WDFW Harmful Algal Bloom Monitoring and Management

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PSMFC Annual Meeting
September 27, 2016

Introduction

* HAB's pose a significant threat to human health and wildlife
* In 1999, to better understand the impacts from HAB's, researchers from state and federal agencies, tribal nations, and academia partnered to form the Olympic Coast Region Harmful Algal Bloom (ORHAB) monitoring collaboration

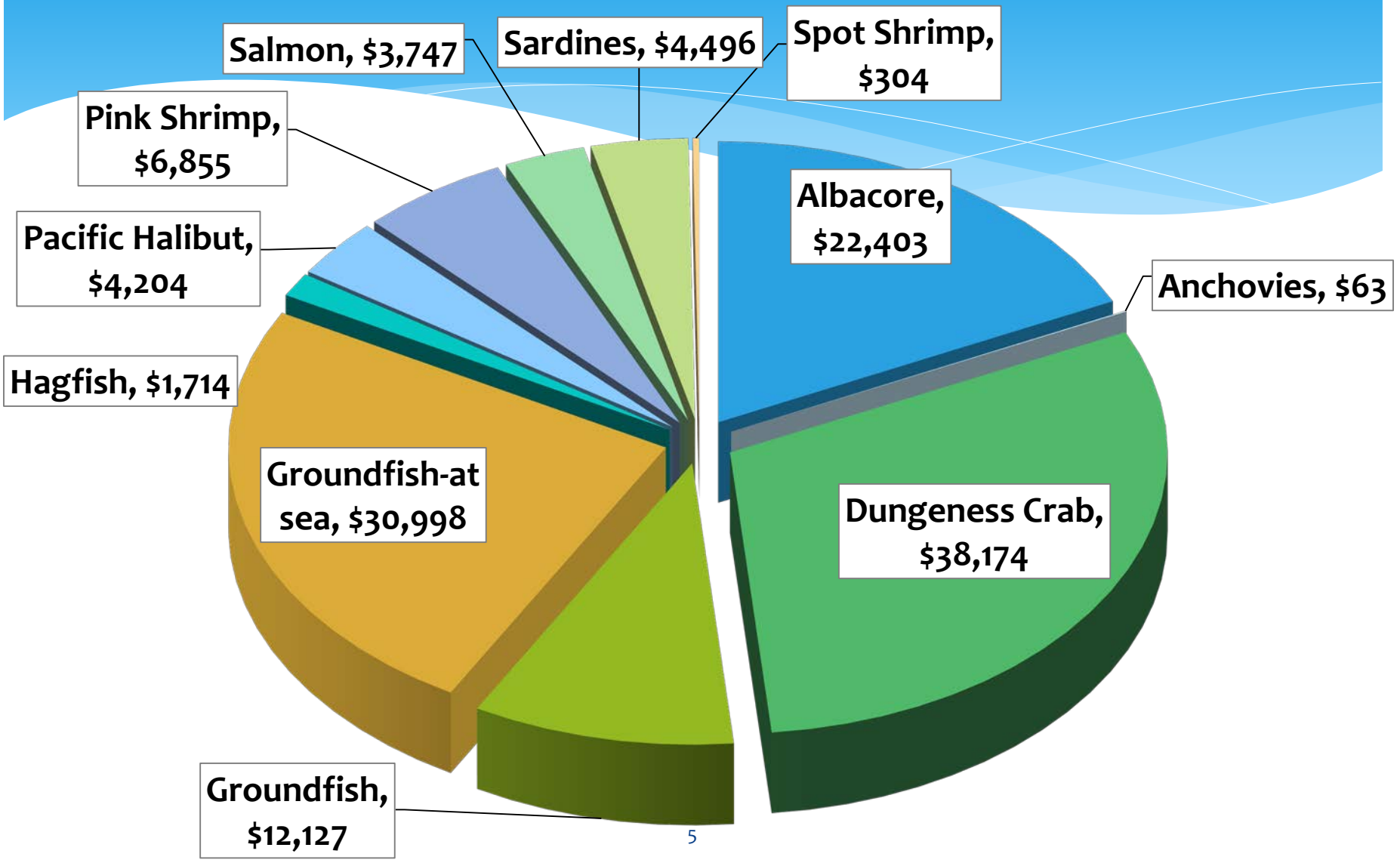
HAB Monitoring

* Together with WA Dept. of Health, WDFW and the tribes collect and test shellfish samples from a number of sites on a regular basis
* Standardized processing and analysis generates data on HAB species and the presence of biotoxins
* When cell counts reach actions levels (specified by DOH):
  * Managers are notified
  * Sampling is increased in both frequency and spatial coverage

