



PACIFIC STATES MARINE FISHERIES COMMISSION

205 SE Spokane Street, Suite 100 - Portland, Oregon 97202

PHONE (503) 595-3100 FAX (503) 595-3232

website: www.psmfc.org

March 27, 2014

Member Tom Karier

Northwest Power and Conservation Council
 851 S.W. Sixth Avenue, Suite 1100
 Portland, OR 97204
 Portland, Oregon 97204

Dear Member Karier:

Attached are revised maps with hatchery release and fin clip information for the 2012 calendar year, in response to your request for information about this subject. Since our initial tables we have been in contact with state and federal agencies and tribes to conduct one more quality control check on this information. Now that this check has been completed we have made some revisions to the original maps to reflect the few corrections that we received. The maps depict the total number of each species by run, as released in calendar year 2012. The releases are organized by state, and associated with a “primary hatchery” (more on this below). Also represented is the percentage of each species that were fin clipped.

Agency/State	Chinook			Chinook, Fall			Coho		
	# Released	# Marked	%	# Released	# Marked	%	# Released	# Marked	%
USFWS	7,583,420	3,067,967	40.5%	19,736,385	848,217	4.3%	4,509,456	3,061,530	67.9%
Idaho	5,070,147	4,796,491	94.6%	2,604,816	397,339	15.3%	440,348	0	0.0%
Oregon	9,041,487	7,141,942	79.0%	17,161,393	4,486,704	26.1%	7,939,167	6,527,897	82.2%
Washington	8,212,121	8,142,416	99.2%	19,767,341	19,762,023		14,790,518	13,157,255	89.0%
2000 totals	29,907,175	23,148,816		59,269,935	25,494,283		27,679,489	22,746,682	
% Admarked			77.4%			43.0%			82.2%

Table 1. Preliminary summary of total and adipose clipped salmon released in CY2000 in the Columbia River Basin. (Schmidt, B. Overview of Adipose Fin Clipping in the Columbia Basin, 2001)

I have also included a historic table showing the releases and the percentage of hatchery salmon released in 2000 with an adipose fin clip (Table 1). In Table 1 tribal releases are included in the state or federal figures. This information was developed by StreamNet in 2001 in response to a previous Council request.

Agency Type	Clipped	Unclipped	Total	Percent Clipped	Percent Unclipped
Other	4,491,994	1,986	4,493,980	99.96%	0.04%
State	82,753,191	16,297,770	99,050,961	83.55%	16.45%
Tribal	4,923,223	1,906,194	6,829,417	72.09%	27.91%
USFWS	22,372,625	2,357,801	24,730,426	90.47%	9.53%
Total	114,541,033	20,563,751	135,104,784	84.78%	15.22%

Table 2. Preliminary summary by agency of total and fin-clipped salmon released in CY2012 in the Columbia River Basin.

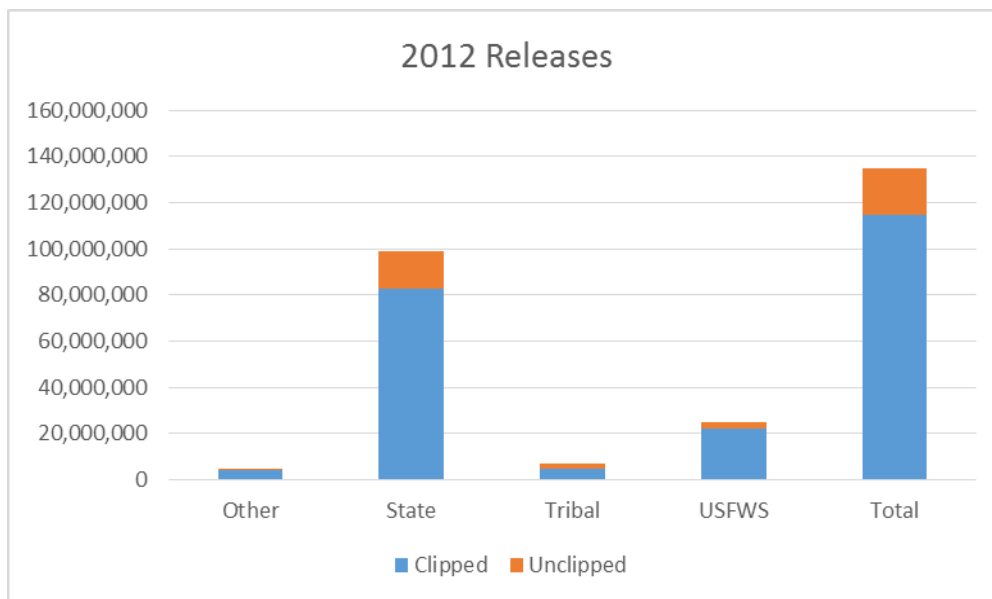


Figure 1. Preliminary summary by agency of total and fin-clipped salmon released in CY2012 in the Columbia River Basin.

Species/Run		Clipped	Unclipped	Total	Percent Clipped	Percent Unclipped
Chinook Fall		56,050,050	9,982,165	66,032,215	84.88%	15.12%
Chinook Sp./Summer		31,032,364	5,444,541	36,476,905	85.07%	14.93%
Chum		74,893	425,486	500,379	14.97%	85.03%
Coho		14,648,255	2,216,756	16,865,011	86.86%	13.14%
Sockeye		266,732	166,613	433,345	61.55%	38.45%
Steelhead		12,468,739	2,328,190	14,796,929	84.27%	15.73%
Total		114,541,033	20,614,620	135,155,653	84.75%	15.25%

Table 3. Preliminary summary by species by agency of total and fin-clipped salmon released in CY2012 in the Columbia River Basin.

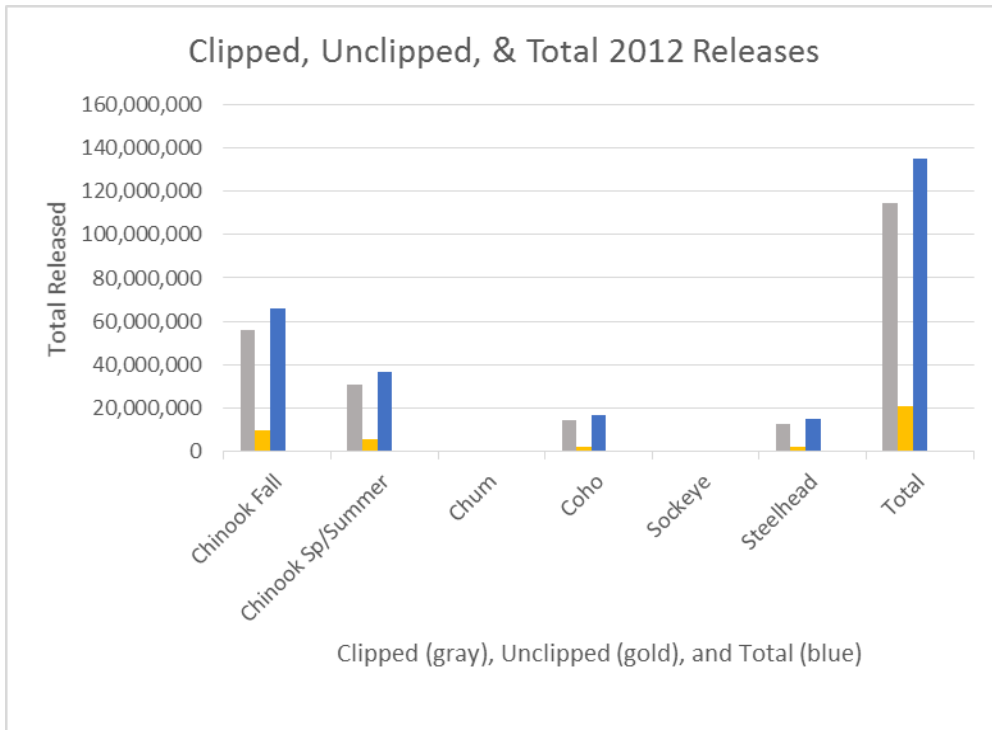


Figure 2. Preliminary summary by species by agency of total and fin-clipped salmon released in CY2012 in the Columbia River Basin.

