

# Electronic Monitoring for Coastal Dungeness Crab Fishery Management

May 11, 2023

2:00 – 4:30 PM

Region Six Office and Virtual



# Proposed Agenda

- Introductions/Purpose of the meeting
- 2023 Rule Proposals
  - EM
  - Other proposals
- 2022-2023 Season Update
- Adjourn



# Why Electronic Monitoring?

Real-time spatial data is necessary to effectively manage the coastal Dungeness crab fishery!

## **Co-management responsibilities**

- Confirm catch area reporting
- Enforce SMA closures

## **Public Health – Area Closures for Biotoxin**

## **Support Whale Conservation Plan and Incidental Take Permit**

Paper logbooks are not effectively collecting this information.



# Electronic Monitoring (EM) Pilot Project

Allowed us to evaluate  
different tools prior to  
implementation

What is right for our needs?

- Unique management in WA
- Multiple boundaries
- Alternative to paper logbook
- Gear tampering
- Support whale conservation efforts



# What Did We Learn?

A GPS location reading combined with hydraulic pressure sensor data provides accurate spatial data.

Cellular EM can transmit data more cost-effectively than satellite (e.g., VMS)

Cellular EM and frequent hydraulic pressure sensor readings can effectively replace paper logbooks.

How to effectively manage EM data with PSMFC to ensure confidentiality and provide WDFW access to the data.



# With EM We Can:

Verify catch area on fish tickets

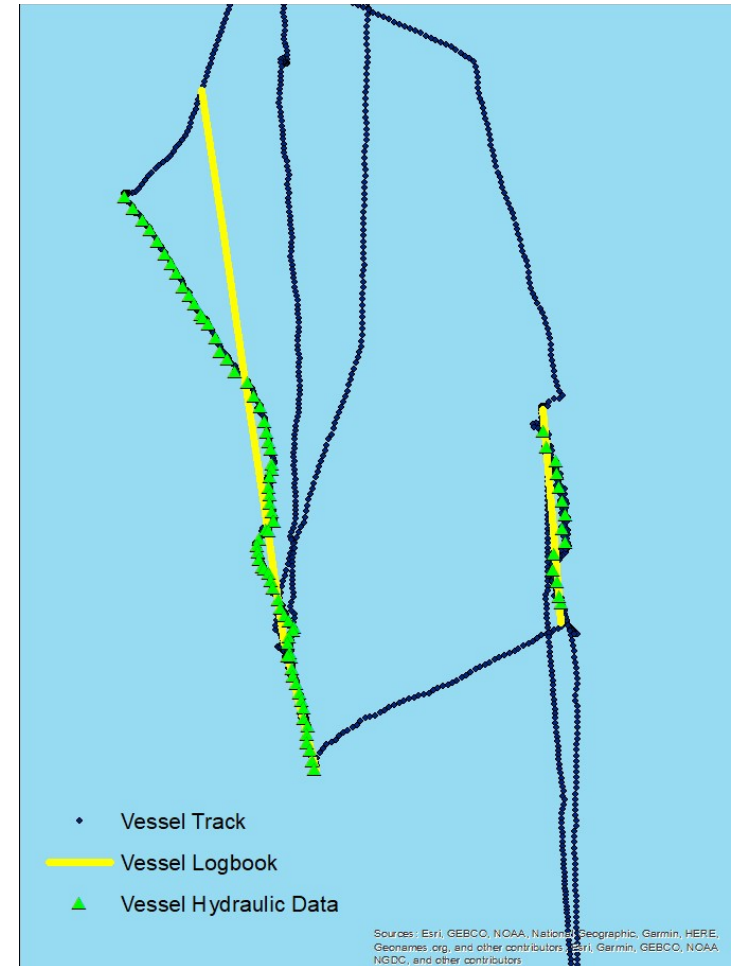
Enforce area closures

- SMAs
- Fair start boundaries

Enforce pot limits

Improve ability to identify gear tampering

Eliminate need for logbooks



# What about Video?

Currently testing a system on two vessels

Conferred with PSMFC, WDFW Enforcement, and WDFW IT, learned that:

- PSMFC not positioned to store additional video data
- For WDFW data storage is relatively inexpensive, but access is very expensive
- Complex hardware and data ownership issues: license holder, vessel owner or WDFW?
- Unclear legal obligations and requirements to review collected data
- Need to build a secure chain of command for hardware and data used for enforcement purposes

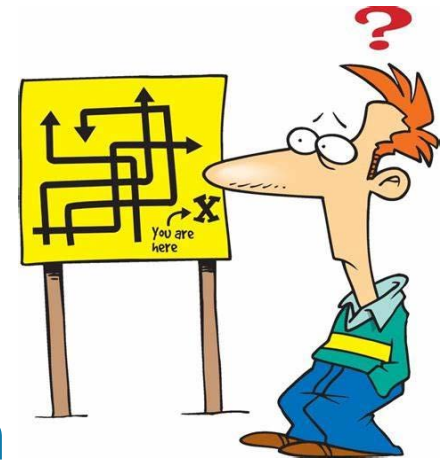
## Adding video increases costs

- Video systems are 3 to 5 times more expensive than cellular EM



# Where are we now?

Due to the numerous uncertainties and concerns we will not pursue video monitoring at this time but we are open to considering it in the future...



Propose to implement EM system that includes a GPS location reading combined with hydraulic pressure sensor data.





# EM System Requirements

License holders – operators – vessels participating\* in coastal commercial crab fishing must have an operable EM system, with the following specifications:

Hydraulic pressure sensor

- 10 second readings
- Placed to prevent tampering

GPS location

- Per minute when on the water
- Per 30 minutes when vessel at the dock

Cellular transmission

Continuous power supply, 24/7

Feedback mechanism to indicate if the system is operational



WDFW will provide a list of devices, vendor contact information, and EM system requirements

**\*Participating means gear in the water, crab onboard, includes derelict gear recovery**



# Implementing EM

## Proposed regulatory approach

- Capture requirement for EM in WAC
- Reference compliance guide in WAC
- Provide details in a compliance guide that describes specifications for EM equipment and operational requirements.
- Program review after a period of time (e.g., 3-5years)

This approach allows flexibility to adapt to technological improvements with minimal additional rule making.





# EM Compliance Guide

Compliance Guide provides additional details to comply with proposed rules:

- How to install an EM system
- What components are needed
- Conduct a pre-season test
- Perform a quick pre-trip check before every trip
- Ensure the system is operational during fishing activity
- Ensure system is supplied power between fishing trips until last WA D. crab landing





## DRAFT Coastal Commercial Dungeness Crab Electronic Monitoring Compliance Checklist

**How to Install an Electronic Monitoring (EM) System**

- Contact a WDFW approved EM service provider to schedule an installation
- Be available during installation to assist in determining system location, wiring routes, etc.
  - Installation will take approximately 4-5 hours
- Ensure installation satisfies the requirements outlined in WDFW's Minimum EM System Requirements document

**Pre-season Test-15 Days Prior to Season Opening**

- Ensure device is supplied power and turned on
  - Refer to your EM device's feedback mechanism: on phone app or power indicator light
- Contact WDFW EM program to confirm EM system is operational
- Submit a Pre-season testing affidavit to WDFW

**Pre-trip Check**

- Prior to leaving port, for each trip, the vessel operator must:
  - Ensure power is supplied to the unit and it is turned on
- In the event the EM system is not operational:
  - Refer to and follow your service provider's basic troubleshooting instructions
  - If that fails to resolve the issue:
    - immediately contact your service provider to schedule a service call
    - Before leaving port, contact WDFW enforcement for a **Trip Waiver**
    - Notify EM program staff that you have obtained a Trip Waiver