Management

* WA's coastal economies depend on revenues generated by recreational and commercial shellfish fisheries
* Over the last two decades the Washington coast has experienced four major harmful algal bloom events that have had significant impacts on sport and commercial fisheries and the coastal communities that depend on them

Washington coastal commercial fisheries average ex-vessel value; revenue (thous. $) 2010-2014



2015 HAB Event and Management Response

* **May 2015: elevated domoic acid levels in razor clams resulted in emergency closures of the open sport and commercial fisheries. Tribal fisheries were also closed. These fisheries remained closed through the end of their seasons**
* **June 2015: high levels of domoic acid were found in D. crab samples in the area south of Pt. Chehalis resulting in an emergency closure for sport and commercial harvest of D. crab in the area between Pt. Chehalis and the WA-OR border (including Col. River and Willapa Bay)**
  * **This area remained closed through the end of the season on September 15**

2015 HAB Event and Management Response

* Early August 2015: high levels of domoic acid were found in D. crab in the area between Pt. Chehalis and the Queets River and the emergency closure for sport and commercial harvest was expanded
* Tribal fisheries were also closed
* This area re-opened on August 28th to state sport and commercial crab harvest when domoic acid levels dropped below the action levels. Tribal fisheries remained closed.

2015-2016 HAB Events and Management Response

* September 2015: Sport fishing re-opens south of Point Chehalis
* October: domoic acid levels in razor clams continues to decrease on the Washington coast
* November: WDFW and ODFW managers coordinate to announce a coastwide season delay from Klipsan Beach, WA to the Oregon California border consistent with the closure already in place in California
* Crab Season opens in WA and OR January 4, 2016
* Continued delay in California

PSMFC Sponsored Tri-State Management MOU for the Dungeness Crab Fishery

* The Directors of the three states agreed to take mutually supportive action to further the management and maximize the sound ecological and biological utilization of the resource
* The intent of the MOU has been implemented through the Tri-State Committee and facilitated by PSMFC
* The Tri-State Committee with industry input has developed coastwide pre-season testing protocols

Tri-State Dungeness Crab Committee

* In response to domoic acid closures and delays, Tri-State managers agreed to follow a similar process in place for pre-season meat recovery testing when discussing decision points for domoic acid issues
  * Coordinated season opening that avoids large effort shifts
  * Seek input from industry advisors
  * Provide sufficient notice relative to openings
  * Biotoxin protocols will be in place for the 2016-2017 season

Tri-State Dungeness Crab Committee

- **Additional issues to consider relative to response to biotoxin delays**
  - **Public health issues**
    - **Additional tests helped to ensure that when the fishery opens, crab coming to the marketplace will be safe.**
  - **Authority of Health Agencies and coordination**
  - **Sampling consistency**
  - **Media messaging**