Data for both the CY 2000 and CY 2012 information are derived from the Regional Mark Information System (RMIS) database. The RMIS system here at PSMFC is a cooperative effort of the many state, federal, private, and tribal entities that rear and release fish in the Pacific Northwest. Even with this second review, it is still possible that errors in the data remain. I would suggest that in use these data be

referred to as “best available estimates” in case some errors or omissions are discovered upon deeper review.

In making these tables, the RMIS database was searched for various fin clips that indicate fish are of hatchery origin. Other marks were ignored, meaning fish that were coded wire tagged but not marked with a fin clip show up in the “unclipped” category. The 2000 information separated only those fish that were adipose clipped. Presumably any other mark types were included in the overall “released” category in 2000.

The policies guiding marking are too complex to discuss here. Suffice it to say that marking is determined by state, tribal, and federal agency policy. The majority of hatchery production released above Bonneville Dam is managed under the jurisdiction of the U.S. vs. Oregon Management Agreement. It is important to recognize that regardless of which entity operates the hatchery facility (state, tribal, or federal), the parties are implementing the Agreement, including specific fish marking strategies.

Another complexity is that large, multi-state programs, such as Snake River fall Chinook, are difficult to depict with graphics that are organized by State. The Snake River Fall Chinook Program has a comprehensive marking strategy, developed by the U.S. vs. Oregon Parties, encompassing 3 states, and these graphics are unable to characterize that complexity of organization and coordination that is associated with this particular type of program.

This summary does not include information or qualification of the purpose of the hatchery programs – harvest, supplementation, conservation/restoration, recovery, or a combination of these purposes. The majority of supplementation hatchery programs, which are used to assist with reintroduction, conservation, and recovery, are located in the Upper Columbia and Snake Basins. Unclipped fish may be released in these areas in order to contribute to spawning populations. Many of the fish that are identified as “unclipped” in this summary may actually be marked with a coded-wire or genetic tag, so that they can be identified as hatchery-origin. The graphic analysis only represents them as “unclipped”, and care should be taken to not categorize them as “unmarked”.

The release information is organized by “primary hatchery”, which is generally the primary rearing facility. The data is not organized by release site, and the term “fish stocked” on the maps does not necessarily mean that the hatchery was the stocking location. In some cases a significant portion of the releases do not occur at the primary facility. For instance, in Oregon, many of the spring Chinook from Lookingglass Hatchery are actually acclimated and released in the Imnaha, Lostine, Catherine Creek and Upper Grande Ronde rivers.

Each release was categorized by agency type, and the release numbers were summed by agency type in the final results. In some cases, groups of fish are moved from one agency type to another during the rearing cycle. The agency type for each release is the manager of the hatchery listed as the “primary hatchery”. The “other” category is made up entirely of fish released in the lower river by the Clatsop County Fisheries program (CCF). These fish are generally reared at state facilities in Oregon, and then transported to net pens in the lower river, acclimated, and released.

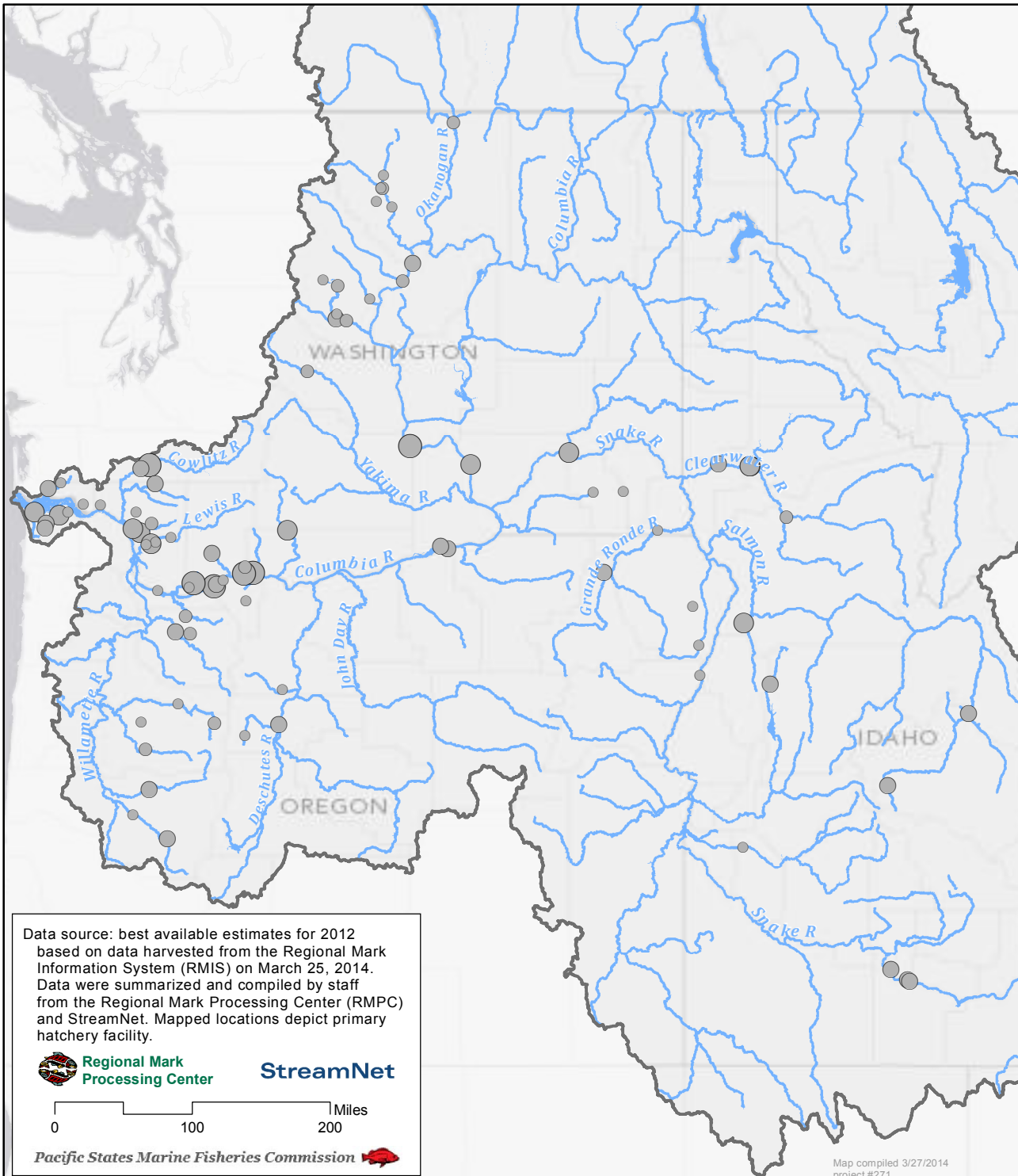
Excluded from this report are releases by schools. These are not believed to be significant numerically, and include things such as small batches of fish raised in classroom incubators and released into water

bodies by students, generally as fry. Also excluded are releases by fishing clubs and other educational groups. The total number of excluded fish is 632,680 (0.47% of the fish released). Of these excluded fish, 31% were fin clipped.

If you are interested in digging more deeply into this subject, background data containing information on individual facilities and other hatchery production information is available. Thank you for turning to StreamNet for this information. We are happy to be of service.

Sincerely,

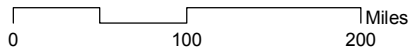
Chris Wheaton, StreamNet Program Manager
Pacific States Marine Fisheries Commission



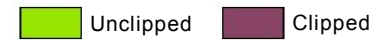
Data source: best available estimates for 2012 based on data harvested from the Regional Mark Information System (RMIS) on March 25, 2014. Data were summarized and compiled by staff from the Regional Mark Processing Center (RMPC) and StreamNet. Mapped locations depict primary hatchery facility.