**Trip Waivers**

- valid for 3 days
- Must remain on the vessel
- will only be issued to allow repair or replacement of a previously installed EM system
- include a requirement to complete an e-logbook or a paper logbook
- A waiver extension can be granted by WDFW enforcement under extenuating circumstances

**During Fishing Trip**




- The vessel operator must check daily to ensure the system is operational

**After Fishing Trip**

- The vessel operator must ensure system is powered between trips. Only turn off the system after you have made your last WA Dungeness crab landing and all crab gear has been removed from the water

For more information about electronic monitoring including system requirements and approved service providers please visit:  
<https://wdfw.wa.gov/fishing/commercial/crab/coastal>

**Enforcement Contact:**  
Sgt. Brian Alexander: (360)-580-6200  
brian.alexander@dfw.wa.gov  
**EM Program Contact:**  
Robert Morgan: (360)-480-8596  
robert.morgan@dfw.wa.gov



# EM Affidavit

## Prior to the start of the season


Set up an installation date with service provider

After EM system installed submit affidavit to WDFW

Contact WDFW staff at least 15 days prior to season start to confirm system is operational

**Resubmit affidavit anytime changes are made**





State of Washington  
**Department of Fish and Wildlife**  
48 Devonshire Road, Montesano, Washington 98563-9618 (360) 249-4628

**WASHINGTON COASTAL CRAB ELECTRONIC MONITORING INSTALLATION  
AFFIDAVIT**

Under the authority of WAC 220-XXX-XXX, all vessels intending to participate in the Washington coastal Dungeness crab fishery must have an approved electronic monitoring device installed prior to the start of the fishery. All devices must follow the specifications outlined in the EM system requirements document. A list of approved devices, vendor contact information, and the EM system requirements are attached to this affidavit.

Please complete, sign, and return this form once an approved device has been installed on your vessel.

LICENSE NO. \_\_\_\_\_

VESSEL NAME: \_\_\_\_\_

ELECTRONIC MONITORING SYSTEM PROVIDER: \_\_\_\_\_

ELECTRONIC MONITORING DEVICE IDENTIFIER: \_\_\_\_\_

I certify that the above electronic monitoring device is installed and properly functioning to the best of my knowledge.

\_\_\_\_\_  
Vessel Owner/Primary Operator Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Vessel Owner/Primary Operator Printed Name

If you have any questions, please contact Robert Morgan at: 360-480-8596,  
[Robert.Morgan@dfw.wa.gov](mailto:Robert.Morgan@dfw.wa.gov)

# What if the EM System Fails?


If the EM system fails the pre-trip check immediately contact:

- The service provider
- WDFW staff for a Waiver Permit

Vessels may not lawfully fish without an operable EM system or Waiver Permit onboard the vessel.

## Waiver Permit

- For EM system failure only
- Valid for 3 days
- Must complete a WDFW electronic or paper logbook and email or text a copy to WDFW every 24 hours of fishing



State of Washington  
Department of Fish and Wildlife  
48 Devonshire Road, Montesano, Washington 98563-9618 (360) 249-4628

**WASHINGTON COASTAL CRAB EM WAIVER PERMIT**  
PERMIT NO. (23-EMW-00)

LICENSE NO. XXXXX

This permit is issued under the authority of WAC 220-XXX-XXX, to:

[NAME]

to participate in the Washington coastal Dungeness crab fishery without an operational electronic monitoring (EM) device using the designated vessel:

[VESSEL NAME]

This permit is valid for **3 days** from the following date:

DATE: [ISSUE DATE]

This permit must be on board the vessel during the valid permit period or an electronic copy must be available to be presented at sea upon request. The permit is to allow fishermen to continue participating in the Washington coastal Dungeness crab fishery in the event of an EM device failure.

As a condition of this permit, you are required to complete a WDFW electronic or paper logbook until your EM device is repaired or the permit expires. A paper logbook page is provided with this permit. Every 24 hours of fishing permittee shall submit the logbook to Jamie Fuller by email [Jamie.Fuller@dfw.wa.gov](mailto:Jamie.Fuller@dfw.wa.gov) or by sending a photo text of the logbook to 360-580-0875.

