

This Presentation was part the

**California Fish and Game Commission's  
Workshop on Strategic Improvement in  
California's Anadromous Hatcheries**

Sacramento, February 4, 2014

# Hatchery Production of Salmon and Steelhead



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# Presentation Overview

- A broad overview of anadromous hatchery production
- Display production over prior 6 years
- Correlate production with production goals
- Stimulus for discussion on hatchery operations

# Salmon Hatchery Locations

## California Department of Fish and Game State Fish Hatcheries



Production Goals  
California Department of Fish and Wildlife  
and U.S. Fish and Wildlife Service

Species	Goal
Fall-run Chinook salmon (FCS)	28,900,000
Spring-run Chinook salmon (SCS)	3,400,000
Coho salmon	775,000
Steelhead	2,795,000
CDFW subtotal	<b>35,710,000</b>
FCS	12,000,000
Late Fall-run Chinook salmon (LFCS)	1,000,000
Winter-run Chinook salmon (WCS)	250,000
Steelhead	600,000
USFWS+CDFW Total	<b>49,720,000</b>

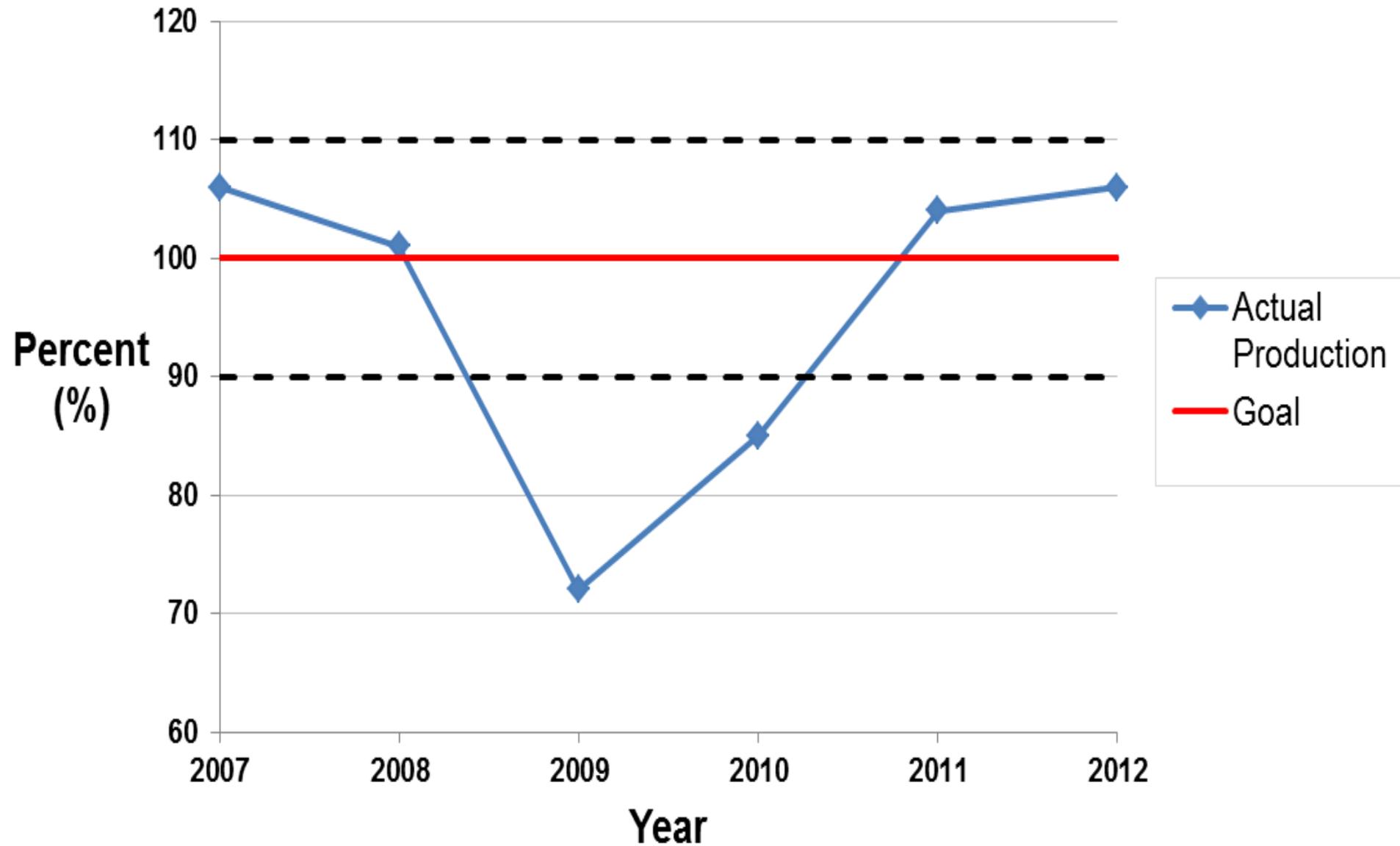
# Broad Program View, CDFW

Species	Size	Goal
FCS	Smolt	27,100,000
FCS	Yearling	1,800,000
SCS	Smolt	3,000,000
SCS	Yearling	400,000
Coho salmon	Smolt	200,000
Coho salmon	Yearling	575,000
Steelhead	Yearling	2,795,000

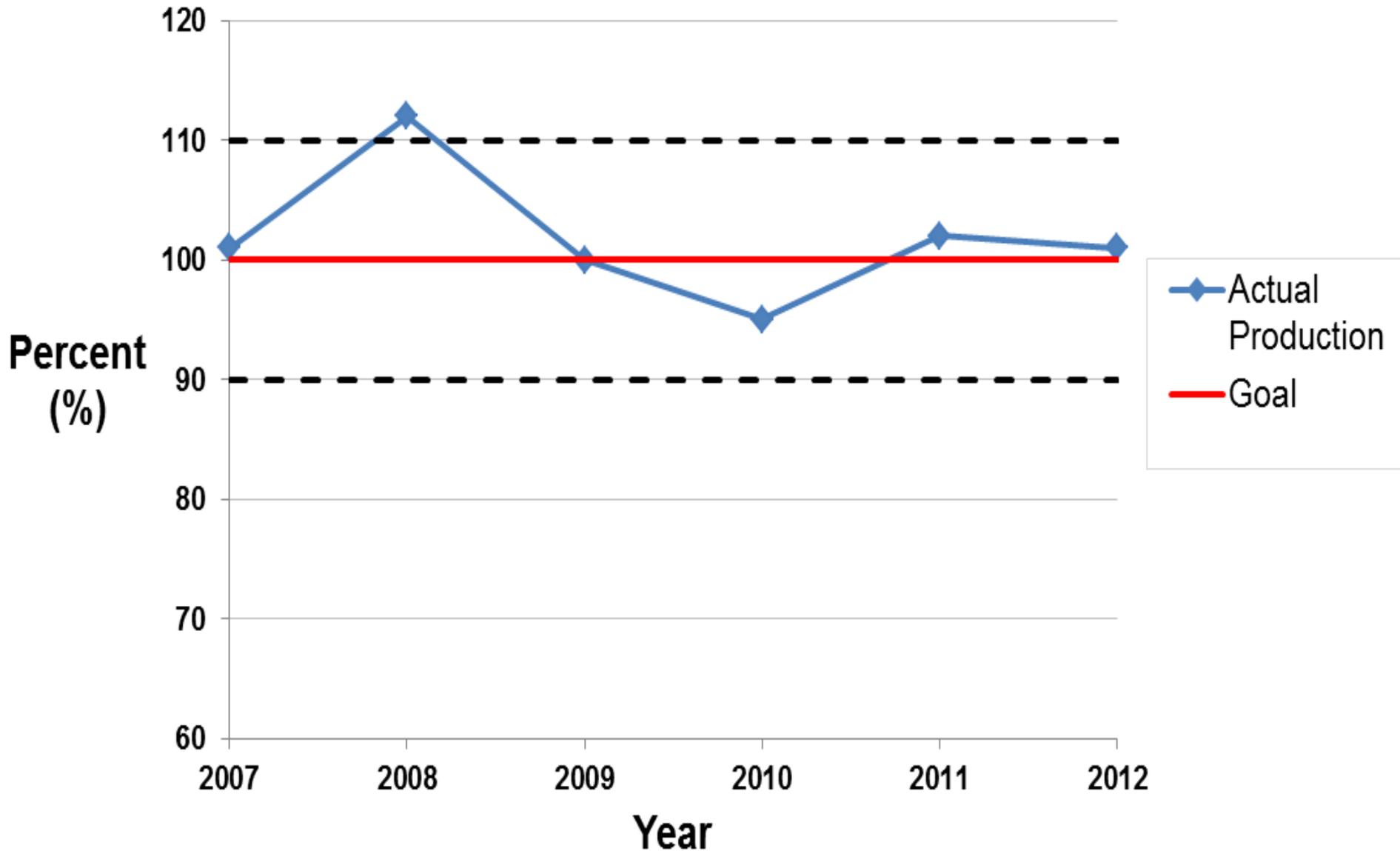
# Broad Program View, USFWS

Species	Size	Goal
FCS	Smolt	12,000,000
LFCS	Yearling	1,000,000
Steelhead	Yearling	600,000
WCS	Smolt	250,000

