

Washington Coastal Dungeness Commercial Crab Fishery

Draft Line Marking Compliance Guide



Washington Department of **FISH & WILDLIFE**

This compliance guide was prepared by WDFW to provide a summary of how vessel operators can comply with regulations implementing electronic monitoring in the Washington coastal Dungeness crab fishery (WAC 220-340-42=30). The statements in this document are intended solely as guidance. Any discrepancies between this guide and WAC 220-340-430 will be resolved in favor of WAC 220-340-430.

Table of Contents

1	Introduction	3
1.1	What is line marking?.....	3
1.2	Who is responsible for compliance?	3
1.3	When is line marking required?	3
2	Line marking requirements.....	3
2.1	Timeline.....	3
2.2	Marking methods.....	4
2.3	What line has to be marked?	9
3	Prohibition of other fishery markings.....	16

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1 Introduction

The purpose of this guide is to help participants in the Washington coastal Dungeness crab fishery understand how to comply with line marking regulations adopted in 2025. This guide is incorporated by reference in WAC 220-340-430 Commercial crab fishery – Gear requirements at (6)(c)(iii).

1.1 What is line marking?

Line marking is a tool used to aid in identifying the fishery and origin of gear observed on entangled marine life. Washington Department of Fish and Wildlife (WDFW) first required line marking in the Coastal Dungeness crab commercial fishery in 2020 to provide a tool for tracing entangled gear to the fishery. WDFW was the first requirement of line marking in West Coast fisheries and was adopted by the Fish and Wildlife Commission with additional entanglement risk reduction measures. Line marking is required in U.S. and Canadian fisheries on the East Coast for the same purpose, to be able to identify gear to fishery on entangled marine life. WDFW adopted updated comprehensive line marking requirements in 2025 in coordination with other West Coast fisheries to improve fishery attribution.

1.2 Who is responsible for compliance?

The vessel operator designated to the commercial coastal Dungeness crab license is responsible for ensuring all gear and line is marked according to regulations when fishing under the WDFW issued license.

1.3 When is line marking required?

There have been line marking requirements in the Washington coastal Dungeness crab fishery since 2020. There is a phased implementation timeline for the updated line marking requirements adopted in 2025. This is to provide operators time to transition from the initial line marking requirements to the updated comprehensive line marking requirements. The implementation schedule is in Section 2.1.

2 Line marking requirements

WAC 220-340-430 requires all gear fished in the Washington coastal Dungeness crab fishery to use line that is marked sufficiently to identify it to the fishery. The coastal Dungeness crab fishery designated operator is required to use line marking to identify it as gear used exclusively to the Washington coastal Dungeness crab fishery as described in this section.

2.1 Timeline

The phased implementation timeline for the updated comprehensive line marking.

Table 1. Phased implementation timeline for comprehensive line marking requirements adopted in 2025.

When	Requirement
At time of rule adoption	12-inch continuous red mark on the line connecting the main (diver) buoy closest to the shellfish pot, no more than one fathom (6 feet) from the main (diver) buoy

When	Requirement
December 1, 2025	All line connecting two buoys, except the buoy gangion lines, must be marked (AKA trailer line or surface line)
December 1, 2028	The top 15 fathoms of main (vertical) line connecting the main (diver) buoy to the shellfish pot must be marked
November 30, 2035	The allowance of solid markings as an alternative to manufactured line sunsets

2.2 Marking methods

The Washington coastal Dungeness crab fishery red and black line marking requirements can be met one of two ways, with state fishery specific manufactured line or with sets of solid marks. The allowance of solid markings is set to sunset in 2035, prior to the sunset WDFW will evaluate the effectiveness of solid markings and manufactured line and consider how best to move forward. WDFW initially considered requiring more sets of solid marks and allowing the markings indefinitely, but after input from industry decided to reduce the number of sets of solid marks required and implement a deadline to evaluate this approach. Prior to the sunset of solid marks WDFW will evaluate if the current solid marking scheme is sufficient, if more sets of marks should be required to continue to allow solid markings, or other alternative options based on the evaluation of their effectiveness.

Definitions, explanations, and examples for the line marking methods are described in the subsequent sections.



2.2.1 Manufactured line


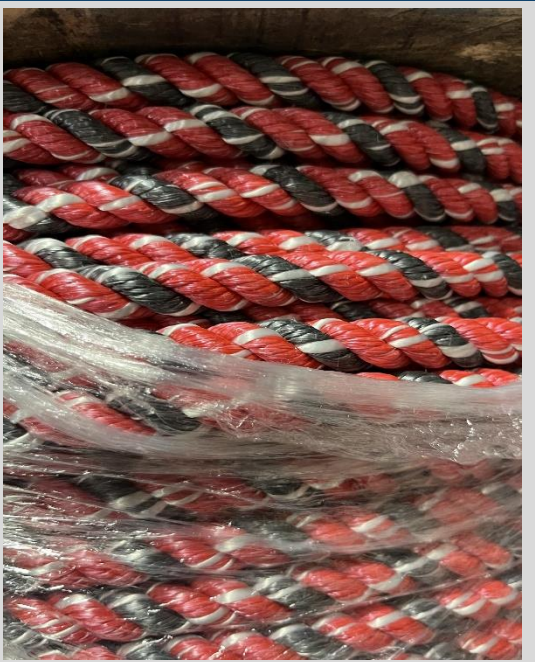
The Washington coastal Dungeness crab fishery specific manufactured line is a dual colored red and black line where 2/3 of the strands are colored red and at least 1/3 strands are colored black. Tracer line in state/fishery specific manufactured line is lawful. Tracer line is defined as a minority color or mark within a single strand. Tracer line is used commonly to indicate line type, diameter, or manufacturer.