Tri-State Dungeness Crab Committee

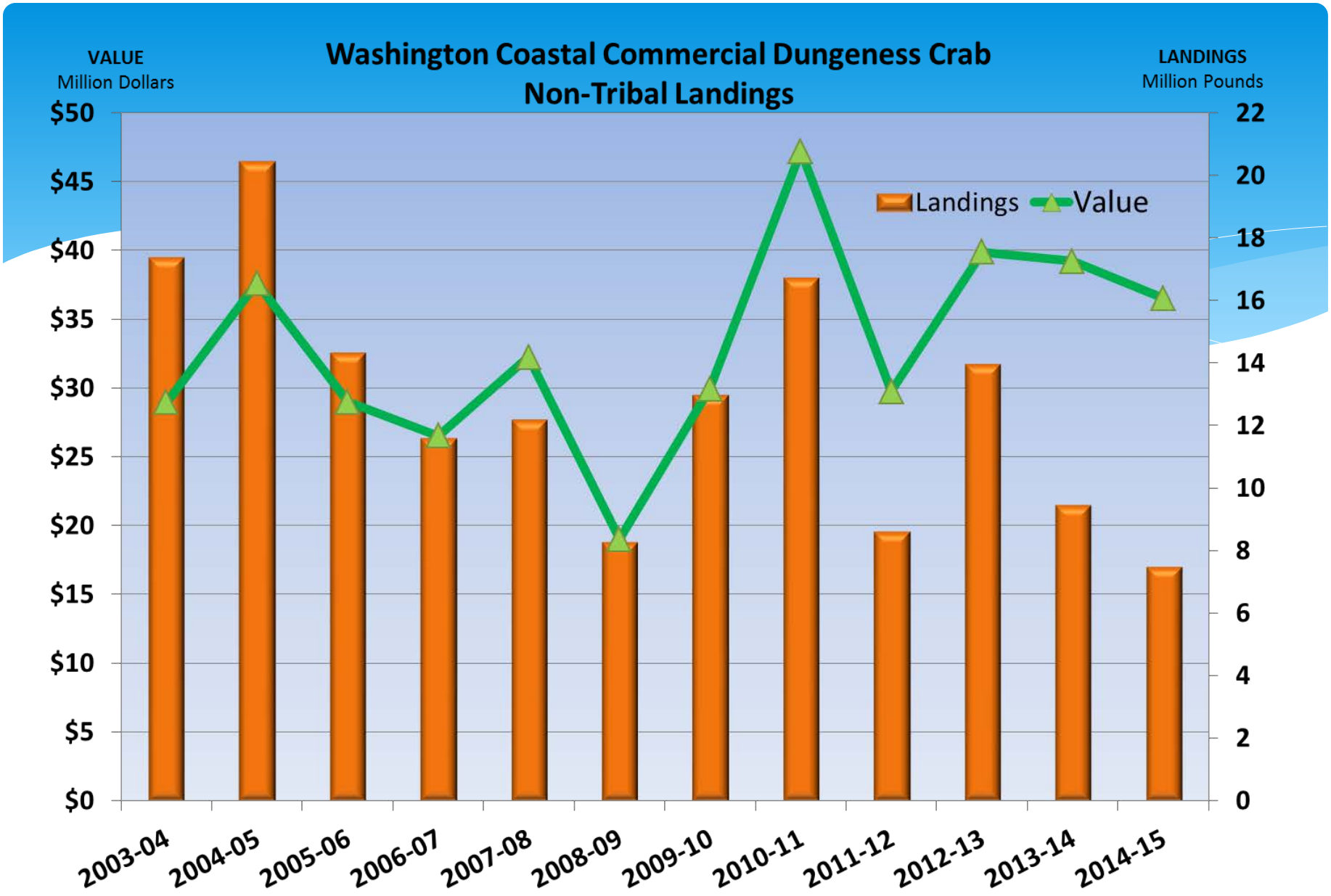
* Meeting in June 2016 to formalize a coastwide consistent biotoxin sampling and management plan. A successful response to a biotoxin event will include:
  * Sufficient testing to ensure confidence in high quality and safe product
  * Utilize an accountable, transparent, and conservative approach to opening/delaying the season
  * Following a consistent, standardized, efficient and effective protocol/plan with built in flexibility and responsiveness.
  * A coordinated and consistent media/PR strategy

END

* Extra Slides…

Introduction

* ORHAB focused on building early warning capabilities for HAB's in Washington State and provides scientific data to contribute to the understanding of HAB events coastwide


