

# **Fishery Ecosystem Plan Initiative 2: Coordinated Ecosystem Indicators and Annual Report Review**

Ecosystem Workgroup  
Presentation for D.1.a.  
September 2016

# **CALIFORNIA CURRENT INTEGRATED ECOSYSTEM ASSESSMENT (CCIEA)**

## **STATE OF THE CALIFORNIA CURRENT REPORT, 2016**

*A report of the NOAA CCIEA Team to the Pacific Fishery Management Council, March 9, 2016.  
Editors: Dr. Toby Garfield (SWFSC) and Dr. Chris Harvey (NWFSC)*

### **1 INTRODUCTION**

Section 1.4 of the 2013 Fishery Ecosystem Plan (FEP) outlines a reporting process wherein NOAA provides the Council with a yearly update on the state of the California Current Ecosystem (CCE), as derived from environmental, biological and socio-economic indicators. NOAA's California Current Integrated Ecosystem Assessment (CCIEA) team is responsible for this report. This marks our 4<sup>th</sup> such report, with prior reports in 2012, 2014 and 2015.

The highlights of this report are summarized in Box 1.1. Sections below provide greater detail. In addition, a list of supplemental materials is provided at the end of this document, in response to previous requests from Council members or the Scientific and Statistical Committee (SSC) to provide additional information, or to clarify details within this short report.

#### *Box 1.1: Highlights of this report*

- Due to the record high sea surface temperature anomalies in both the northeast Pacific and the region off Baja California and the development of the third largest El Niño this century, for the 2014 – 2015 period the California Current Ecosystem can be classified as lower productivity at almost every trophic level. Oceanographic conditions, represented by MEI, PDO and NPGO indices, indicated warmer conditions throughout.

# PACIFIC FISHERY MANAGEMENT COUNCIL

GROUND FISH SALMON PACIFIC HALIBUT HIGHLY MIGRATORY SPECIES

COASTAL PELAGIC SPECIES HABITAT AND COMMUNITIES **ECOSYSTEM-BASED MANAGEMENT**

COUNCIL OPERATIONS

[Home](#)

[About us](#)

[Contact or visit us](#)

[Current \(or next\) Council Meeting](#)

[State & federal contact information](#)

[Resources & archives](#)

Google™ Custom Se



**CURRENT**  
Fishery Ecosystem Plan

[Blog](#)

[Fishery Ecosystem Plan  
Schedule](#)

[Annual State of the  
California Current  
Ecosystem](#)

[Fishery Ecosystem Plan  
Initiatives](#)

[Comprehensive Ecosystem-  
Based Amendment 1:  
Protecting Unfished and  
Unmanaged Forage Fish  
Species](#)

[Coordinated Ecosystem  
Indicator Review Initiative](#)

[For more information](#)

Contact: Kit Dahl, Staff Officer for  
ecosystem-based management, at  
[Kit.Dahl@noaa.gov](mailto:Kit.Dahl@noaa.gov) at (503) 820-  
2422, or toll free (800) 808-7204,  
ext. 422

Contact members of the Council, or  
the **Ecosystem Advisory  
Subpanel**, or attend their public  
meetings.

## Ecosystem-Based Management: Coordinated Ecosystem Indicator Review Initiative

- [Background on the Coordinated Ecosystem Indicator Review Initiative](#)
- [Webinar Series On Ecosystem Indicators](#)

### Background on the Coordinated Ecosystem Indicator Review Initiative

At the March 2015 meeting the Council launched the Coordinated Ecosystem Indicator Review Initiative.

The NMFS Northwest and Southwest Fisheries Science Centers provide the Council with an annual State of the California Current Ecosystem Report (CCES Report). [The third annual report](#) was delivered in March 2015 (Agenda Item E.1.b, NMFS Report 2). This report on ecosystem status and trends included indicators within the broad categories: Climate and Ocean Drivers (indicators of shifting climate and other oceanographic trends); Focal Components of Ecological Integrity (indicators of shifting abundance of biological components of the ecosystem); and Human Activities and Human Wellbeing (indicators of human interactions with the ocean ecosystem).