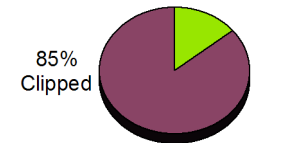
StreamNet



2012 Columbia Basin Fin Clipping Statistics



Fall Chinook



85% Clipped

66,032,215 fish stocked

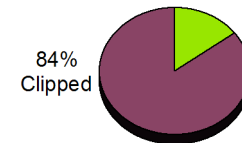
Spring/Summer Chinook



85% Clipped

36,426,036 fish stocked

Steelhead



84% Clipped

14,796,929 fish stocked

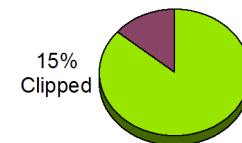
Coho



87% Clipped

16,865,011 fish stocked

Chum



15% Clipped

500,379 fish stocked

Sockeye

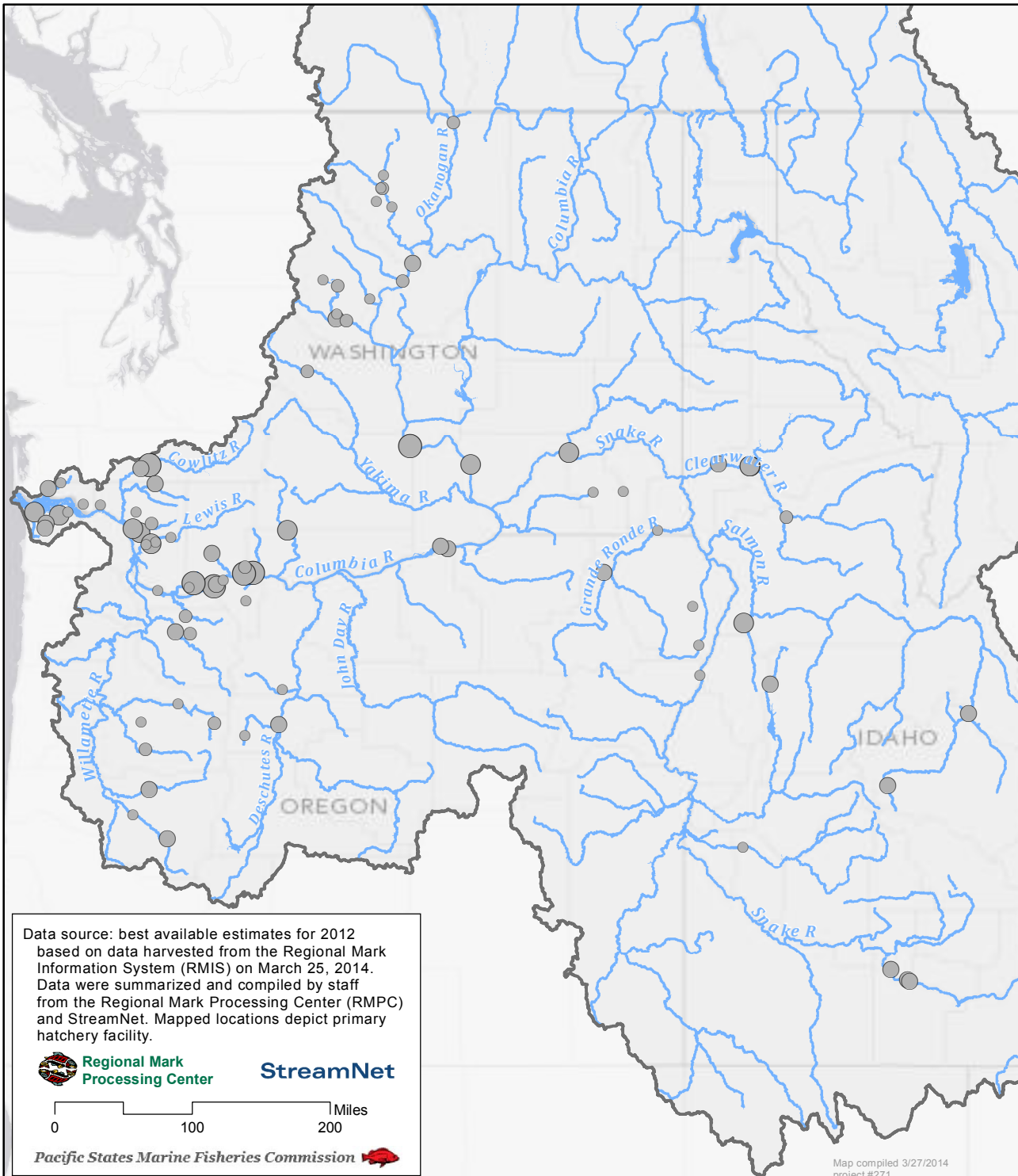


62% Clipped

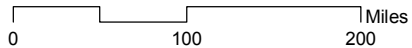
433,345 fish stocked

Hatchery - Total Fish Stocked

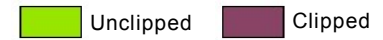
- 1 - 500,000
- 500,001 - 1,000,000
- 1,000,001 - 2,500,000
- 2,500,001 - 5,000,000
- 5,000,001 - 12,000,000
- Columbia Basin



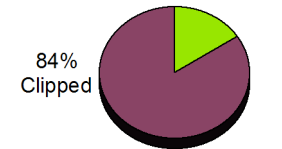
Data source: best available estimates for 2012 based on data harvested from the Regional Mark Information System (RMIS) on March 25, 2014. Data were summarized and compiled by staff from the Regional Mark Processing Center (RMPC) and StreamNet. Mapped locations depict primary hatchery facility.



2012 Columbia Basin Fin Clipping Statistics

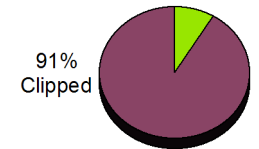


State Totals



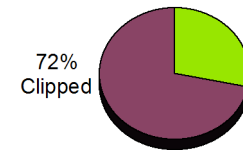
99,050,961 fish stocked

USFWS Totals



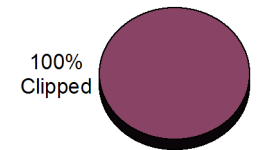
24,679,557 fish stocked

Tribal Totals



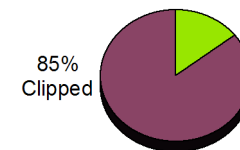
6,829,417 fish stocked

Other Totals



4,493,980 fish stocked

Total



135,053,915 fish stocked

Hatchery - Total Fish Stocked

- 1 - 500,000
- 500,001 - 1,000,000
- 1,000,001 - 2,500,000
- 2,500,001 - 5,000,000
- 5,000,001 - 12,000,000

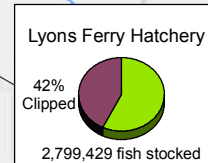
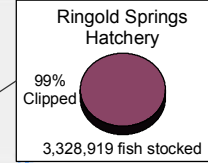
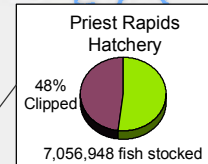
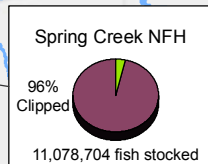
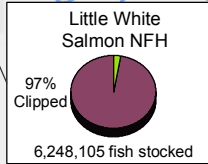
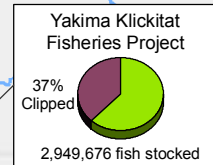
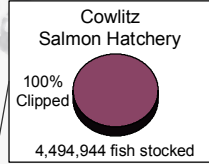
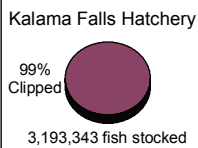
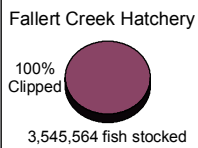
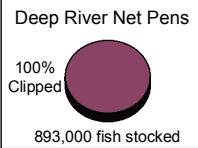
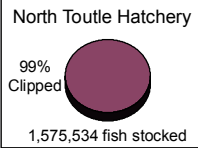
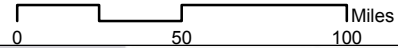


2012 Washington Hatchery Fin Clipping Statistics Fall Chinook

Washington Totals

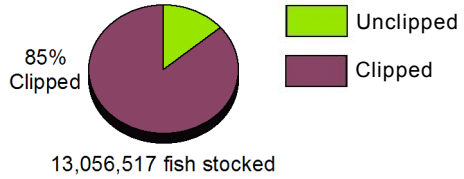


Data source: best available estimates for 2012 based on data harvested from the Regional Mark Information System (RMIS) on March 25, 2014. Data were summarized and compiled by staff from the Regional Mark Processing Center (RMPC) and StreamNet. Mapped locations depict primary hatchery facility.