If you have any questions, please contact Robert Morgan at: 360-480-8596 or [Robert.Morgan@dfw.wa.gov](mailto:Robert.Morgan@dfw.wa.gov)

This permit is subject to revocation by the Director of the Department for failure to abide by these permit conditions, for violation of other fishing regulations, or other valid reason.

\_\_\_\_\_  
Washington Department of Fish and Wildlife

\_\_\_\_\_  
Date



# System Costs

Pricing Varies Among Vendors

## Hardware

\$500-1,000 (w/video \$4,000-5,000)

Some vendors include:

- Bulk pricing
- Installation costs
- Option for self-installation

## Data Plan

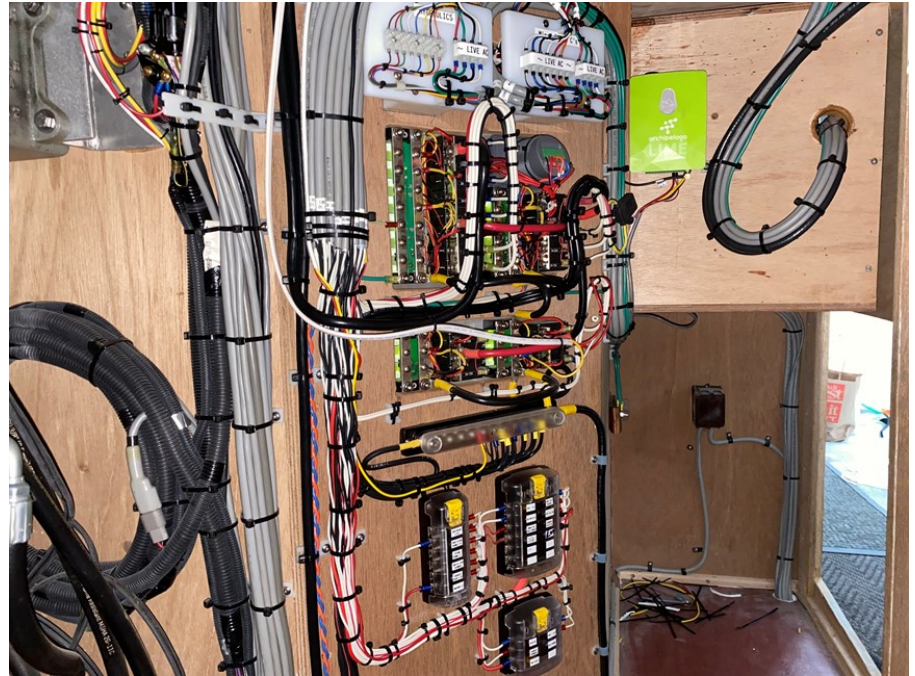
\$350-500/year

\$50-70/month

Some vendors may offer fishing season subscriptions

## System Service Call

\$150-200/year



# EM Vendors

Archipelago Marine Research

FishVue LIME

<https://www.archipelago.ca/products/fishvuelime>

Unit Cost \$975

Faria Beede

WD 300 Sentry

[https://fariabeede.com/2-pages/entelnet\\_home.php](https://fariabeede.com/2-pages/entelnet_home.php)

Unit Cost \$600

Teem Fish – SnapIT

AI Hub (video system)