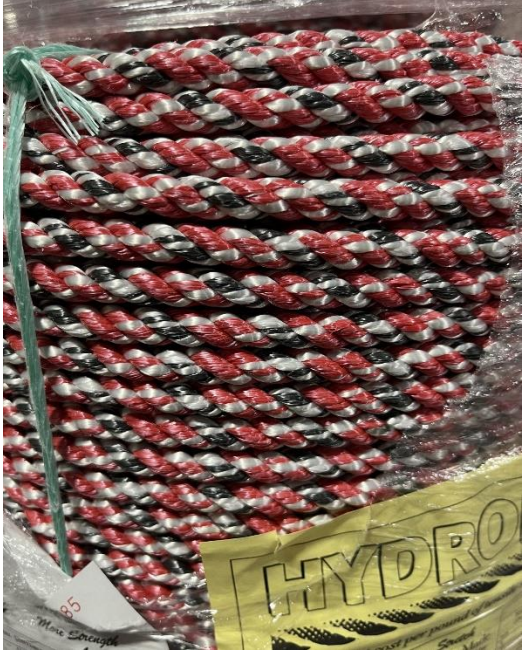

Table 2 shows examples of currently manufactured line that meets the definition in WAC 220-340-430. This table is not a complete list of all manufactured line that is acceptable, additional manufacturers can produce line that meets the definition.

Table 2. Table of currently manufactured red and black line produce exclusively for the WA coastal Dungeness crab fishery line marking requirements. Each of these lines is approved for use to meet the line marking requirements of WAC 220-340-430. This is not a complete list, other manufactured lines can meet the requirements and definition in WAC.

Line description	Photo
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Line description	Photo
<p>Type of line: Floating Tracer line: One small white-ish tracer line woven through the black strand of line</p>	
<p>Type of line: Floating Tracer line: Red tracer line woven through the black strand of line</p>	

Line description	Photo
<p>Manufacture: ManHo / Hi-Man Type of line: Floating Tracer line: None</p>	
<p>Manufacture: Hydropro Type of line: Neutrally buoyant Diameter line: ½ inch Tracer line: White neutrally buoyant core woven throughout all red and black strands</p>	

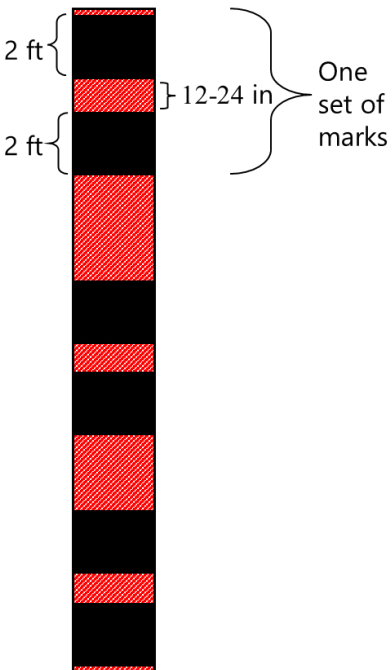
Line description	Photo
<p>Manufacture: Hydropro Type of line: Neutrally buoyant Diameter line: 3/8 inch Tracer line: White neutrally buoyant core woven throughout all red and black strands</p>	
<p>Manufacture: ManHo / Hi-Man Type of line: Neutrally buoyant Tracer line: White neutrally buoyant core woven throughout all red and black strands</p>	

2.2.2 Solid markings

Sets of solid marks are allowed as an alternative to manufactured line to meet the line marking requirements. The allowance of solid markings is set to sunset in 2035. WDFW will evaluate the effectiveness of solid markings and manufactured line and consider how best to move forward. All solid marks must cover the entire circumference of the line and be regularly serviced and maintained in a condition to be able to identify the mark to the marking scheme. One set of solid marks consists of 2 marks of specific colors spaced apart on the line at a specified distance, the color of marks and spacing depends on the starting line color. Below in table 4 are the details for the two options for sets of solid markings, depending on the starting line color.

Table 4. Coastal Dungeness crab fishery requirements for sets of solid marks to meet the line marking requirements.