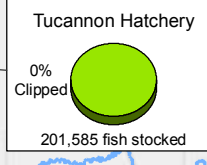
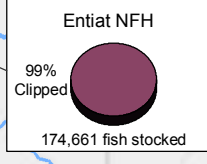
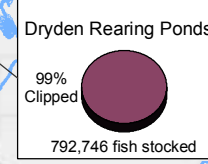
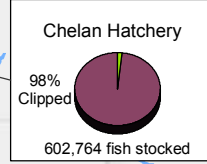
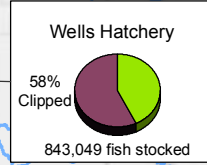
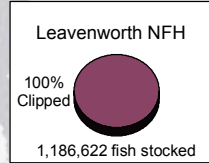
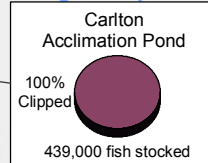
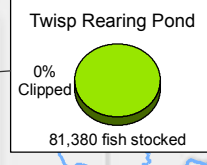
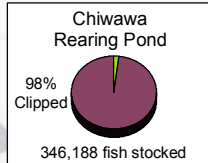
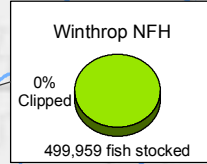
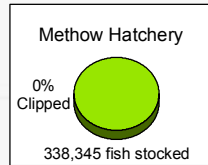
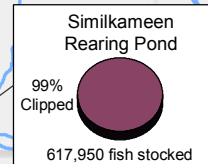
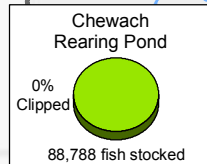
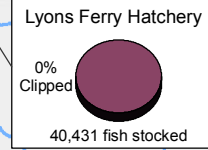
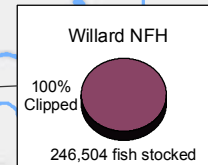
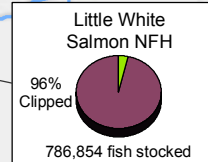
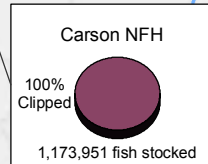
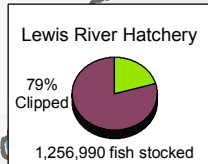
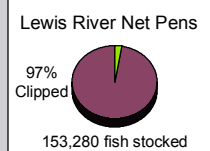
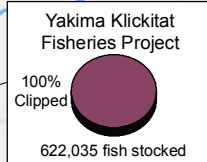
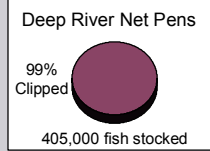
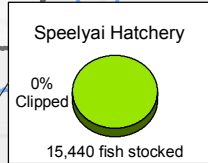
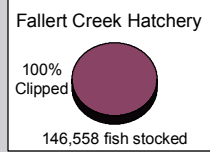
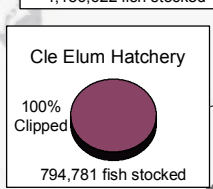
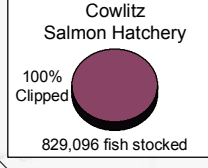
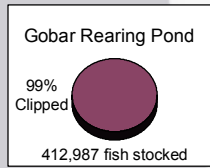
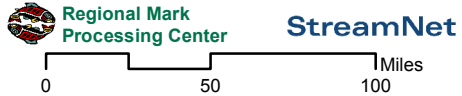


2012 Washington Hatchery Fin Clipping Statistics Spring/Summer Chinook

Washington Totals



Data source: best available estimates for 2012 based on data harvested from the Regional Mark Information System (RMIS) on March 25, 2014. Data were summarized and compiled by staff from the Regional Mark Processing Center (RMPC) and StreamNet. Mapped locations depict primary hatchery facility.

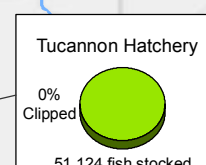
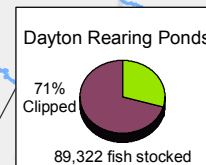
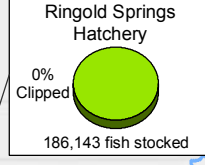
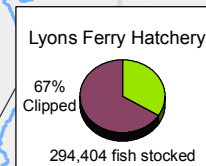
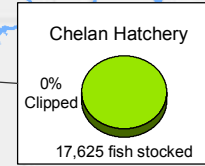
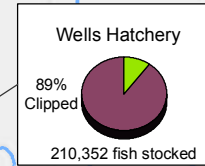
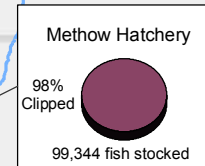
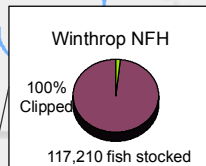
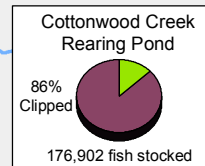
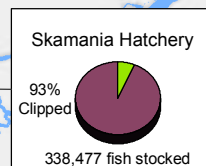
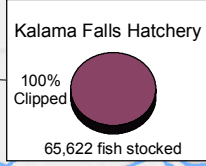
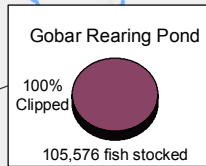
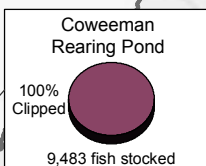
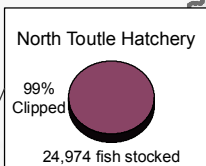
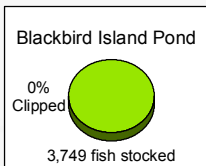
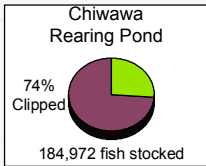
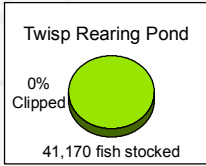
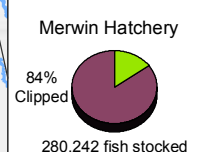
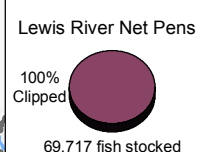
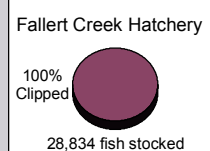
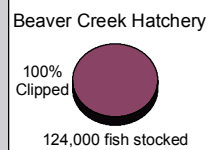
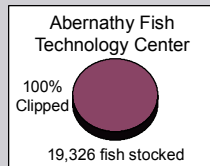
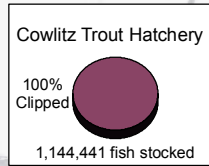
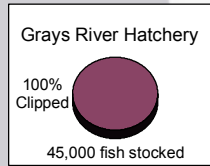
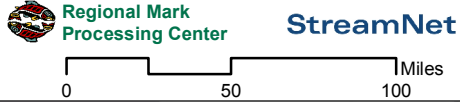


2012 Washington Hatchery Fin Clipping Statistics Steelhead

Washington Totals



Data source: best available estimates for 2012 based on data harvested from the Regional Mark Information System (RMIS) on March 25, 2014. Data were summarized and compiled by staff from the Regional Mark Processing Center (RMPC) and StreamNet. Mapped locations depict primary hatchery facility.

