



*partners in marine conservation*

# Shore Friendly

## Shoreline Armor Reduction Outreach & Incentives



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# What is Shore Friendly?

- Regional social marketing program
- Encourage natural shorelines or alternatives to hard armor
- Remove or reduce barriers to behavior change
- Provides best available science for informed decision-making
- Non-regulatory
- Current focus is on private properties



[www.shorefriendly.org](http://www.shorefriendly.org)



Washington Department of FISH and WILDLIFE

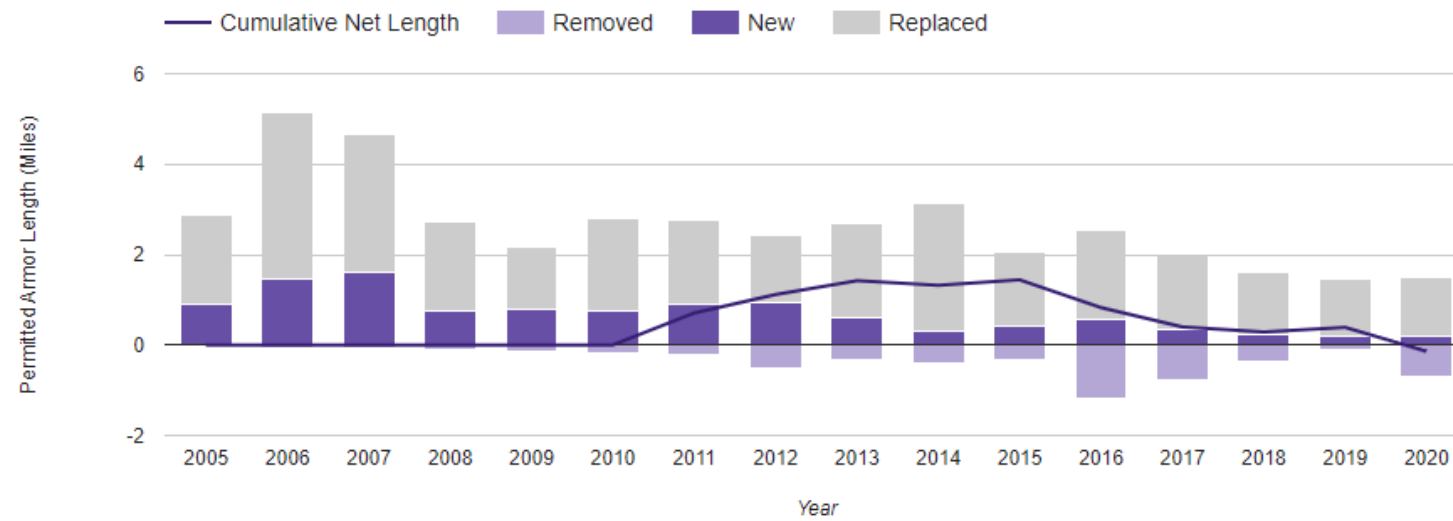


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## VITAL SIGN INDICATOR CHART

