted as warning of dangerous dogs or animals
- Cup of water looks like a person holding a sign

# Key Messages

CAUTION SIGN

WARNING SIGN

DANGER SIGN

***“In your opinion, what is the main message of this sign?”***

Main Message	Number of Participants (n=40)*	Example
Stay away from the water	14	<i>“Stay away from the water. Keep pets away. Don’t wade.”</i>
Toxic/Poison	11	<i>“There is toxic algae present in the lake.” “If you drink water you might get poisoned”</i>
Dangerous/Danger	5	<i>“This area has a problem or is dangerous.”</i>
Safety	5	<i>“The water is not safe”</i>
Warnings	5	<i>“Warnings about what you should do.” “Be cautious”</i>

\* Even though the sample is n=40, some participants voiced multiple messages.



# Non-English Speakers with Low Education

**All 9 participants demonstrated an understanding of the main message and/or purpose of the signs.**

Sign	Response for Main Message
<b>Caution</b>	<ul style="list-style-type: none"><li>• There is danger. Don't drink or play in water.</li><li>• This area has problem or is dangerous</li><li>• Danger or a problem there</li></ul>
<b>Warning</b>	<ul style="list-style-type: none"><li>• The water is not safe</li><li>• Cannot do things that are crossed out. Not good to do them.</li><li>• Don't do things on the sign. Warning.</li></ul>
<b>Danger</b>	<ul style="list-style-type: none"><li>• Sign is saying they can't go near the water</li><li>• Don't do all of those things in the water</li><li>• Anytime red circle with slash it means don't</li></ul>

# Activities

CAUTION SIGN

WARNING SIGN

DANGER SIGN

*“What activities are you thinking are not okay for adults, children and pets to do in this lake?”*

Activity	Number of Participants (n=40)	Percent of Participants
Drinking	32	80.0%
Entering	31	77.5%
Swimming	21	52.5%
Eating fish or shellfish	14	35.0%
Cleaning the fish*	11	27.5%

\*Participants recognized this as an activity that they should do.

CAUTION SIGN

WARNING SIGN

DANGER SIGN

***“What activities are you thinking are not okay for adults, children and pets to do in this lake?” (cont’d....)***

Activity	Number of Participants (n=40)	Percent of Participants
Playing	8	20.0%
Cooking with water	5	12.5%
Fishing	5	12.5%
Use of motorized vehicles	4	10.0%
Drinking alcohol	1	2.5%
Diving	1	2.5%

Algae

# The Word “Algae”

## Using the Word “Algae”

- Participants asked if they have heard of algae, what it is, and if there is another word they would use.
- Participants were also given a definition of algae
- *Definition: “Algae are plants that produce a scum that floats on water. Sometimes algae form mats or clumps on the shoreline.”*

## Have you heard of the word algae?

Response	Participants (n=40)	Percent
Yes	35	87.5%
No	4	10.0%
No response	1	2.5%

CAUTION SIGN

WARNING SIGN

DANGER SIGN

***What does the word “algae” mean to you?***

Meaning	Number of Participants (n=40)*	Percent of Participants	Examples
Growth	8	20.0%	<i>“Growth in the water”</i>
Plants/Seaweed	7	17.5%	<i>“Dirty plants that grow on the water”</i>
Green stuff	6	15.0%	<i>“Green polluted scum”</i>
Don’t Know/ Not Sure	6	15.0%	<i>Seemed to confuse it with “allergy”</i>

\* Even though the sample is n=40, some participants voiced multiple messages.

# Additional Suggestions



CAUTION SIGN

WARNING SIGN

DANGER SIGN

***“In your opinion, what words on this sign might be confusing to people who visit the lake?”***

Words	Number of Participants (n=40)	Percent of Participants	Suggestions
None/ No response	24	60.0%	<i>n/a</i>
Scum	8	20.0%	<i>“Bacteria Scum” “Green stuff”</i>
Livestock	4	10.0%	<i>“Animals” “Pets”</i>
Algae	3	7.5%	<i>“Show definition; green stuff”</i>
Shellfish	3	7.5%	<i>“Clams”</i>
Convulsions	2	5.0%	<i>Seizure</i>