Washington Coastal Commercial Dungeness Crab
Non-Tribal Landings
VALUE
Million Dollars
LANDINGS
Million Pounds
Landings
Value
$50
$45
$40
$35
$30
$25
$20
$15
$10
$5
$0
22
20
18
16
14
12
10
8
6
4
2
0
2003-04
2004-05
2005-06
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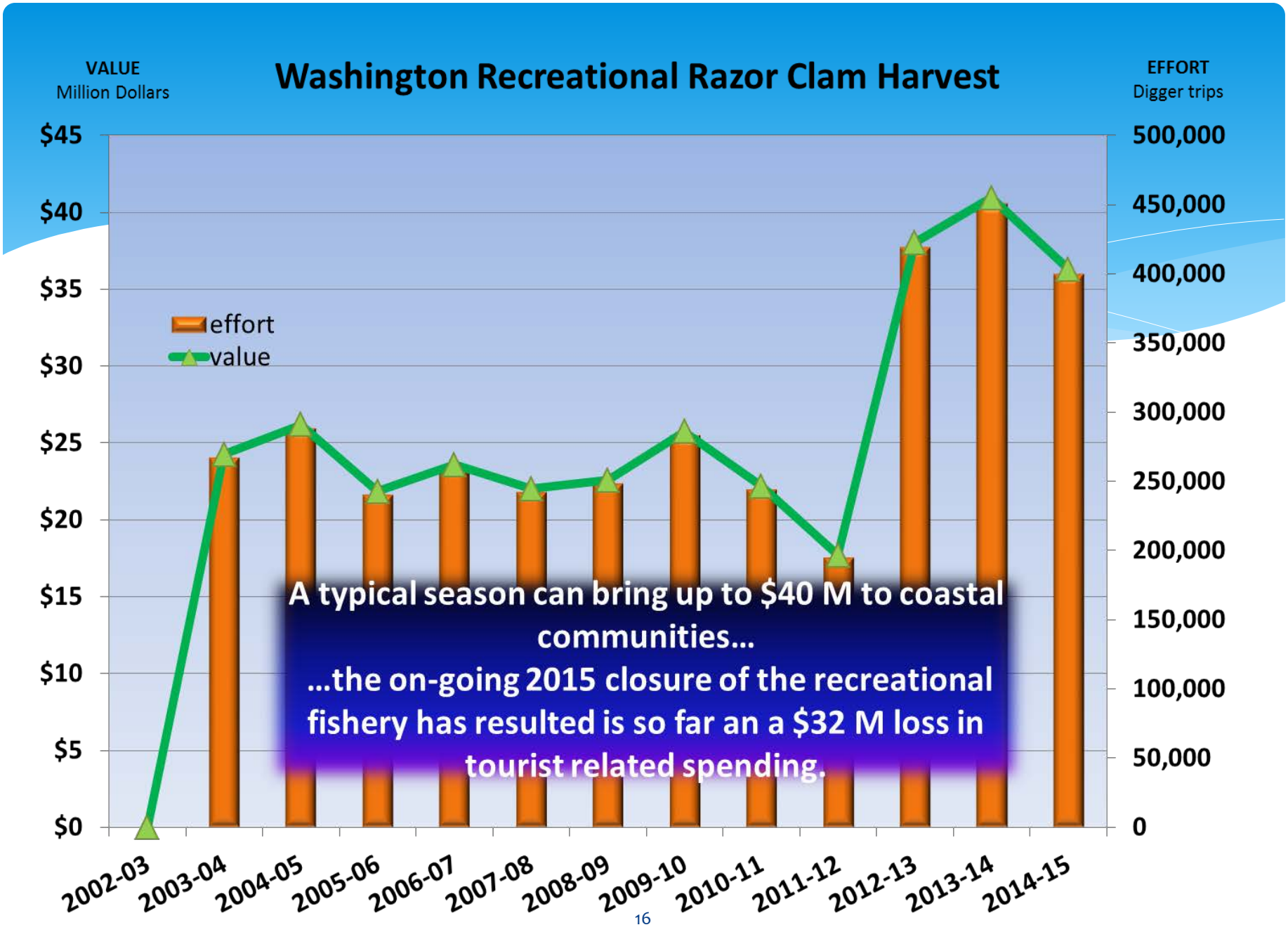
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15


Washington Recreational Razor Clam Harvest
VALUE
Million Dollars
EFFORT
Digger trips
$45
$40
$35
$30
$25
$20
$15
$10
$5
$0
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
effort
value
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
A typical season can bring up to $40 M to coastal communities…
…the on-going 2015 closure of the recreational fishery has resulted is so far an a $32 M loss in tourist related spending.