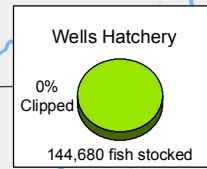
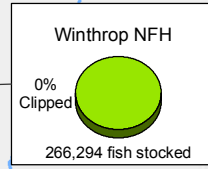
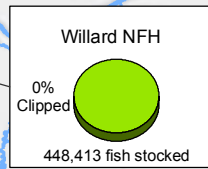
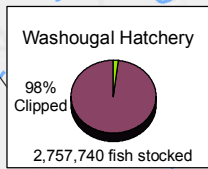
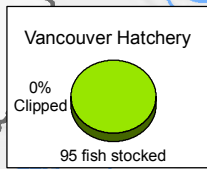
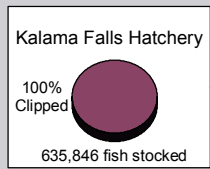
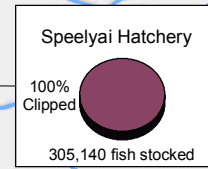
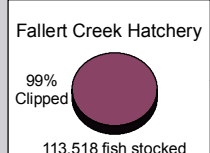
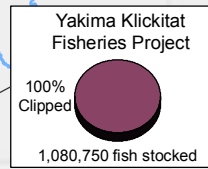
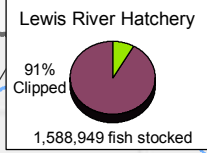
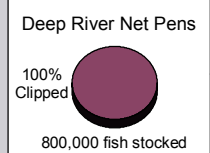
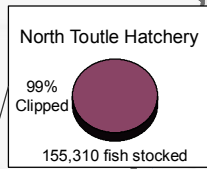
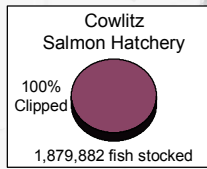
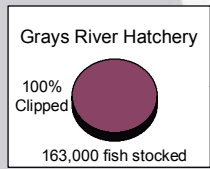
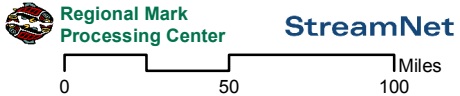


2012 Washington Hatchery Fin Clipping Statistics Coho

Washington Totals

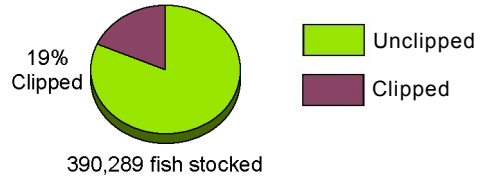


Data source: best available estimates for 2012 based on data harvested from the Regional Mark Information System (RMIS) on March 25, 2014. Data were summarized and compiled by staff from the Regional Mark Processing Center (RMPC) and StreamNet. Mapped locations depict primary hatchery facility.

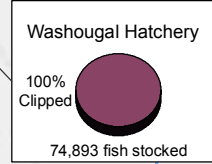
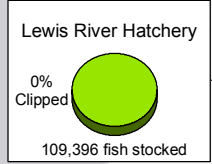
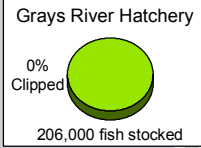
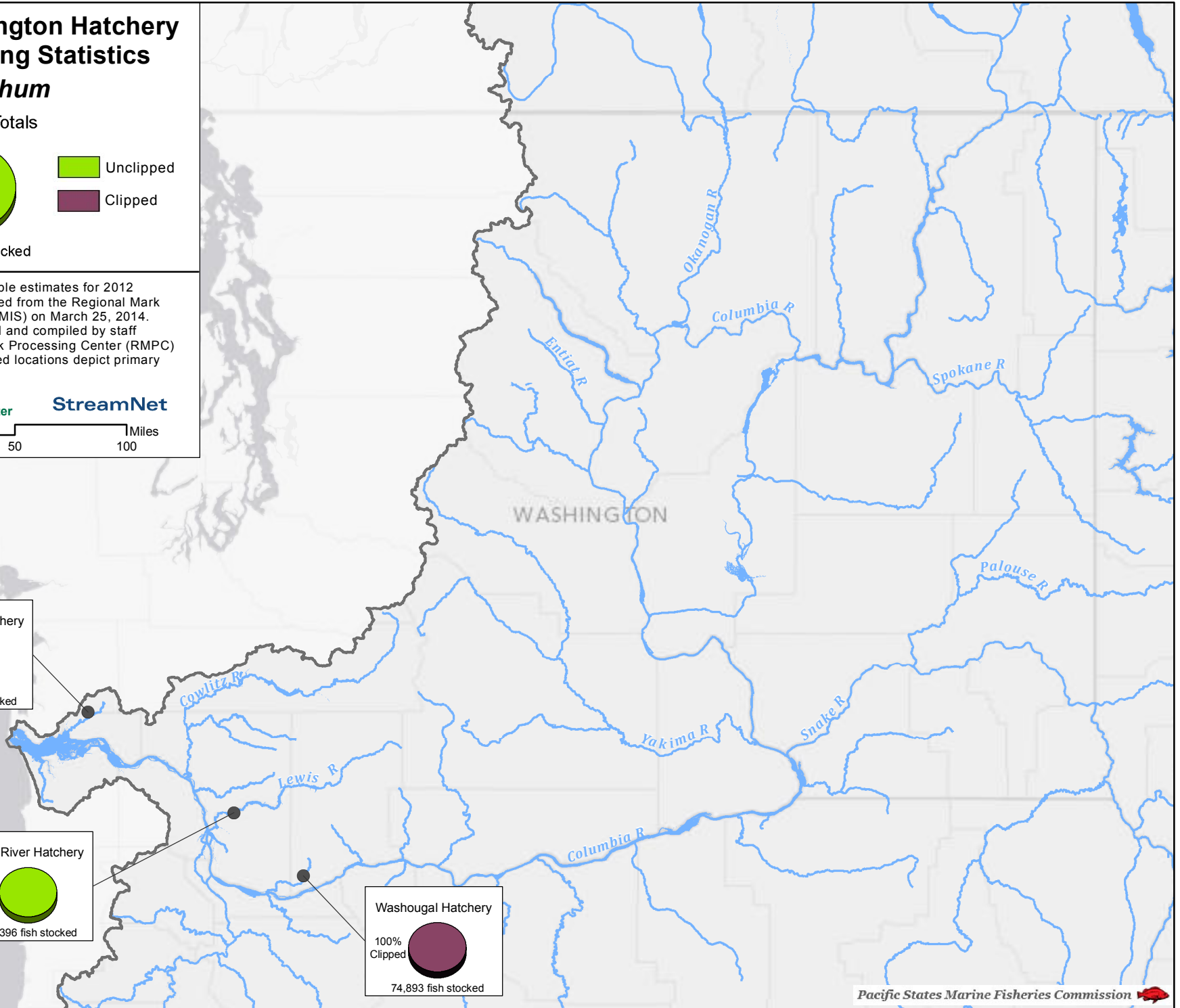
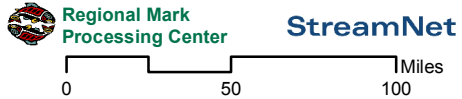


2012 Washington Hatchery Fin Clipping Statistics *Chum*

Washington Totals

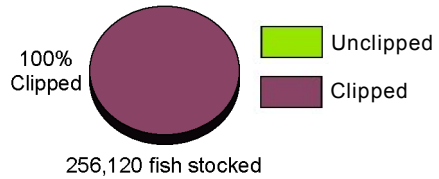


Data source: best available estimates for 2012 based on data harvested from the Regional Mark Information System (RMIS) on March 25, 2014. Data were summarized and compiled by staff from the Regional Mark Processing Center (RMPC) and StreamNet. Mapped locations depict primary hatchery facility.