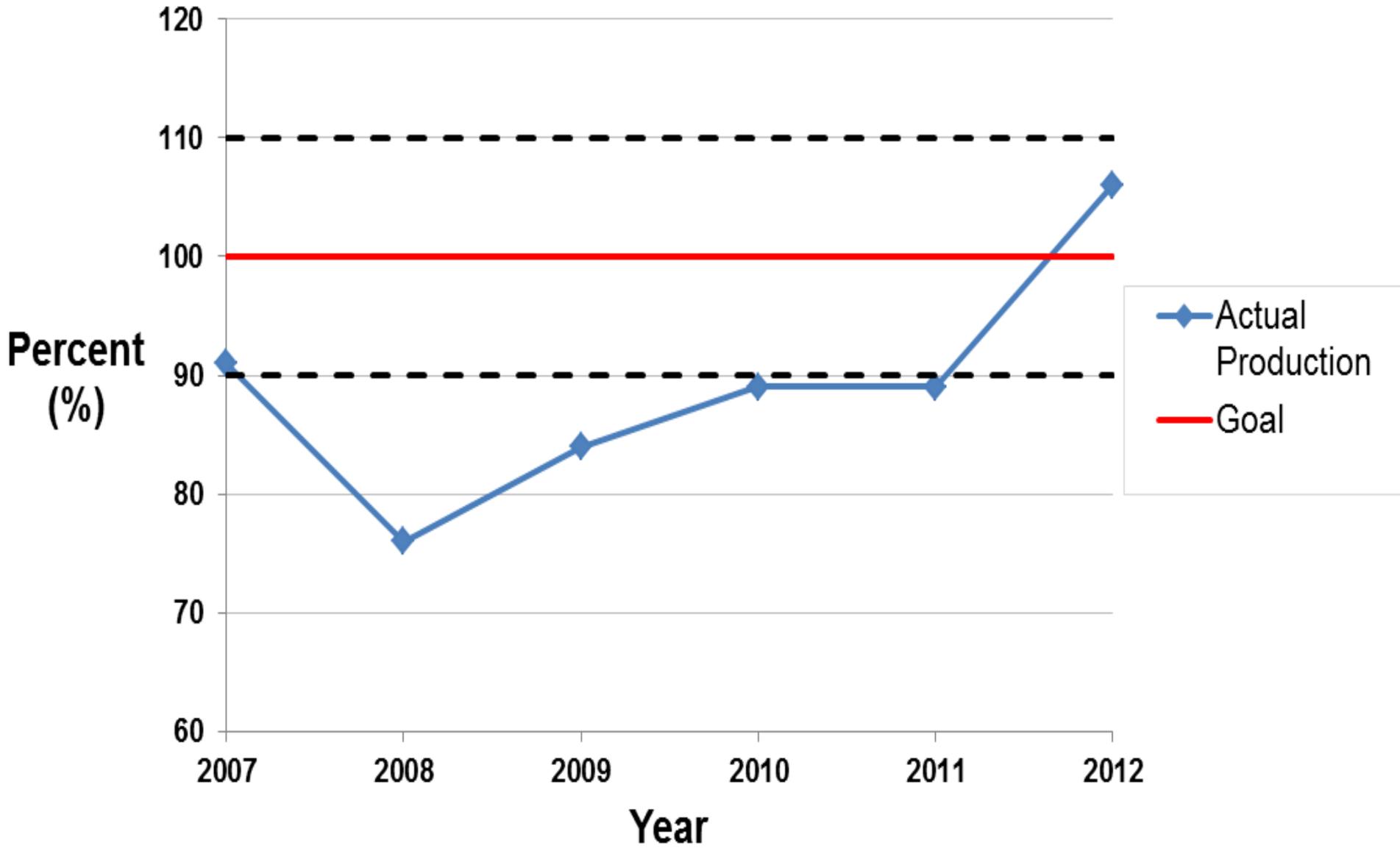
# CDFW Fall-Run Chinook Production