Diagram of a set of solid marks	Requirements for solid marks
<p>Line (not red)</p> <p>2 ft</p> <p>No more than 6 inches</p> <p>2 ft</p> <p>One set of marks</p> <p>-OR-</p> <p>No space required between red and black marks</p> <p>One set of marks</p> <p>Main line can be any color, except red</p>	<p>On line of any color, other than red and black, a set of solid marks consists of one red mark and one black mark spaced no more than 6 inches apart. The red and black mark do not need to have any space separating them, but there cannot be more than 6-inches of unmarked line between each mark. Each mark must be 2-feet in length and cover the entire circumference of the line.</p>

Diagram of a set of solid marks	Requirements for solid marks
<p>Red line</p>  <p>The diagram shows a vertical red line with alternating black and red segments. A bracket on the right side of the line indicates that a set of marks consists of two black marks spaced 12-24 inches apart. Two brackets on the left side of the line indicate that each mark must be 2 feet in length. The line is labeled 'Red line' at the top.</p>	<p>On red line a set of solid marks consists of two black marks spaced 12-24 inches apart. The sets of black marks require a space of red line between them in order for the red and black color scheme to be visible. Each mark must be 2-feet in length and cover the entire circumference of the line.</p>

2.3 What line has to be marked?

Upon full implementation, the trailer or surface line and the top 15 fathoms of main vertical line are required to be marked. Each stage of the phased implementation of line marking requires a different portion of line to be marked.

There are multiple terms used to describe the various components of a gear set up used to fish for crab. To provide clarity we have included a diagram and photos of gear components and the terms we are using to refer to each component below.

Table 5. Definitions of the various components of a shellfish pot rigged with gear to fish for crab as they pertain to this compliance guide.

Term	Also known as	Definition
Buoy gangion line	Buoy strap	The line the passes through the buoy and is affixed to the buoy forming loops at either end to connect the buoy to other lines.
Trailer line	Surface line, gangion line	Line used to connect the main (diver) buoy to additional trailer buoys. A gear set up can include one trailer line that connects to multiple trailer buoys, or multiple trailer lines that are used between each buoy.
Main vertical line	Vertical line, main line, line	The line connecting the shellfish pot to the main (diver) buoy.

Term	Also known as	Definition
Main (diver) buoy	Buoy, main buoy, diver buoy	The first buoy on the crab pot buoy line defined as the buoy closest to the crab pot, sometimes the only buoy used.
Trailer buoy		Additional buoys attached either directly to the main (diver) buoy directly or by a trailer or surface line.
Tracer Line		Tracer line is defined as a minority color or mark within a single strand. Tracer line is used commonly to indicate line type, diameter or manufacturer.