Net change in permitted shoreline armor  
By: Permitting Type

Options ▾



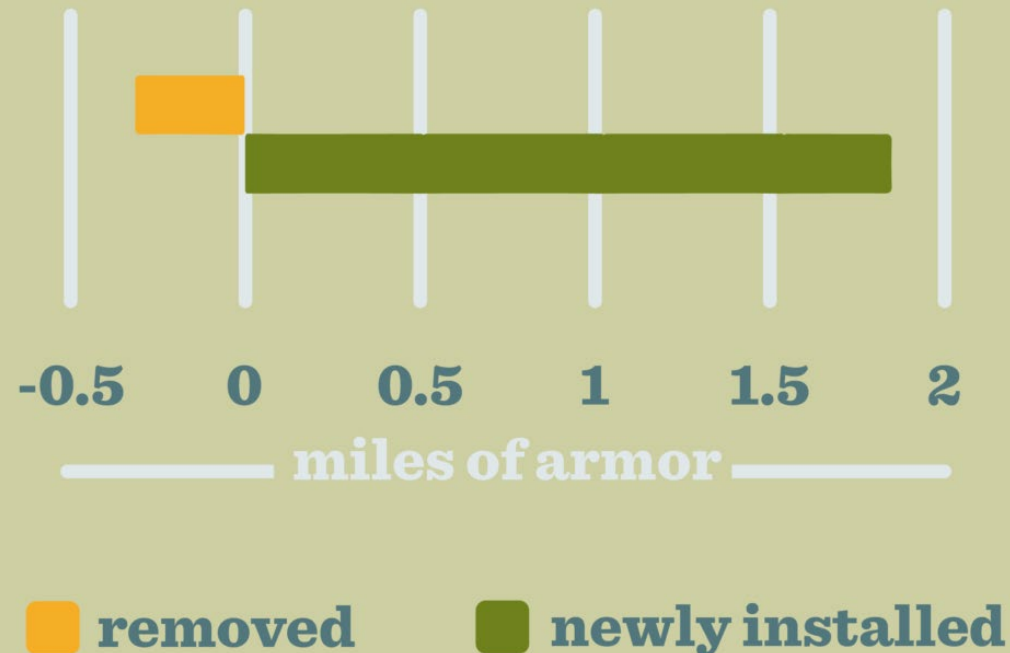
The annual length (shoreline miles) of new and removed shoreline armor permitted under the Washington Department of Fish and Wildlife Hydraulic Project Approval. The cumulative net change of shoreline armor is the sum total of the difference (new minus removed) between 2011 and 2020. Replacement of existing shoreline armor is the most common armor project but does not change the cumulative net length in permitted armor.

# Research Results *Armor Length*

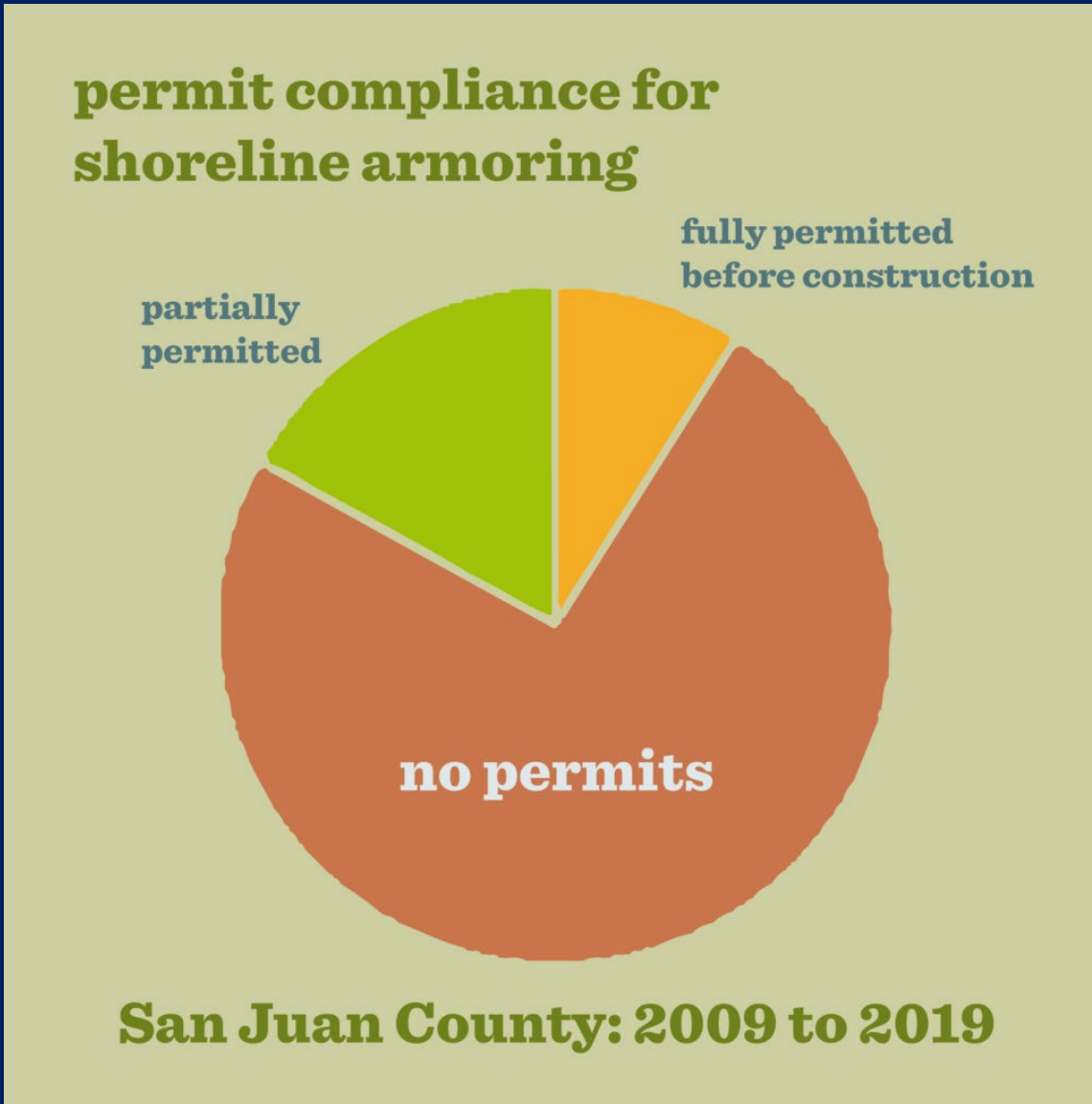
Note:

existing armor  
(present in 2009 and  
2019) = 25 miles

change in miles of armor on  
San Juan County marine  
shorelines, 2009 to 2019



# Armor Compliance





- Shore Friendly Living Workshops
- Shore Friendly Living Video Series
- Outreach Materials
- Community Beach Walks
- Free site visits
- Engineering Design and Permitting Assistance
- Cost-Share Opportunities



| ITEM  | QUANTITY | UNITS    | PRICE |
|-------|----------|----------|-------|
| 1.00  | 1        | AS SHOWN |       |
| 2.00  | 2        | 10' O.C. |       |
| 3.00  | 8        | 10' O.C. |       |
| 4.00  | 88       | 3' O.C.  |       |
| 5.00  | 8        | 3' O.C.  |       |
| 6.00  | 4        | 3' O.C.  |       |
| 7.00  | 4        | 3' O.C.  |       |
| 8.00  | 4        | 3' O.C.  |       |
| 9.00  | 82       | 4' O.C.  |       |
| 10.00 | 4        | 10' O.C. |       |
| 11.00 | 4        | 4' O.C.  |       |
| 12.00 | 87       | 4' O.C.  |       |
| 13.00 | 87       | 4' O.C.  |       |
| 14.00 | 311      | 24" O.C. |       |
| 15.00 | 311      | 24" O.C. |       |
| 16.00 | 18       | 12" O.C. |       |
| 17.00 | 18       | 12" O.C. |       |
| 18.00 | 44       | 2' O.C.  |       |
| 19.00 | 17       | 2' O.C.  |       |

REMOVE ALL WEEDS, STUBS AND OTHER VEGETATION FROM THE SITE TO BE PLANTED. REMOVE ALL WEEDS, STUBS AND OTHER VEGETATION FROM THE SITE TO BE PLANTED. REMOVE ALL WEEDS, STUBS AND OTHER VEGETATION FROM THE SITE TO BE PLANTED.