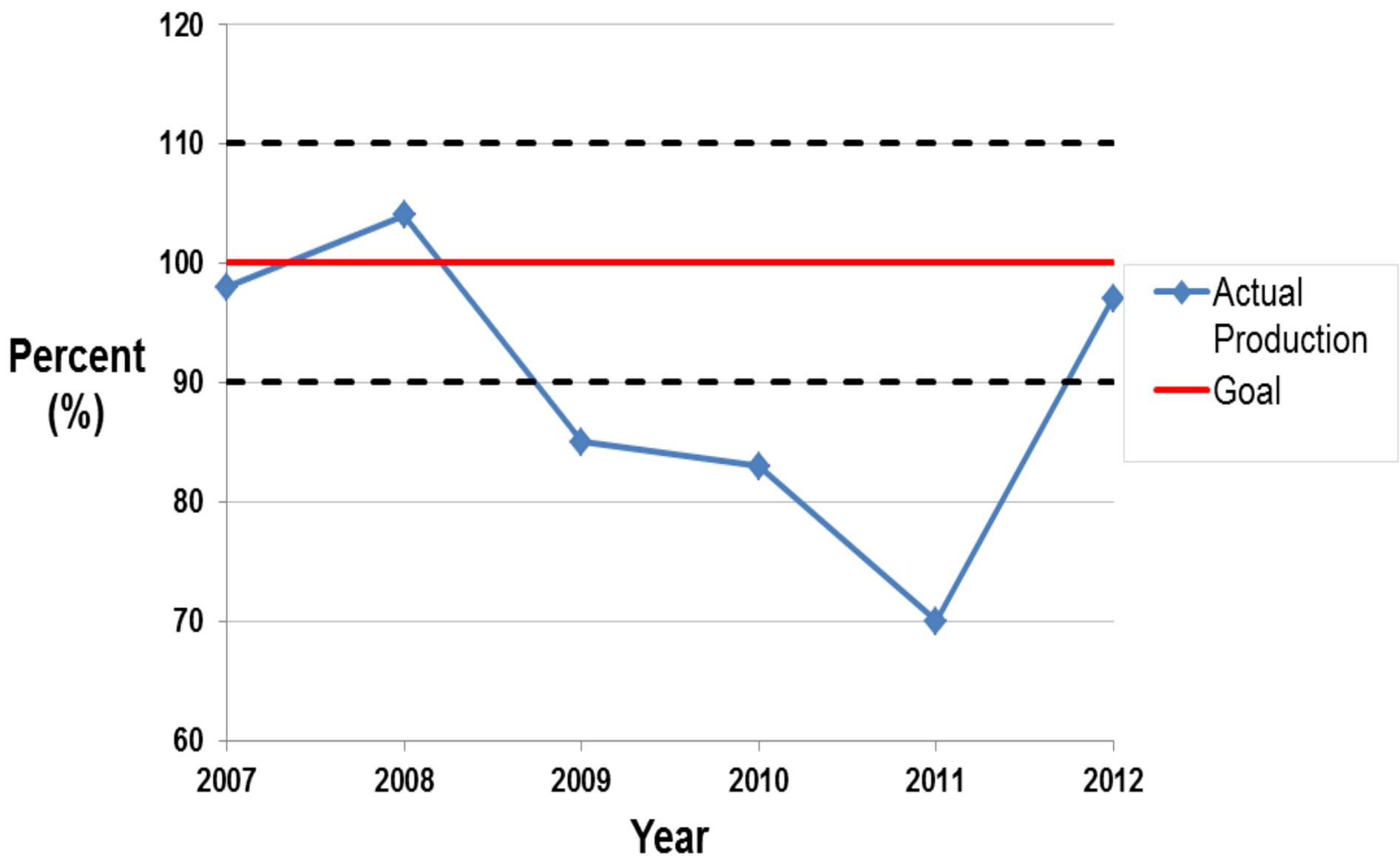
# CDFW Spring-Run Chinook Production



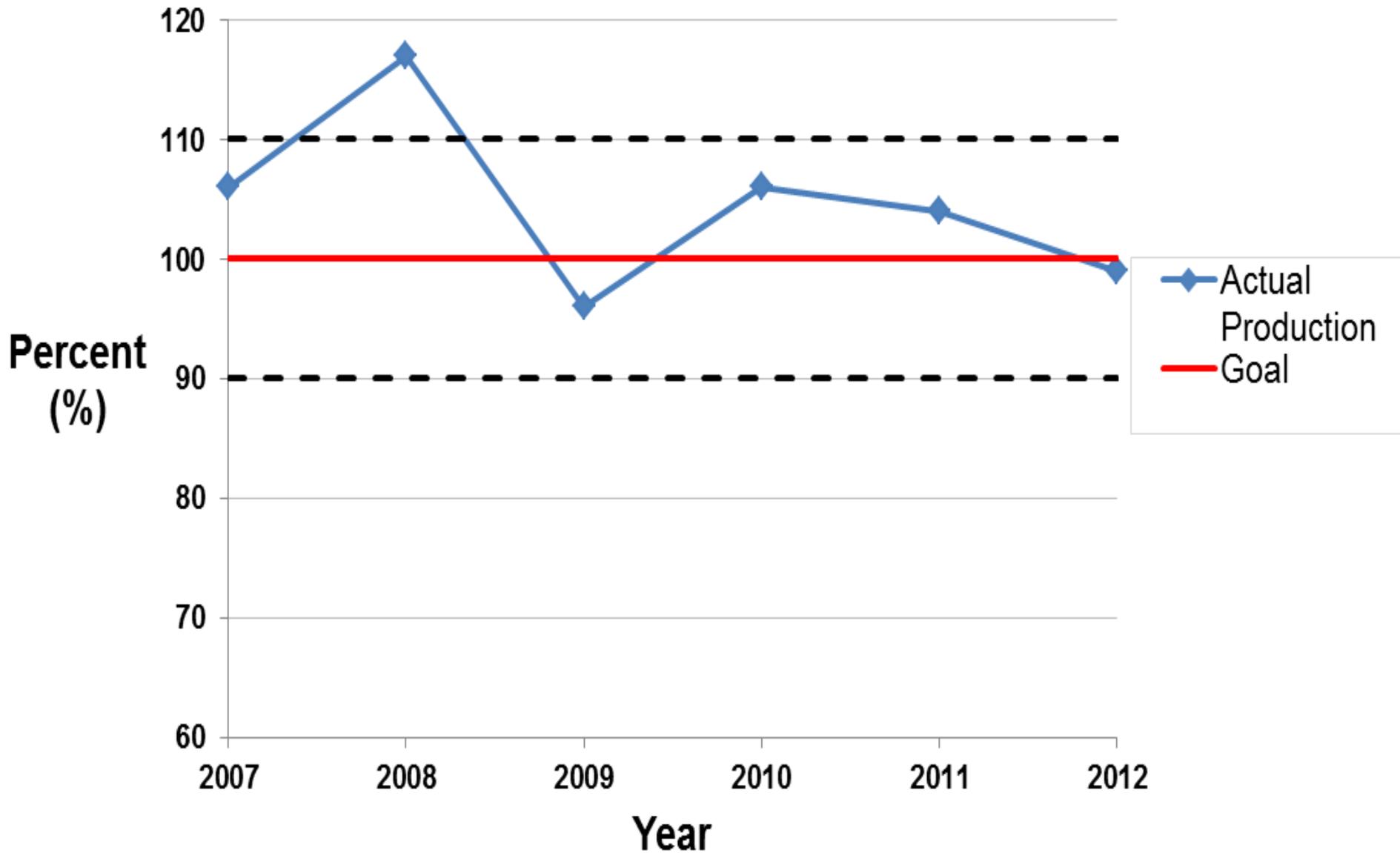