The Scientific and Statistical Committee's Ecosystem Subcommittee (SSCES) has provided guidance on the quality of the scientific information and analyses that support the State of the California Current Ecosystem report (see [Supplemental SSC Report](#), at Agenda Item H.1.b, November 2014, and [SSC Ecosystem Subcommittee Report](#) at Agenda Item E.1.c, March 2015). However, the overall usefulness of the annual report to the Council could be refined and improved if the larger Council family were to have a deeper discussion of the report's indicator categories, what indicators should be part of the annual report, and, more importantly, how they interface with FMP fisheries to better support the Council's ecosystem-based management policies. Under this initiative, the Council, its advisory bodies, and the public will together discuss the ecosystem-scale physical, biological, and socio-economic drivers that most strongly influence FMP species and their biological communities, and FMP fisheries and their human communities.





?

Agenda Item D.1.a  
Ecosystem Workgroup Report  
September 2016

?







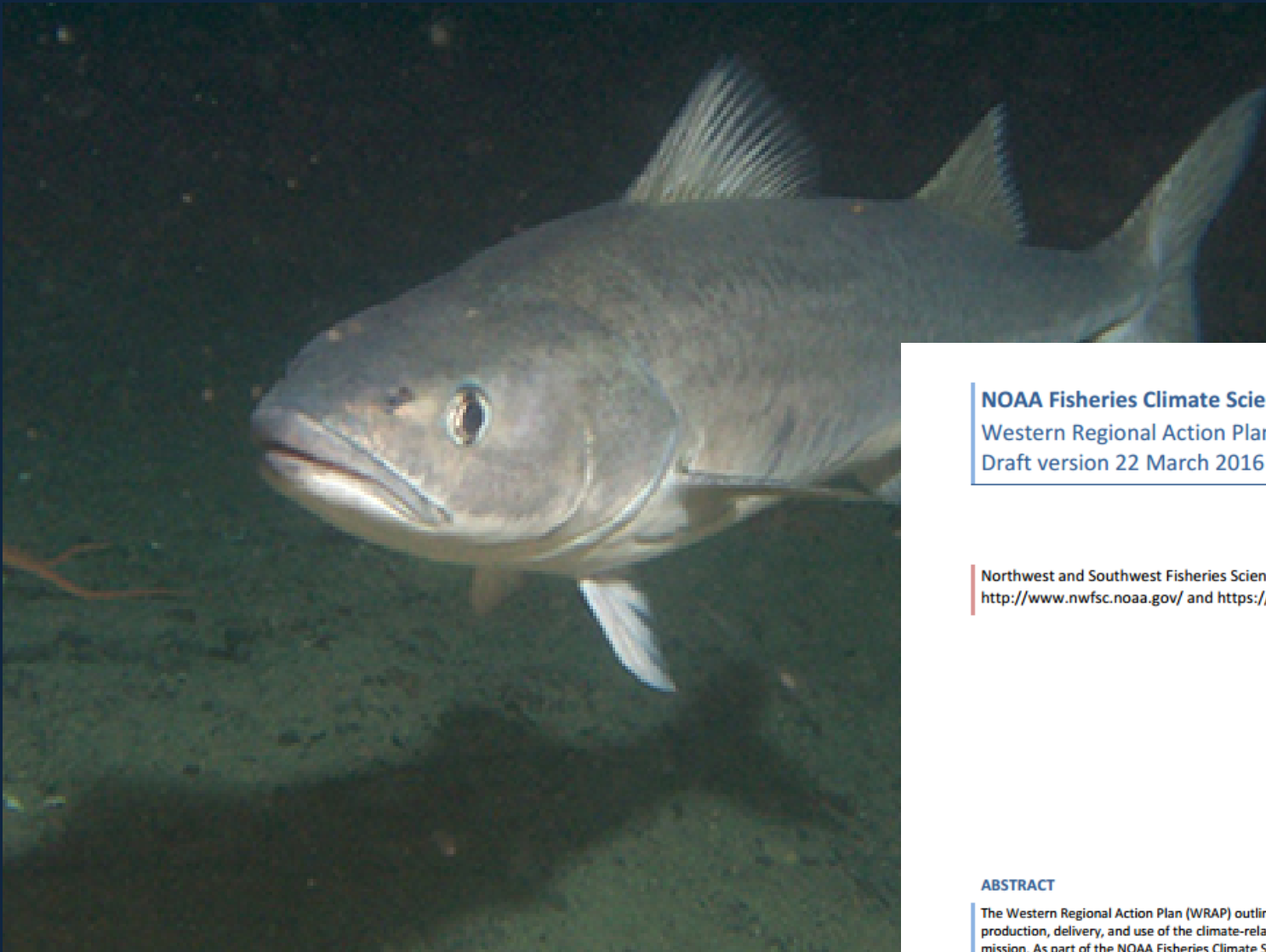












**NOAA Fisheries Climate Science Strategy (NCSS)**  
Western Regional Action Plan (WRAP)  
Draft version 22 March 2016

---

Northwest and Southwest Fisheries Science Centers  
<http://www.nwfsc.noaa.gov/> and <https://swfsc.noaa.gov/>

**ABSTRACT**

The Western Regional Action Plan (WRAP) outlines efforts underway to increase the production, delivery, and use of the climate-related information required to fulfill our mission. As part of the NOAA Fisheries Climate Science Strategy (NCSS), the WRAP conforms to a nationally consistent framework that guides efforts by NOAA Fisheries and partners to address the agency's climate-related information needs. The WRAP identifies strengths, weaknesses, priorities, and actions to implement the Strategy on the U.S. West Coast over the next 3 - 5 years.