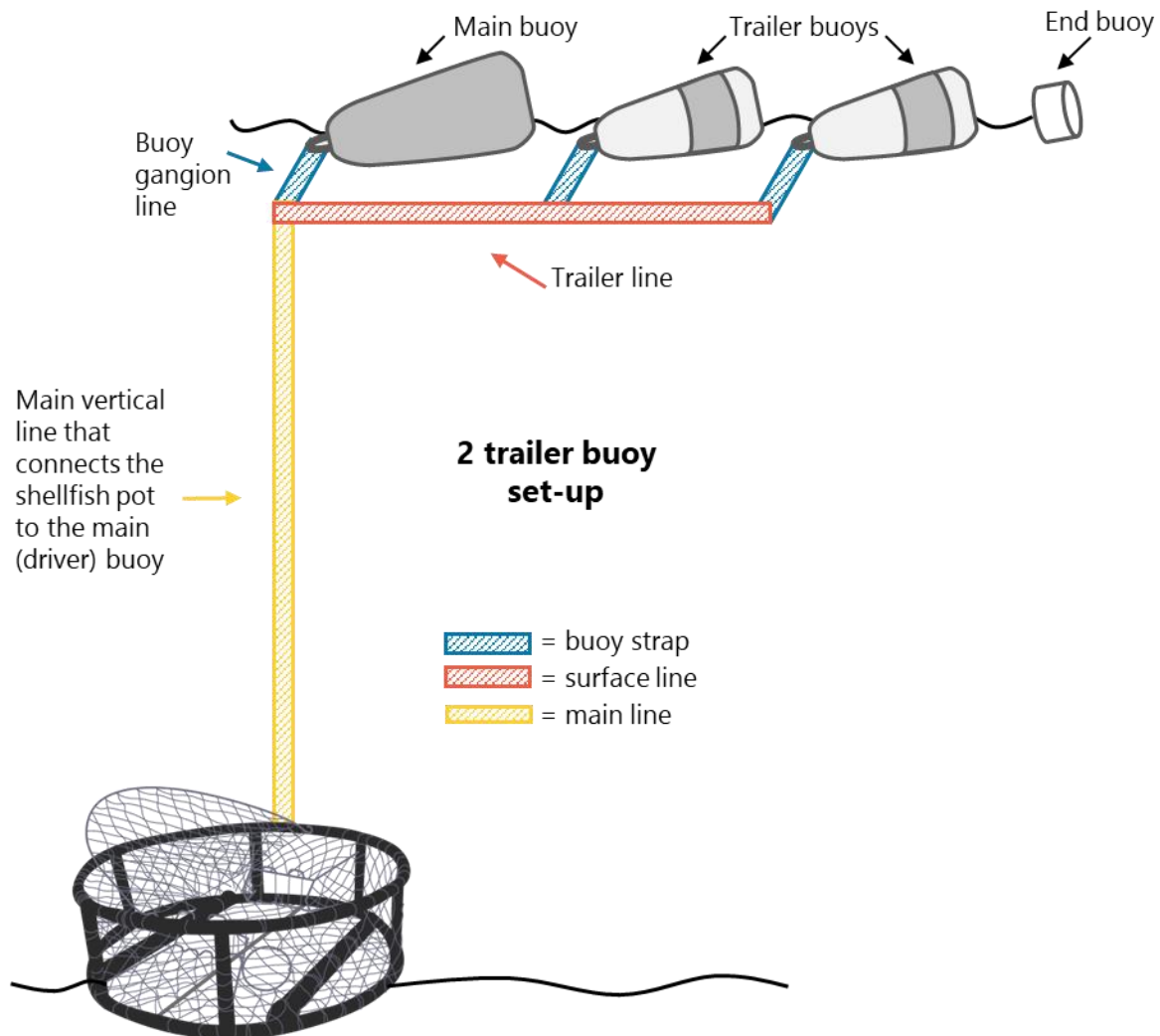


Figure 1. Diagram of a shellfish pot rigged to fish for crab with the names of various components referred to in this compliance guide.

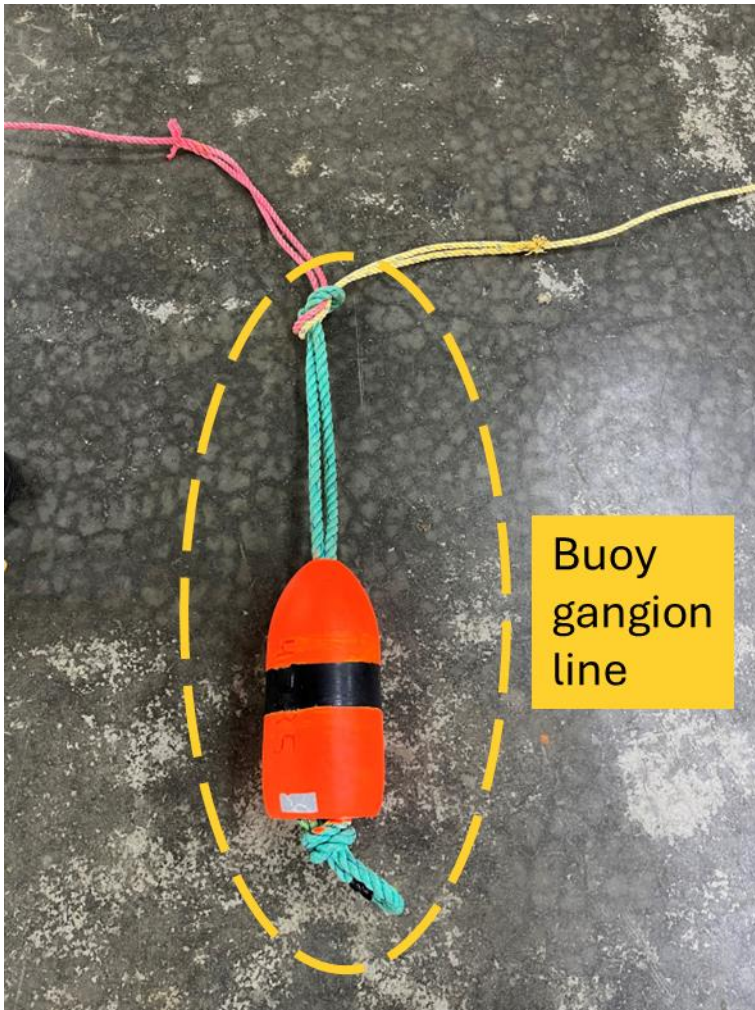


Figure 2. Phone example of a buoy gangion line.

The coastal Dungeness crab fishery designated operator is required to use line marking to identify it as gear used exclusively to the Washington coastal Dungeness crab fishery as follows:

2.3.1 Effective immediately

Effective at rule adoption, each shellfish pot rigged with line and fished in the Washington coastal commercial Dungeness crab fishery must have a 12 continuous inch red mark on the main line connecting the main (diver) buoy connected directly to the shellfish pot. The mark must be within the top fathom closest to the buoy.