# CDFW Coho Salmon Production



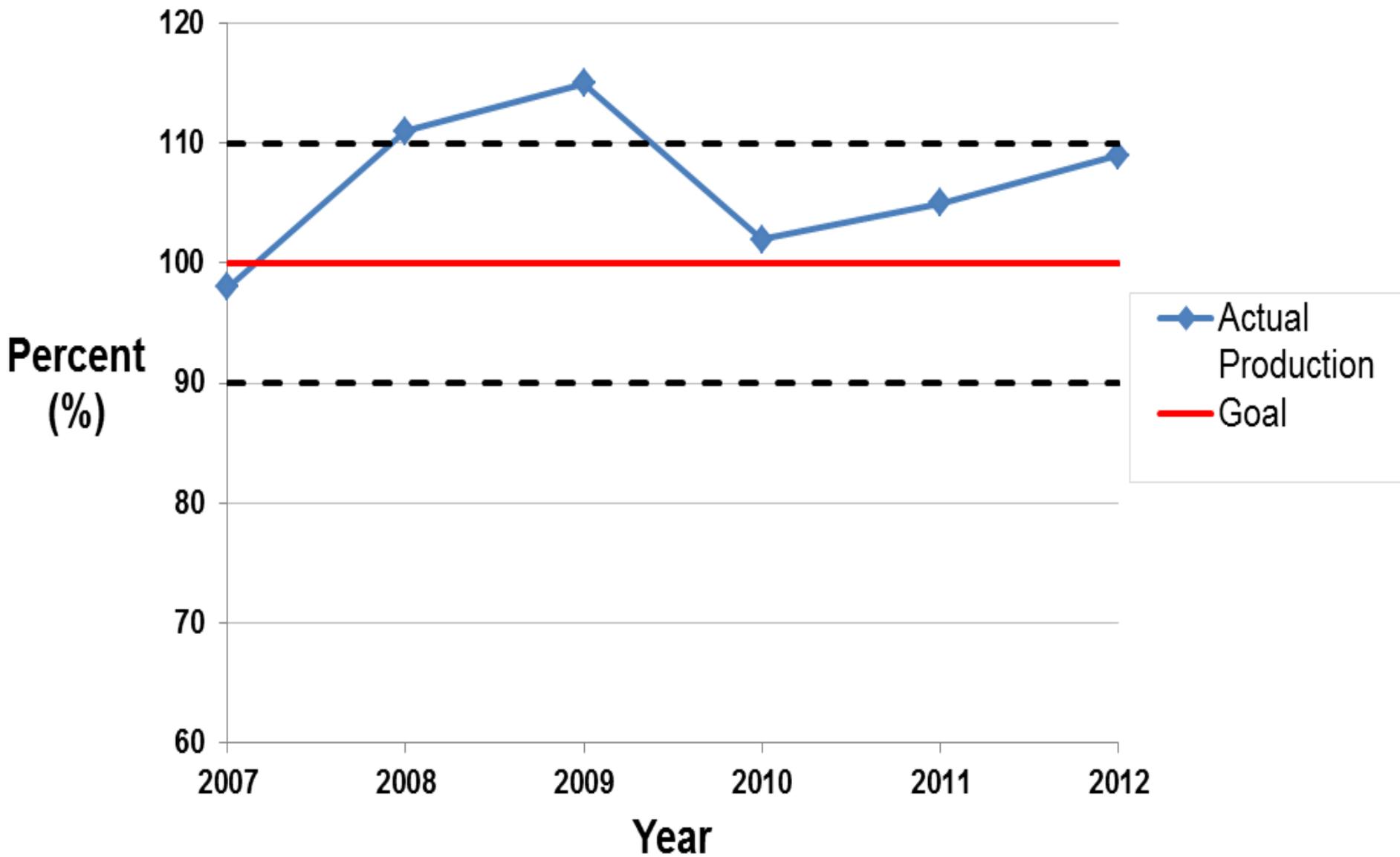