**NOAA FISHERIES**

# **CALIFORNIA CURRENT INTEGRATED ECOSYSTEM ASSESSMENT (CCIEA)**

## **STATE OF THE CALIFORNIA CURRENT REPORT, 2016**

*A report of the NOAA CCIEA Team to the Pacific Fishery Management Council, March 9, 2016.  
Editors: Dr. Toby Garfield (SWFSC) and Dr. Chris Harvey (NWFSC)*

### **1 INTRODUCTION**

Section 1.4 of the 2013 Fishery Ecosystem Plan (FEP) outlines a reporting process wherein NOAA provides the Council with a yearly update on the state of the California Current Ecosystem (CCE), as derived from environmental, biological and socio-economic indicators. NOAA's California Current Integrated Ecosystem Assessment (CCIEA) team is responsible for this report. This marks our 4<sup>th</sup> such report, with prior reports in 2012, 2014 and 2015.

The highlights of this report are summarized in Box 1.1. Sections below provide greater detail. In addition, a list of supplemental materials is provided at the end of this document, in response to previous requests from Council members or the Scientific and Statistical Committee (SSC) to provide additional information, or to clarify details within this short report.

#### *Box 1.1: Highlights of this report*

- Due to the record high sea surface temperature anomalies in both the northeast Pacific and the region off Baja California and the development of the third largest El Niño this century, for the 2014 – 2015 period the California Current Ecosystem can be classified as lower productivity at almost every trophic level. Oceanographic conditions, represented by MEI, PDO and NPGO indices, indicated warmer conditions throughout.









For those images where sources are not shown directly on image, :

Slide 4: All images, NOAA, except jack mackerel, Adam Obaza, NMFS WCR

Slide 5: 1960s-era Toy Review Committee, U.S. Food and Drug Administration

Slides 6-12: All images, NOAA. Slide 11 image is Alexander Dallas Bache, 19<sup>th</sup> century American scientist and second superintendent of U.S. coast survey.