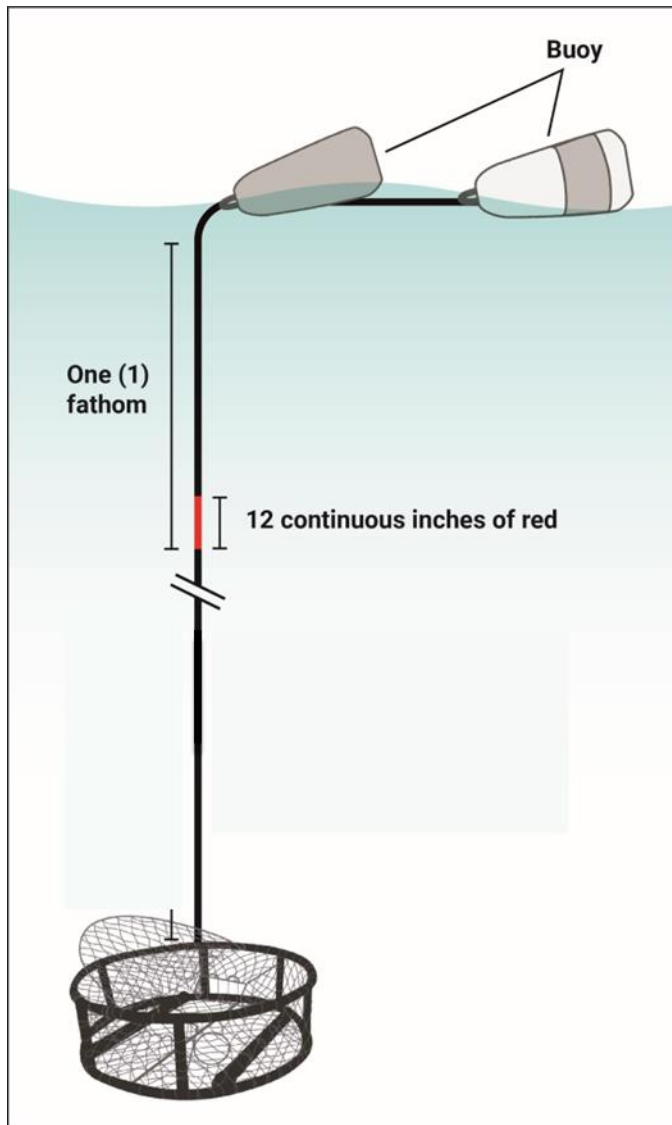


Figure 3. Diagram of line marking requirements effective immediately.

2.3.2 Effective December 1, 2025

All line connecting two buoys, often referred to as trailer line, must be marked with red and black with either manufactured line or sets of solid marks. If using dual colored manufactured state-fishery specific line, the line must be used to connect all buoys. If using solid marks, one set of solid marks as defined in [section 2.2.2](#) is required on any segment of trailer line connecting two buoys.

Buoy gangion lines or buoy straps are exempt from the line marking requirements (Figure 1, 2, and 4). Buoy gangion lines are defined as the line that passes through the buoy and is affixed to the buoy forming loops at either end to connect the buoy to other lines. The buoy gangion lines can be no longer than 4 feet long as measured from opposing loop ends. Buoy gangion lines can be any color.

Buoy gangion lines (buoy straps) are exempt from line marking

▨ = Marked line □ = unmarked line

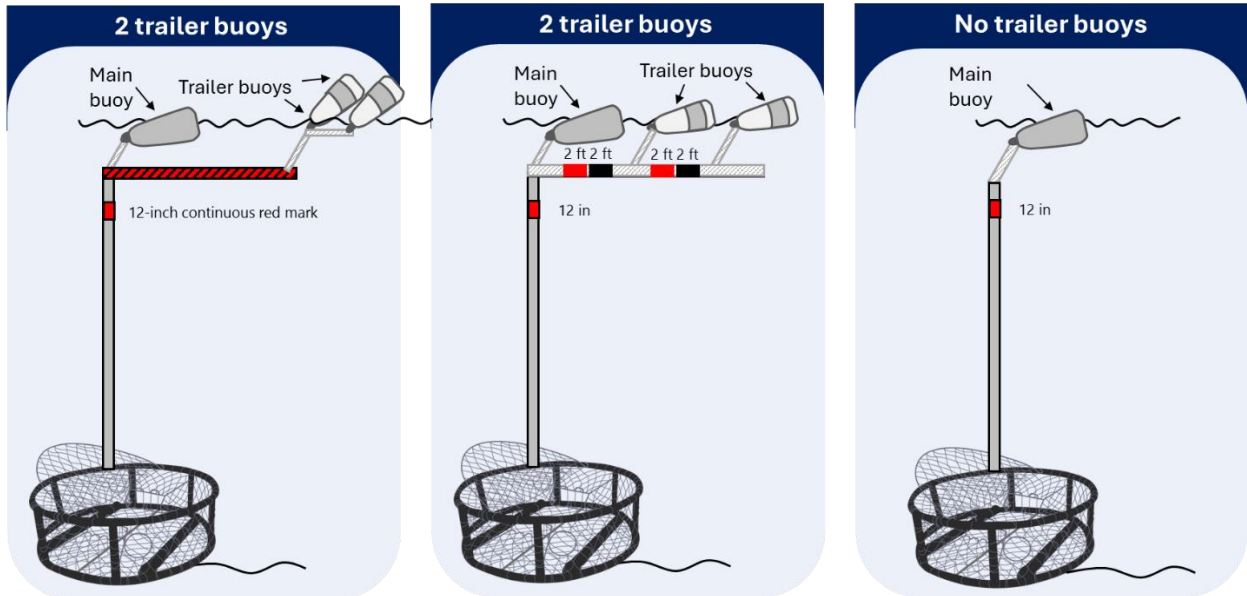


Figure 4. Diagram of line marking requirements effective December 1, 2025.