# CDFW Steelhead Production



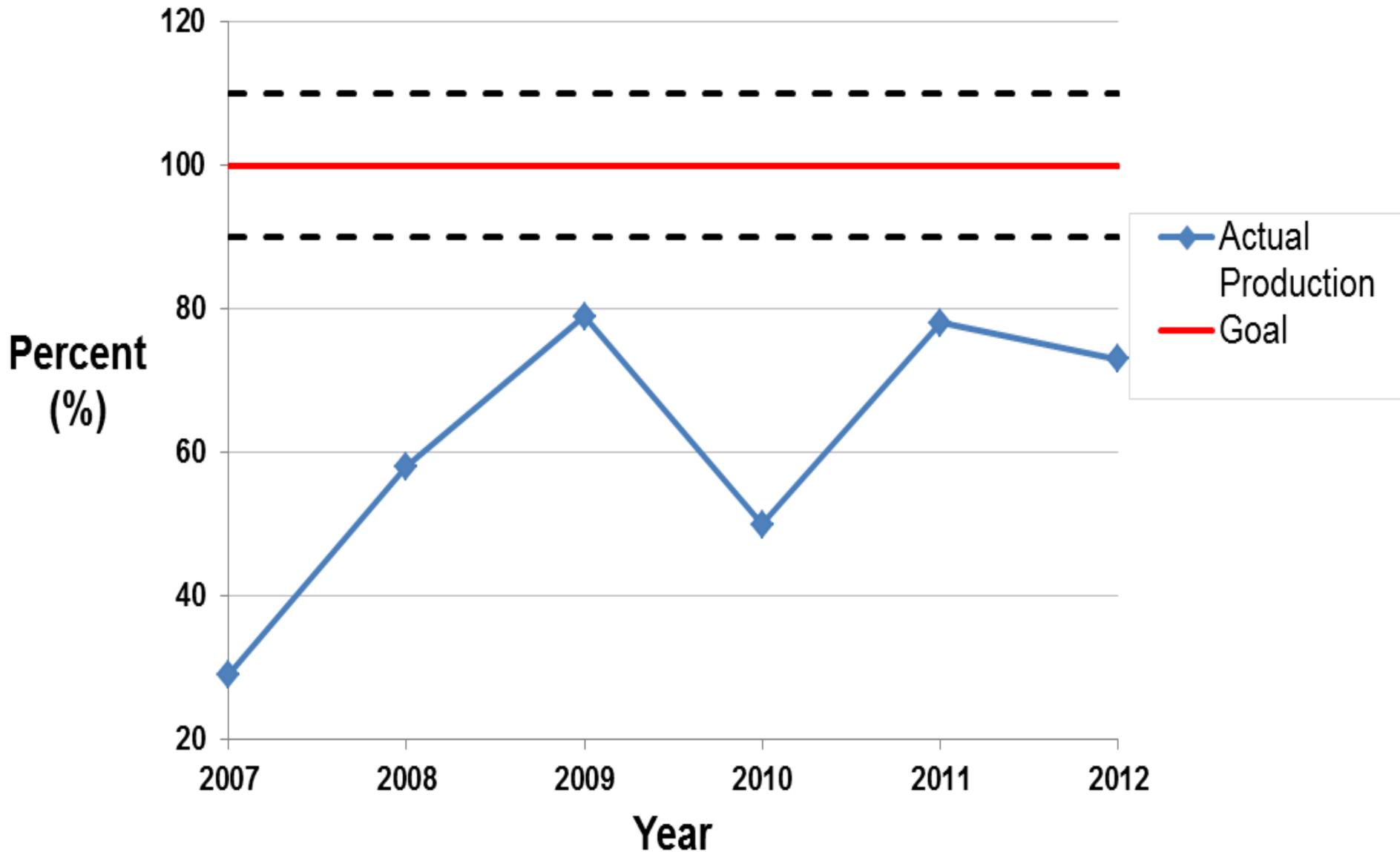
# USFWS Fall-Run Chinook