2012 Washington Hatchery Fin Clipping Statistics Sockeye

Washington Totals

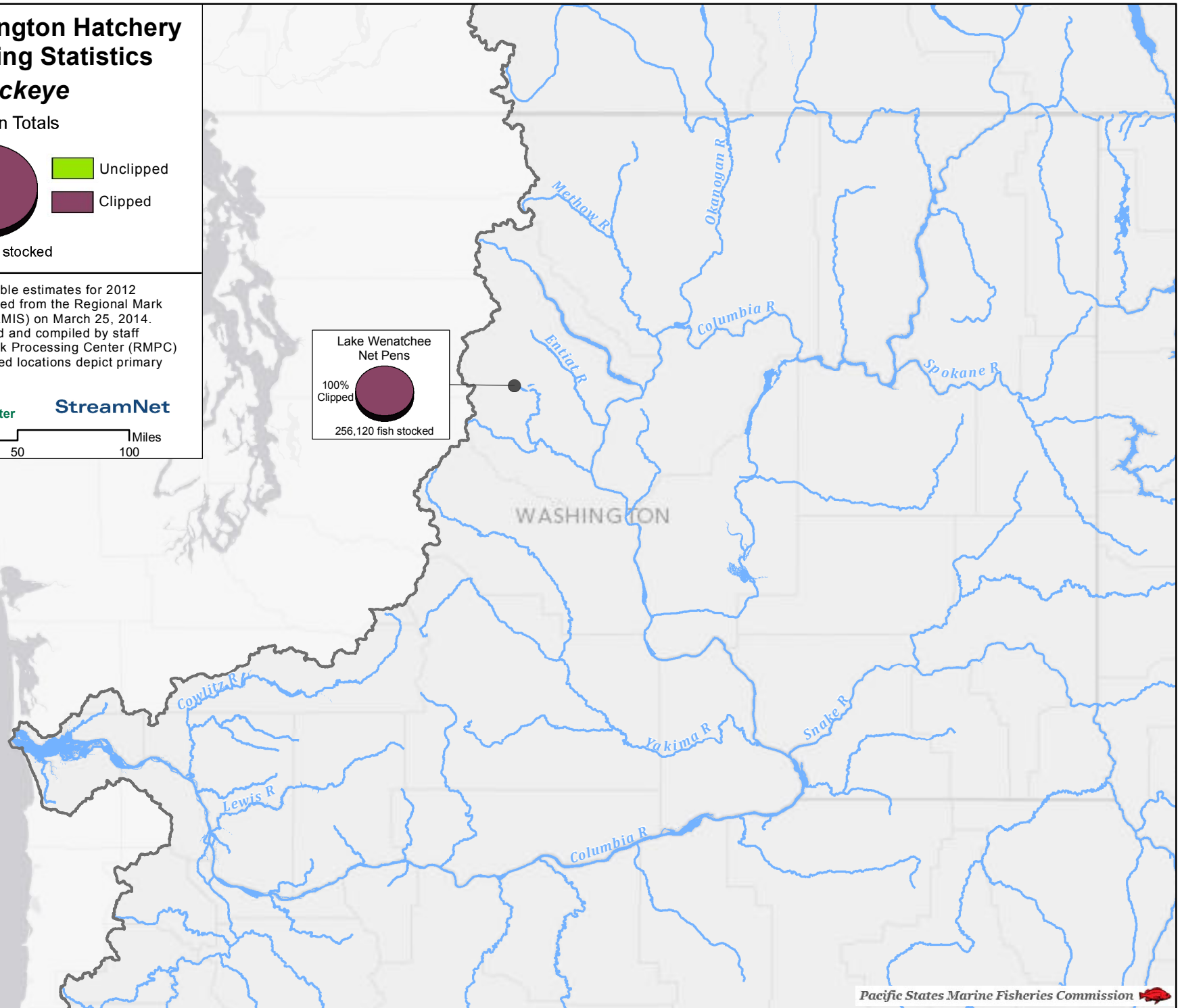
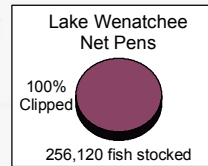
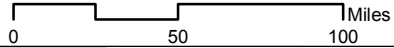


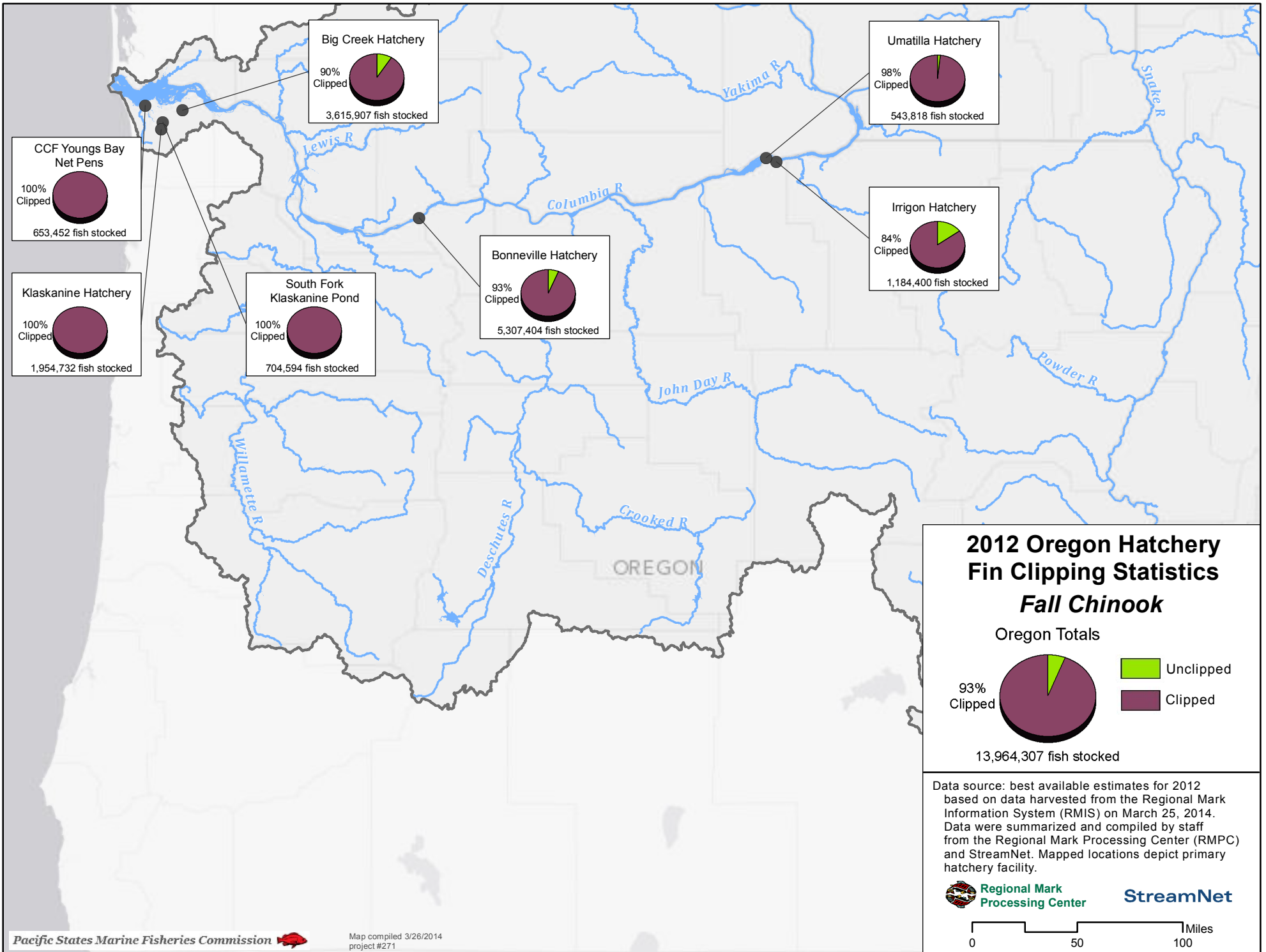
Data source: best available estimates for 2012 based on data harvested from the Regional Mark Information System (RMIS) on March 25, 2014. Data were summarized and compiled by staff from the Regional Mark Processing Center (RMPC) and StreamNet. Mapped locations depict primary hatchery facility.