2.3.3 Effective December 1, 2028

The top 15 fathoms (90 feet) of the main vertical line connecting the shellfish pot to the main buoy must be marked with red and black with either manufactured line or sets of solid marks in addition to the trailer/surface line marking requirements (Figure X). If using dual colored manufactured state-fishery specific line, this requirement can be met with one 15-fathom shot of line or two shorter shots of line as long as a minimum of 15 fathoms of line is marked sufficiently. While regulation requires that the top 15 fathoms of line be marked sufficiently, the requirement is a minimum and state-fishery specific manufactured line can be used throughout gear used in the fishery.

If marking vertical main line with sets of solid marks, 3-sets of solid marks are required in the 15 fathoms of line (Figure 6). Sets of marks must be distributed such that one set of marks is within one fathom of the main buoy, one set of marks is within one fathom of the end of the 15 fathom segment, and one set of marks is near the middle length of the line segment required to be marked. Requirements for sets of solid marks are defined in [section 2.2.2](#).

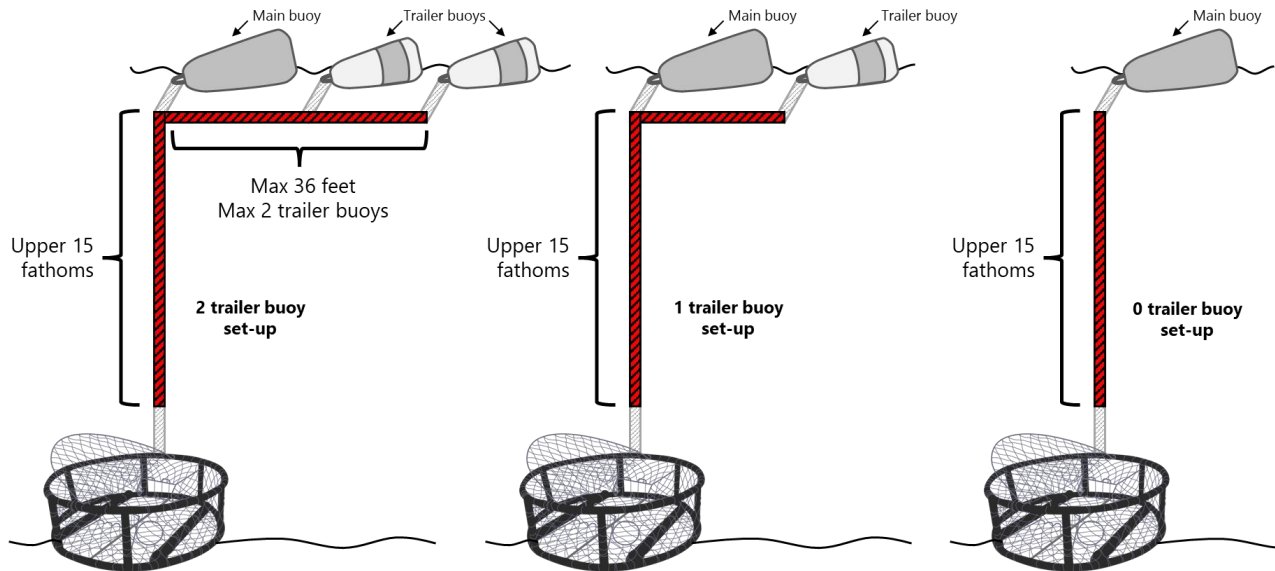


Figure 5. Diagrams showing a shellfish pot gear set up with different numbers of trailer buoys with line marking requirements met with manufactured dual colored red and black line used for all trailer line the upper 15 fathoms of the main vertical line.