Production



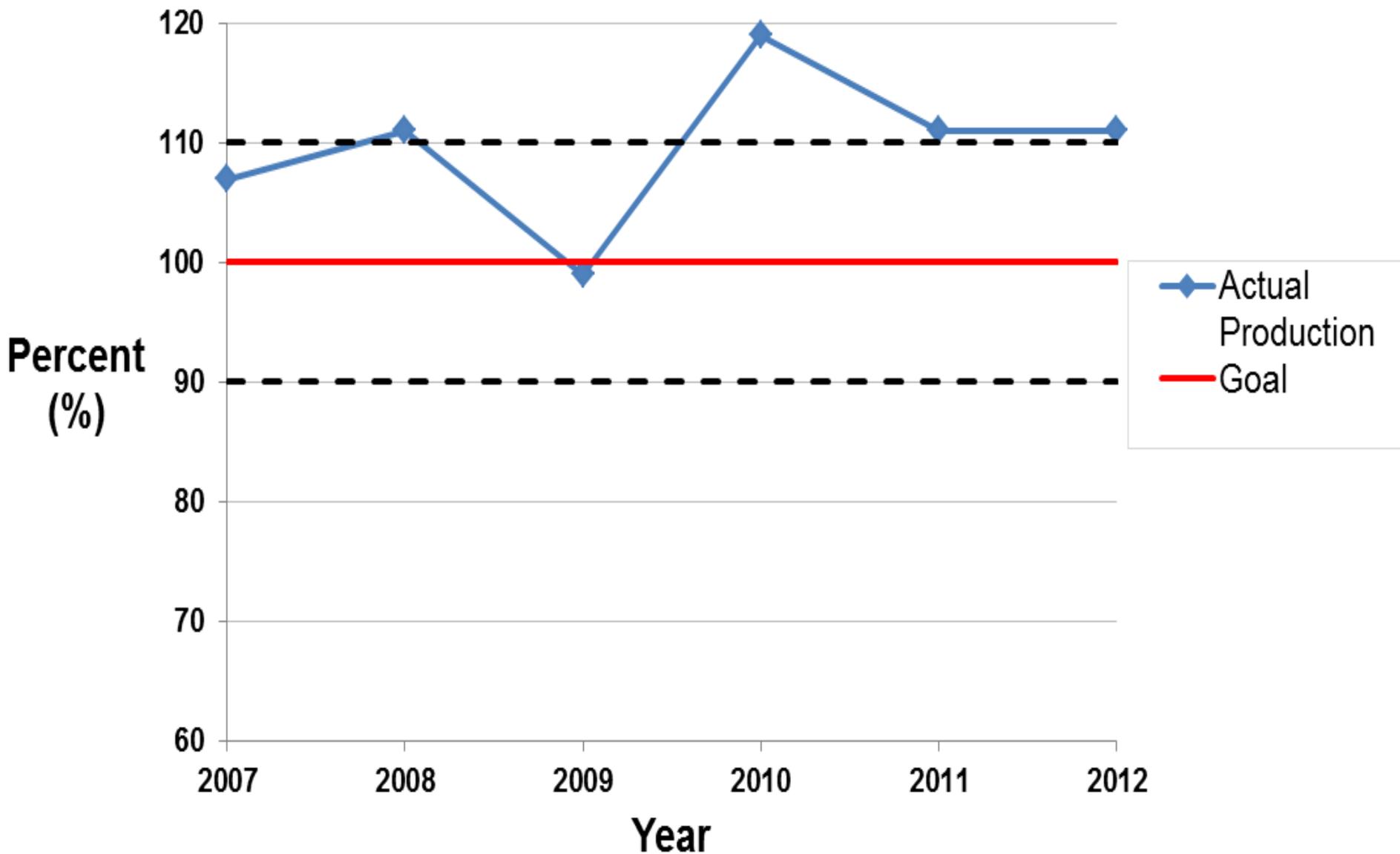
# USFWS Late Fall-Run Chinook Production