CAUTION SIGN

WARNING SIGN

DANGER SIGN

***“In your opinion, what words on this sign might be confusing to people who visit the lake?” (cont’d...)***




Words	Number of Participants (n=40)	Percent of Participants	Suggestions
Fillet	2	5.0%	<i>“Fish or seafood”</i>
Discolored	1	2.5%	<i>Colored water</i>
Irritation	1	2.5%	<i>Rash</i>
Diarrhea	1	2.5%	<i>Runs</i>
Vomiting	1	2.5%	<i>Foaming of the mouth</i>
Toxins	1	2.5%	<i>Poison</i>
Intestinos	1	2.5%	<i>“Vicerias”</i>

## CAUTION SIGN

## WARNING SIGN

## DANGER SIGN

***“In your opinion, what icons on this sign might be confusing to people who visit the lake? What can we do to make it less confusing?”***




Icon	Participants (n=40)		Suggestions
	n	%	
	11	27.5%	<ul style="list-style-type: none"> <li>• <i>Put algae in the water</i></li> <li>• <i>Maybe move this icon to the top of the list.</i></li> <li>• <i>Hand washing fish</i></li> <li>• <i>Show some of the guts</i></li> </ul>
	8	20.0%	<ul style="list-style-type: none"> <li>• <i>Larger picture</i></li> <li>• <i>Black shellfish</i></li> </ul>
	6	15.0%	<ul style="list-style-type: none"> <li>• <i>Thought it was holding a sign</i></li> <li>• <i>Words are clear, but not the picture</i></li> </ul>

## CAUTION SIGN

## WARNING SIGN

## DANGER SIGN

***“In your opinion, what icons on this sign might be confusing to people who visit the lake? What can we do to make it less confusing?”***





Icon	Participants (n=40)		Comments
	n	%	
	3	7.5%	<ul style="list-style-type: none"> <li>Put algae around the water, using little green lines</li> <li>Sign should be divided into two. First sign should only include no swimming, wading, drinking, dog walking.</li> <li>Dog should be drinking water</li> </ul>
	2	5.0%	<ul style="list-style-type: none"> <li>Add adults to child icon</li> <li>No bucket</li> </ul>
	2	5.0%	<ul style="list-style-type: none"> <li>Confusing</li> <li>Make it further away, like a silhouette drinking</li> </ul>

## CAUTION SIGN

## WARNING SIGN

## DANGER SIGN

***“In your opinion, what icons on this sign might be confusing to people who visit the lake? What can we do to make it less confusing?”***

Icon	Participants (n=40)		Suggestions
	n	%	
	2	5.0%	<ul style="list-style-type: none"> <li>Brighter colors</li> <li>Water should be both blue and green</li> </ul>
	2	5.0%	<ul style="list-style-type: none"> <li>“No wading water in general, not just algae in water”</li> <li>Picture of what it would look like to them</li> </ul>
	1	2.5%	<ul style="list-style-type: none"> <li>Looks like someone is diving. Maybe use an open hand or palm. The slash mark is covering the hand.</li> </ul>
	1	2.5%	<ul style="list-style-type: none"> <li>No jet skiing. Doesn't make sense.</li> </ul>

CAUTION SIGN

WARNING SIGN

DANGER SIGN

***If you want to learn more information about harmful toxins from algae, where would you go to look at this information?***

Response	Number of Participants (n=40)	Percent of Participants	Suggestions
Internet	17	42.5%	<i>Add a website. Add park information. National Wild life Association. Berkeley Oceanic Research. Put information on social media.</i>
No Response	12	30.0%	<i>n/a</i>
Not sure/Don't Know	4	10.0%	<i>n/a</i>
Contact people	3	7.5%	<i>Sandy or someone from APEN Lake staff</i>

CAUTION SIGN

WARNING SIGN

DANGER SIGN

*Do you think it would be helpful to include a QR code/Web Address on our sign?*

### QR Code

Response	Participants (n=40)	Percent
No Response	17	42.5%
Yes	12	30.0%
No	10	25.0%
Not Sure	1	2.5%

### Web Address

Response	Participants (n=8)*	Percent
Yes	6	75.0%
No	1	12.5%
No Response	1	12.5%

# Discussion



CAUTION SIGN

WARNING SIGN

DANGER SIGN

# Modifiable Signs