CONCRETE TRUSS PLANTING

BEACH GRASS PLANTING



SHORELINE  
ARMOR  
IMPACTS





# Shoreline armor doesn't:

Prevent Coastal Flooding



Prevent Bluff Erosion





Illustrations courtesy of Simone Des Roches  
<https://www.simonedr.com/>

# The Coastal Squeeze

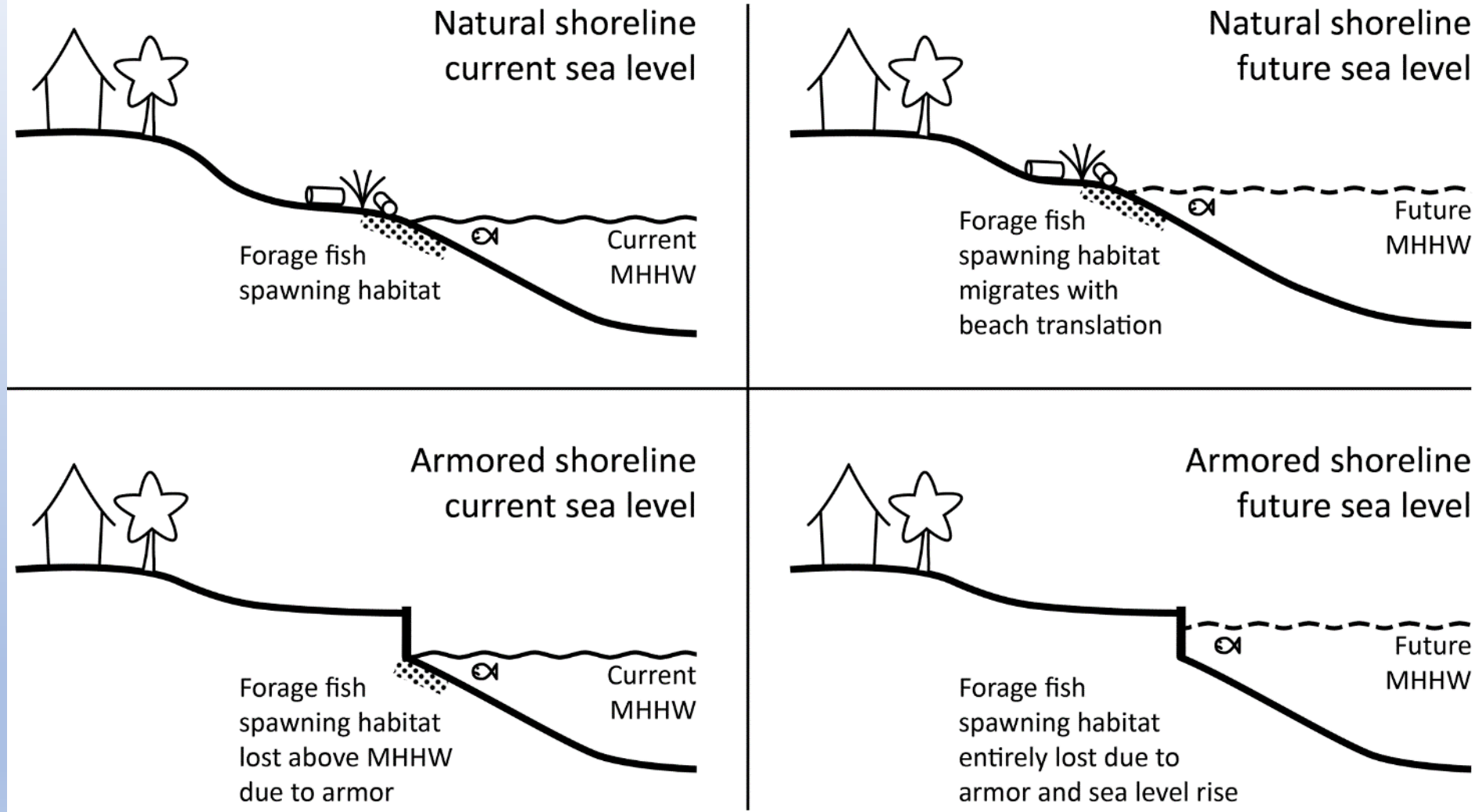



Figure from Coastal Geologic Services





SUMMARY:  
SHORELINE  
ARMOR  
IMPACTS

- ❖ Loss of habitat connectivity
- ❖ Burial of beach and forage fish spawning habitat
- ❖ Loss of backshore berm
- ❖ Increase wave reflection
- ❖ Beach scour/erosion
- ❖ Loss of fines (sands)
- ❖ Impacts to littoral drift
- ❖ Reduced sediment input
- ❖ Proliferation and expansion
- ❖ Habitats simplified/lost