# USFWS Winter-Run Chinook Production



# USFWS Steelhead Production



# Release Sites, Klamath-Trinity

Release site	Hatchery	Species	Number (2011)
Klamath River	Iron Gate Hatchery	FCS	4,929,600
		Coho salmon	22,500
		Steelhead	21,000
Trinity River	Trinity River Hatcher	FCS	2,890,500
		SCS	1,145,500
		Coho salmon	491,000
		Steelhead	776,200

# Release Sites Coastal

Release site	Hatchery	Species	Number (2011)
Mad River	Mad River Hatchery	Steelhead	151,000
Russian River	Warm Springs Hatchery (WSH)	Steelhead	483,100
	WSH	Coho salmon	172,400

# Release Sites, Sacramento Valley

Release site	Hatchery	Species	Number (2011)
Sacramento River	Feather River Hatchery	FCS	4,297,000
		FCS (barge)	~100,000 (2012)
		SCS	1,181,700
Sacramento River	Coleman	FCS	12,508,200
	National Fish Hatchery	LFCS	1,053,300
		Steelhead	665,900
		WCS	194,300
Feather River	FRH	Steelhead	49,800
American River	Nimbus Hatchery	FCS	3,261,700
	NIM	Steelhead	426,900

# Release Sites, San Joaquin Valley

Release site	Hatchery	Species	Number (2011)
Mokelumne River	Mokelumne River Hatchery	Steelhead	42,400
	MOK	FCS	119,100

# Release Sites, San Pablo Bay

Release site	Hatchery	Species	Number (2011)
San Pablo Bay	FRH	FCS	6,885,100
	FRH	SCS	1,156,100
	NIM	FCS	1,593,900
	MOK	FCS	6,442,900
	MER	FCS	154,300

# Release Sites, Ocean Net Pens

Release site	Hatchery	Species	Number (2011)
Santa Cruz	FRH/MOK	FCS	188,200
Half Moon Bay	FRH/MOK	FCS	185,900
Tiburon	FRH/MOK	FCS	4,000

# Marking Program

Species	Mark
FCS	25% coded-wire tag (cwt) (except MER and Ocean Net Pens)
SCS	25% cwt TRH, 100% cwt FRH
LFCS	100% cwt
WCS	100% cwt
Coho salmon	Right maxillary TRH, left maxillary IGH, 100% cwt WSH
Steelhead	100% Adipose fin clip only

# Fish Production Goals, HSRG,DFW, Klamath Trinity and Coastal

Facility	FCS (M)	LFCS (M)	SCS (M)	WCS (K)	Coho (K)	SH (K)
IGH	6.0	-	-	-	75	200
TRH	2.9	-	1.4	-	500	800
Mad	-	-	-	-	-	165
WSH	-	-	-	-	200	500

M = millions

K = thousands

# Fish Production Goals, HSRG, DFW, Central Valley

Facility	FCS (M)	LFCS (M)	SCS (M)	WCS (K)	Coho (K)	SH (K)
FRH	6.0	-	2.0	-	-	450
NIM	4.0	-	-	-	-	430
MOK	5.0	-	-	-	-	250
MER	1.0	-	-	-	-	-
SJRRH		-	1.0	-	-	-

M = millions

K = thousands

# Fish Production Goals, HSRG, USFWS

Facility	FCS (M)	LFCS (M)	SCS (M)	WCS (K)	Coho (K)	SH (K)
CNFH	12.0	1.0	-	0	-	600
Livings. Stone	-	-	-	250	-	-

M = millions

K = thousands

# Presentation Summary

- Hatcheries are doing a good job of keeping production within written goals.
- Goals may need to be adjusted to better manage natural and hatchery populations.



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