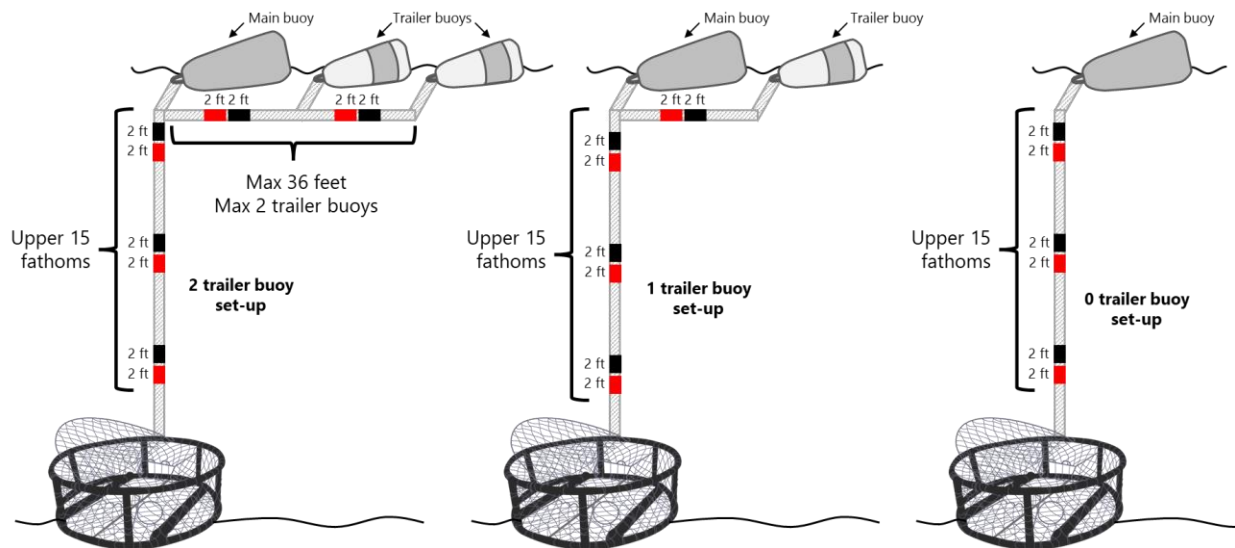


Figure 6. Diagrams showing a shellfish pot gear set up with different numbers of trailer buoys with line marking requirements met with sets of red and black solid marks for all trailer line the upper 15 fathoms of the main vertical line.

Shallow depth provisions allow less than 15 fathoms of line to be marked when fishing with less than 20 fathoms of line (Figure 7). When fishing with less than 20 fathoms of line, the top 50% of the line must be marked (Figure 7). For example, if fishing with only 15 fathoms (90 feet) of line the top 7.5 fathoms (45 feet) of line must be marked. If marking less than 15 fathoms of vertical line with sets of solid marks, the same number distribution of solid marks is required.

▨ = Marked line □ = Unmarked line

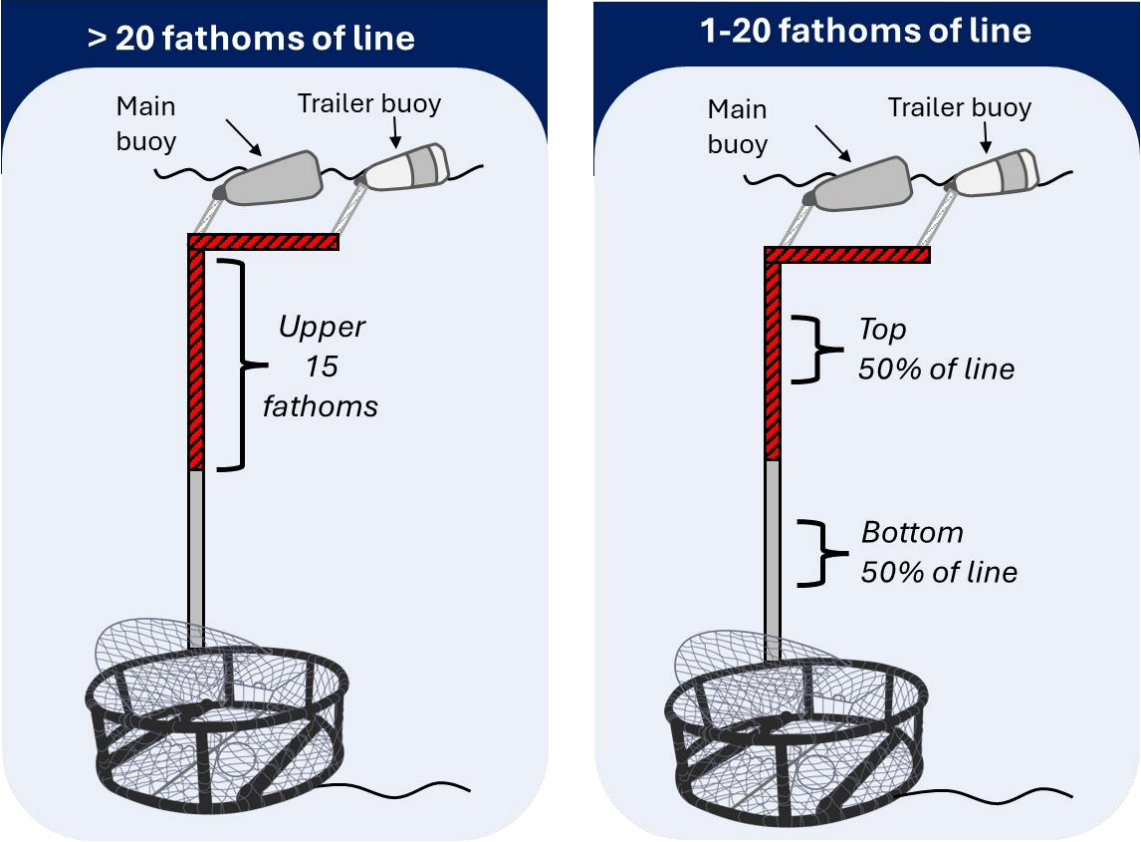


Figure 7. Diagram of line marking shallow depth provision.