Regional Mark Processing Center

StreamNet



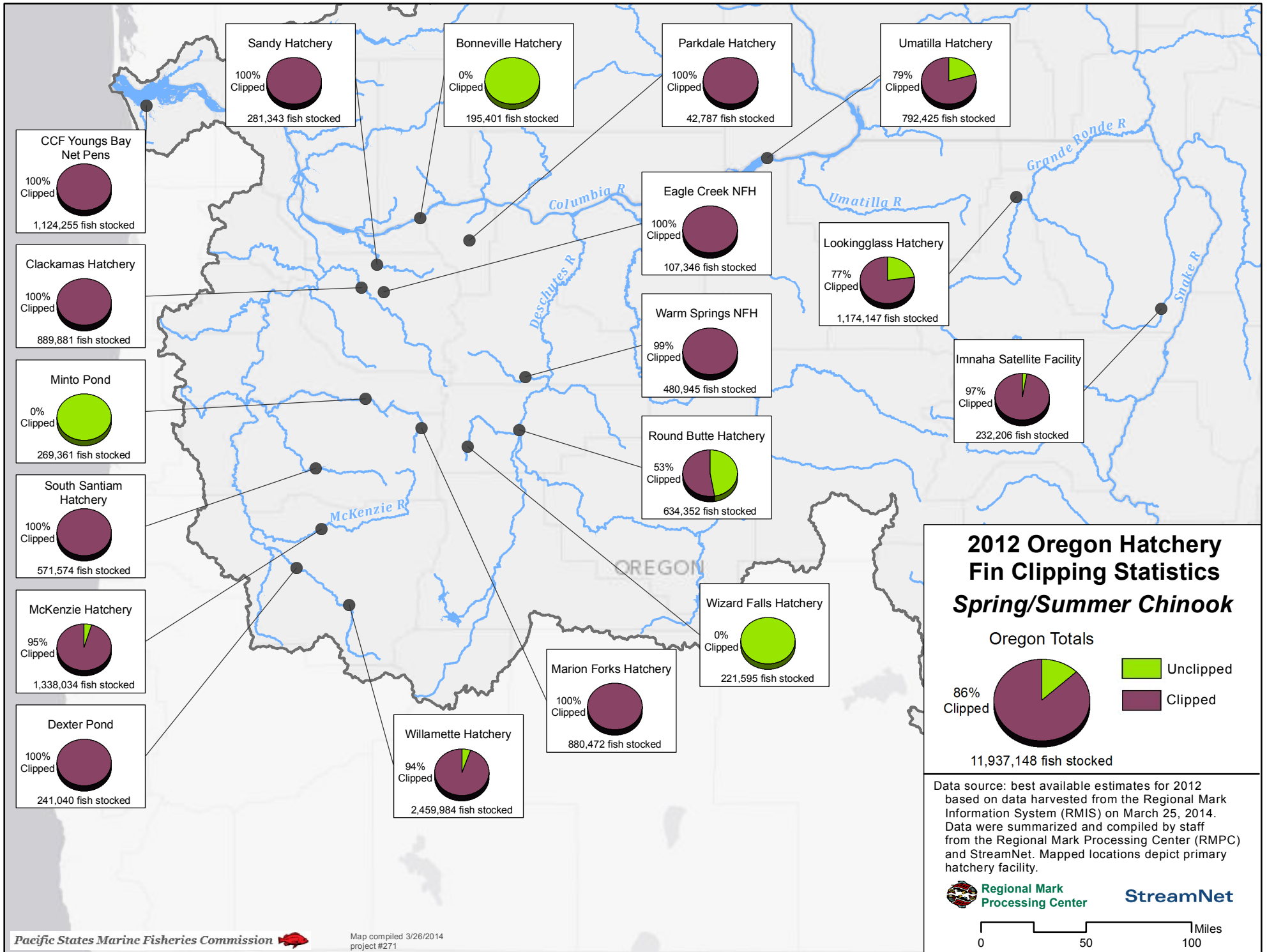


Data source: best available estimates for 2012 based on data harvested from the Regional Mark Information System (RMIS) on March 25, 2014. Data were summarized and compiled by staff from the Regional Mark Processing Center (RMPC) and StreamNet. Mapped locations depict primary hatchery facility.

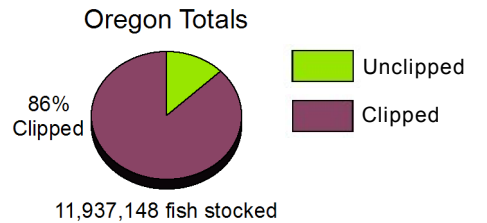


Regional Mark Processing Center

StreamNet



2012 Oregon Hatchery Fin Clipping Statistics Spring/Summer Chinook

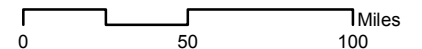


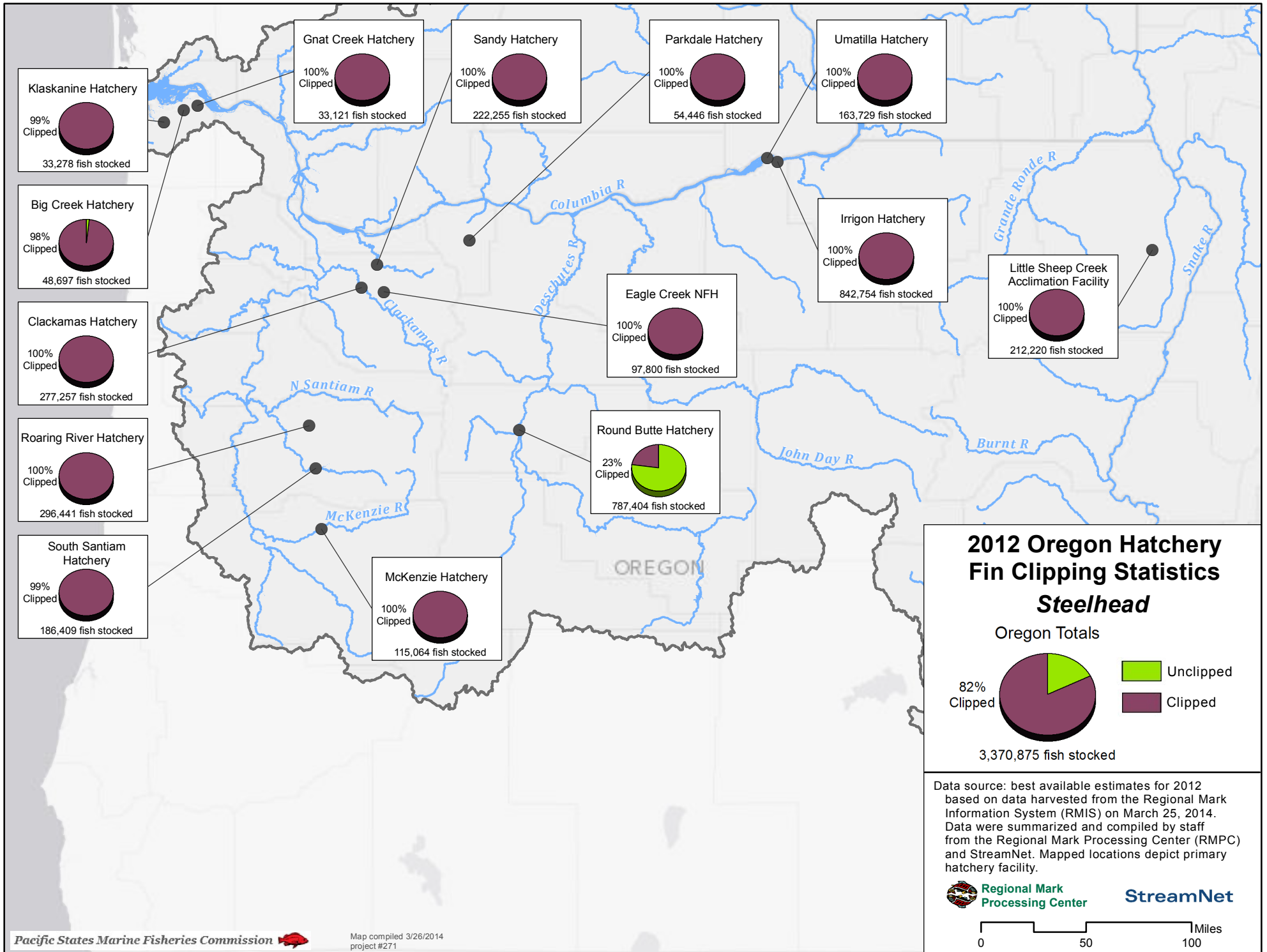
Data source: best available estimates for 2012 based on data harvested from the Regional Mark Information System (RMIS) on March 25, 2014. Data were summarized and compiled by staff from the Regional Mark Processing Center (RMPC) and StreamNet. Mapped locations depict primary hatchery facility.