<https://teem.fish/vessels/>

Unit Cost \$5,000

Pacific Coast Fisheries Services

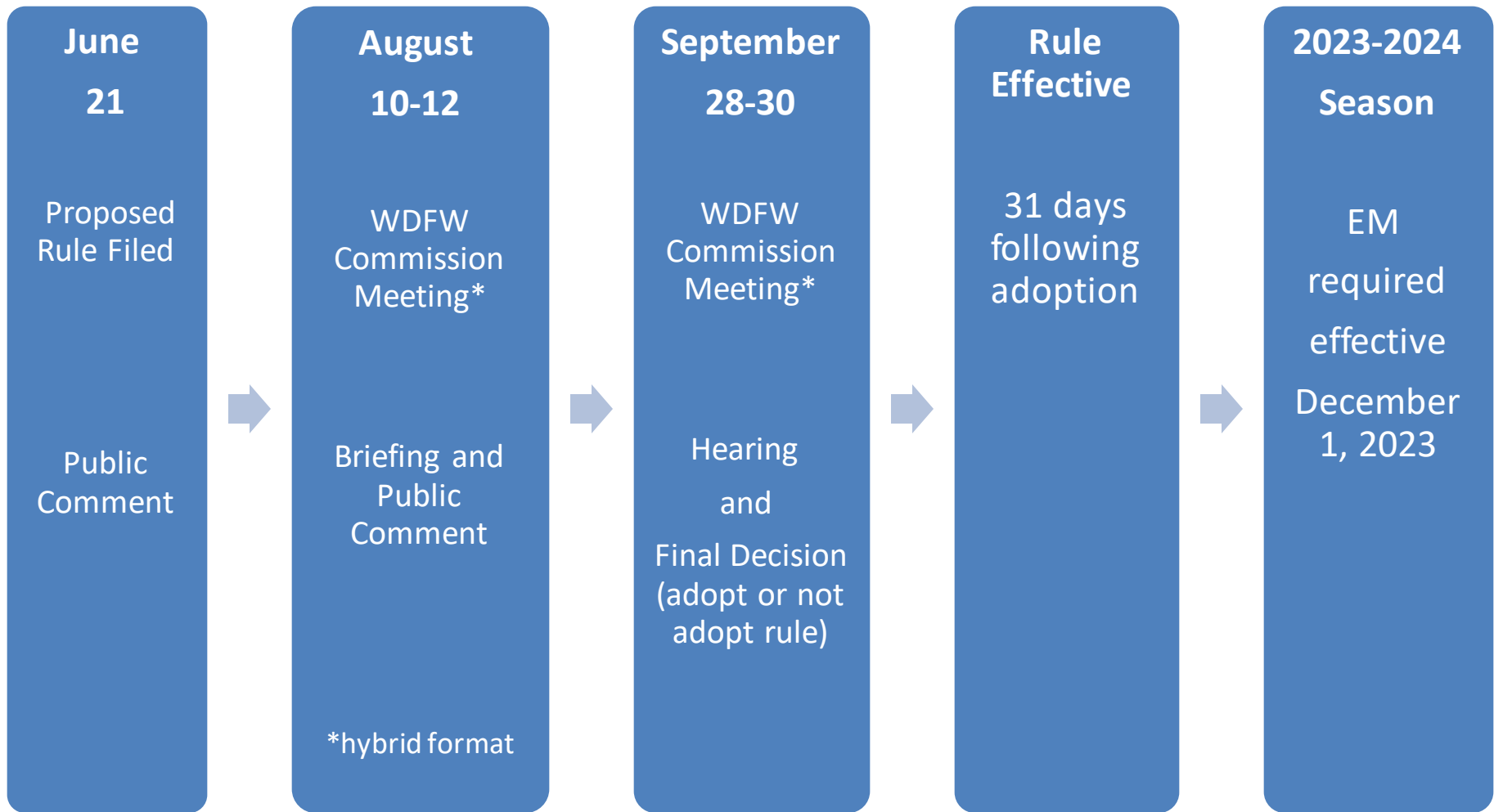
<https://pcfish.ca/>

No unit cost provided

Additional vendors may be able to provide compliant systems



# Rulemaking Timeline





# EM Implementation Timeline

## Who, What, When, and How

### License Holders

### WDFW

#### October - November

- Select EM Vendor
- Install EM
- Submit Affidavit to WDFW EM Team
- Turn EM system on – Verify with EM Team data is transmitting