The two methods approved for meeting the line marking requirements, dual colored state fishery specific manufactured line and sets of solid marks, can both be used in a gear set up to meet the requirements. For example, solid marks could be used on the trailer/surface line and manufactured line could be used for the main vertical marking requirements (Figure 8). Another example would be using a combination of manufactured line and solid marks in the top 15 fathoms of vertical main line, e.g. a shellfish pot is rigged with a 15 fathom bottom shot marked with sets of solid marks and then to move that gear into deeper water a 7 fathom top shot of manufactured line is added to the top, collectively the top 15 fathoms of line is marked by combining two shots of line marked with different methods (Figure 8).

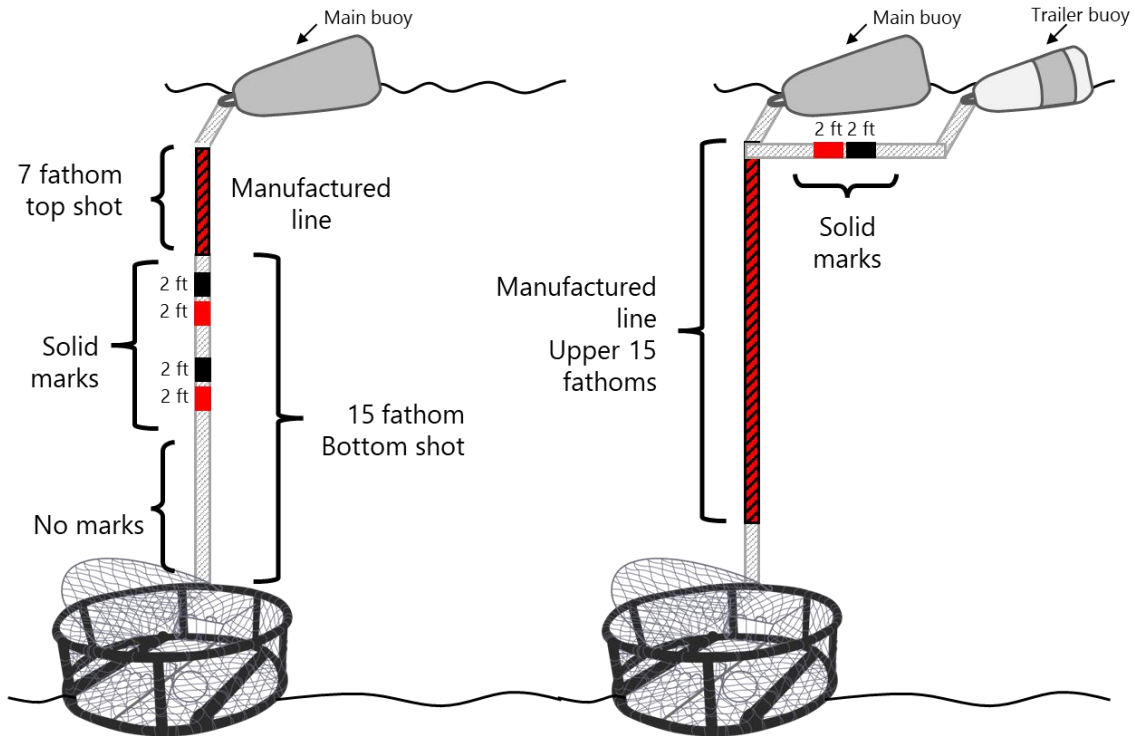


Figure 8. Examples of marking line with both sets of solid marks and state fishery specific manufactured line to meet the line marking requirements of WAC 220-340-430.

3 Prohibition of other fishery markings

WAC 220-340-430 prohibits the use of any other fishery specific line marking scheme to be used in the Washington coastal Dungeness crab fishery. This includes any fishery specific colored manufactured line or other marking methods approved by regulation for any West Coast fishery operating in the U.S. Exclusive Economic Zone (EEZ) or the states of Washington, Oregon, or California. Gear must be marked exclusively for use in the Washington coastal Dungeness crab fishery. Below is a table of the currently adopted and proposed line marking schemes in U.S. West Coast fisheries (Table 6). Additional line marking schemes may be adopted at anytime and the prohibitions in Table 5 might be incomplete. Additional up to date resources on current adopted line marking schemes are available on the WDFW website and by contacting Megan Hintz at Megan.Hintz@dfw.wa.gov or 564-215-1757.

Table 6. Fishery specific line marking requirements adopted on the West Coast and prohibited in the Washington coastal Dungeness crab fishery.

Fishery	Color Scheme	Manufactured line	Non-manufactured markings
OR Dungeness crab	Yellow & Black	2/3 of line yellow and 1/3 of line black	2-foot solid black and 2-foot solid yellow marks
CA Dungeness crab	Purple & Black		
<i>Federal groundfish:</i>	<i>Blue & Orange</i>	<i>Yes</i>	<i>TBD</i>

Fishery	Color Scheme	Manufactured line	Non-manufactured markings
<i>pot gear</i>			
<i>Federal groundfish: longline hook & line gear</i>	<i>Blue & Brown</i>	<i>Yes</i>	<i>TBD</i>