#### September

- Mail affidavit to License holders
- Mail EM Info Packet to License Holders

#### October - >

- Process pre-season systems checks



# Summary

## EM Requirements 2023-2024

### Hydraulic pressure sensor

- 10 second readings
- Placed to prevent tampering

### GPS location

- Per minute when on the water
- Per 30 minutes when vessel at the dock

### Cellular transmission

### Continuous power supply, 24/7

### Feedback mechanism to indicate if the system is operational



# EM Discussion



# Other Rule Proposals

## Line marking

- 12 continuous inches
- Unlawful to use gear that has line marks consistent with requirements for any state or federal fisheries other than (D. crab, spot shrimp, PS shrimp pot)

## Buoy requirements

- Can't use red and white buoys in the commercial fishery unless a minimum of 30 percent is also marked with a color or colors other than red or white

## Logbooks

- Not required when EM is functioning

## Minor rule clarifications (Puget Sound)



# Line Marking – long-term

- State specific line
- Phased in implementation
- OR and CA considering regulations this year
- WA next year
- Englund Marine helping get line to test



# WA State Line - PRELIMINARY



# OR State Line - PRELIMINARY



# CA State Line - PRELIMINARY





# **2022-2023 CRAB SEASON UPDATE**

# 2022-23 WA Coastal Dungeness Crab Catch

	59A1	59A2	60A1	60A2*	60B	60C	61	TOTAL
NOV								
DEC								
JAN								
FEB	147,852	98,811	1,676,981	7,659,896	84,870	1,232,303	1,738,487	12,639,200
MARCH	252,599	313,108	1,833,186	3,715,386	38,144	423,290	676,682	7,252,395
APRIL	132,181	247,577	682,002	993,620	33,190	184,199	351,409	2,624,178
MAY	20,367	23,394	66,572	148,454	6,333	32,292	33,389	330,801
JUNE								
JULY								
AUG								
SEPT								
<b>TOTAL</b>	<b>552,999</b>	<b>682,890</b>	<b>4,258,741</b>	<b>12,517,356</b>	<b>162,537</b>	<b>1,872,084</b>	<b>2,799,967</b>	<b>22,846,574</b>

State thru 5/8/23 TOTAL FOR ALL CATCH AREAS **QUINALT** 4,212,650

\*Includes catch from area 60D Columbia River TOTAL FOR ALL CATCH AREAS **QUILEUTE** 109,352

TOTAL FOR **MAKAH** 62,927

TOTAL FOR  
ALL CATCH  
AREAS  
**HOH** 2,516

TOTAL STATE AND TRIBAL LANDINGS 27,234,019

TOTAL STATE FISHERY VALUE \$58,760,116



# State-Quinault

**State Crab Landings**

Month	59A-2	60A-1	60B	Total
November				-
December				-
January				-
February	98,811	1,676,981	84,870	1,860,662
March	313,108	1,833,186	38,144	2,184,438
April	247,577	682,002	33,190	962,769
May	23,394	66,572	6,333	96,299
June				-
July				-
August				-
September				-
<b>Total</b>	<b>682,890</b>	<b>4,258,741</b>	<b>162,537</b>	<b>5,104,168</b>

**QIN Crab Landings**

Month	59A-2	60A-1	60B	Total
November				-
December		792,064	3,094	795,158
January	263,728	1,984,396	19,205	2,267,329
February	158,438	356,250	7,235	521,923
March	63,331	249,986		313,317
April	20,406	214,095		234,501
May	4,349	76,073		80,422
June				-
July				-
August				-
September				-
<b>Total</b>	<b>510,252</b>	<b>3,672,864</b>	<b>29,534</b>	<b>4,212,650</b>



# State-Quinault

## CATCH SHARING

	59A-2	60A-1	60B	Total
QIN	510,252	3,672,864	29,534	4,212,650
STATE	682,890	4,258,741	162,537	5,104,168
TOTAL	1,193,142	7,931,605	192,071	9,316,818
QIN	43%	46%	15.4%	45.2%
STATE	57%	54%	84.6%	54.8%