Regional Mark Processing Center

StreamNet





2012 Oregon Hatchery Fin Clipping Statistics Steelhead

Oregon Totals

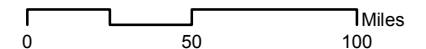


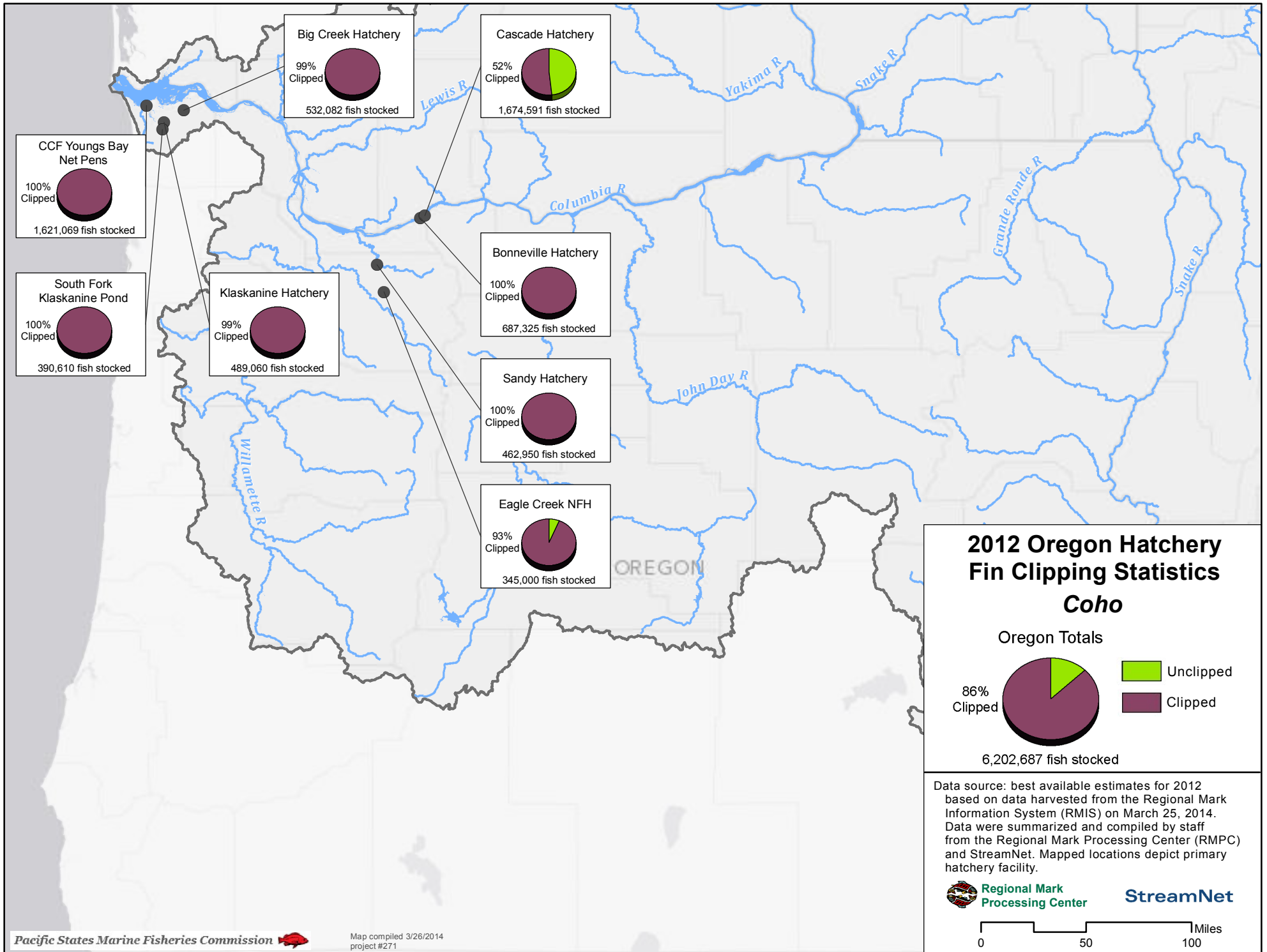
Data source: best available estimates for 2012 based on data harvested from the Regional Mark Information System (RMIS) on March 25, 2014. Data were summarized and compiled by staff from the Regional Mark Processing Center (RMPC) and StreamNet. Mapped locations depict primary hatchery facility.

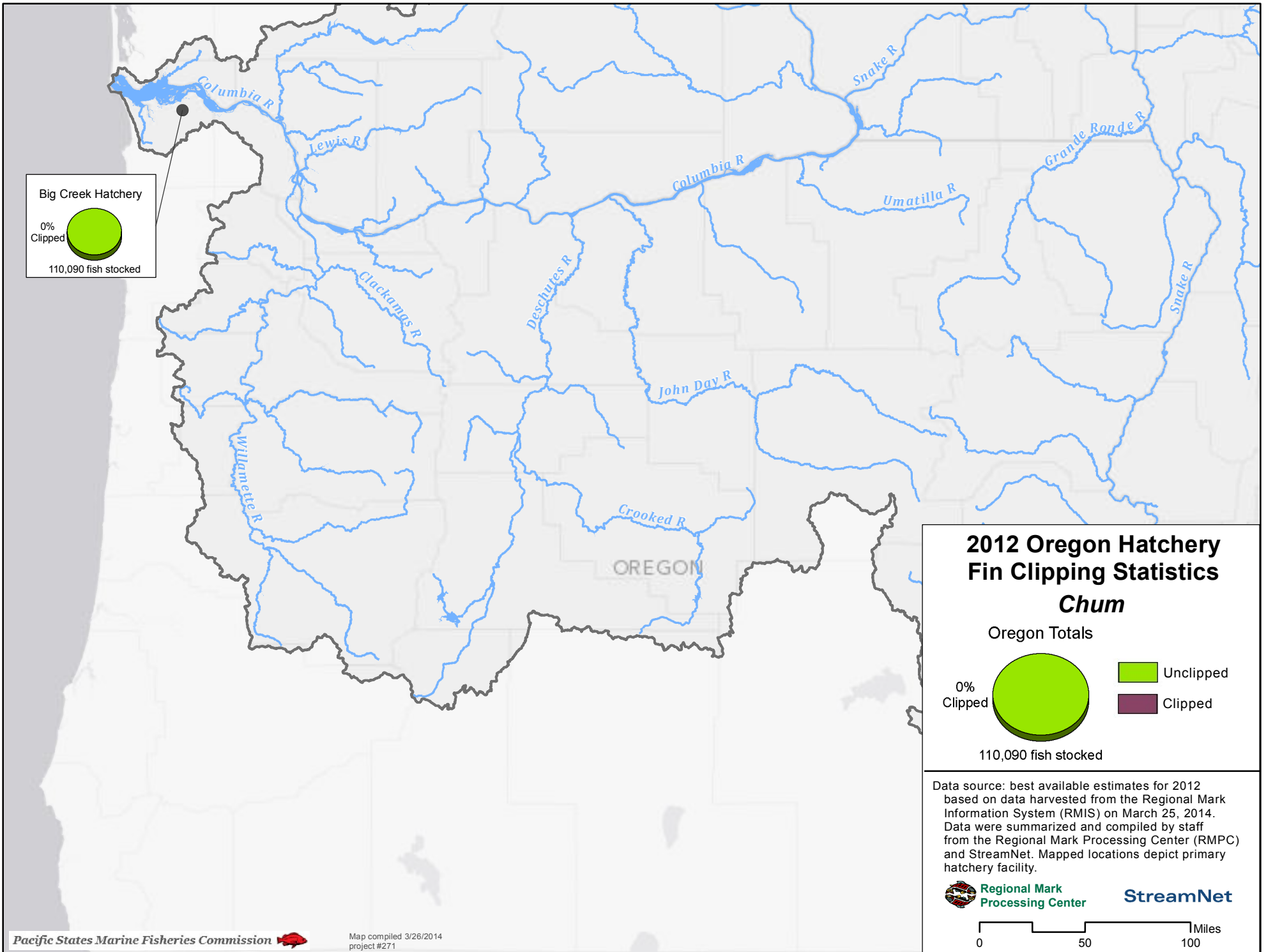


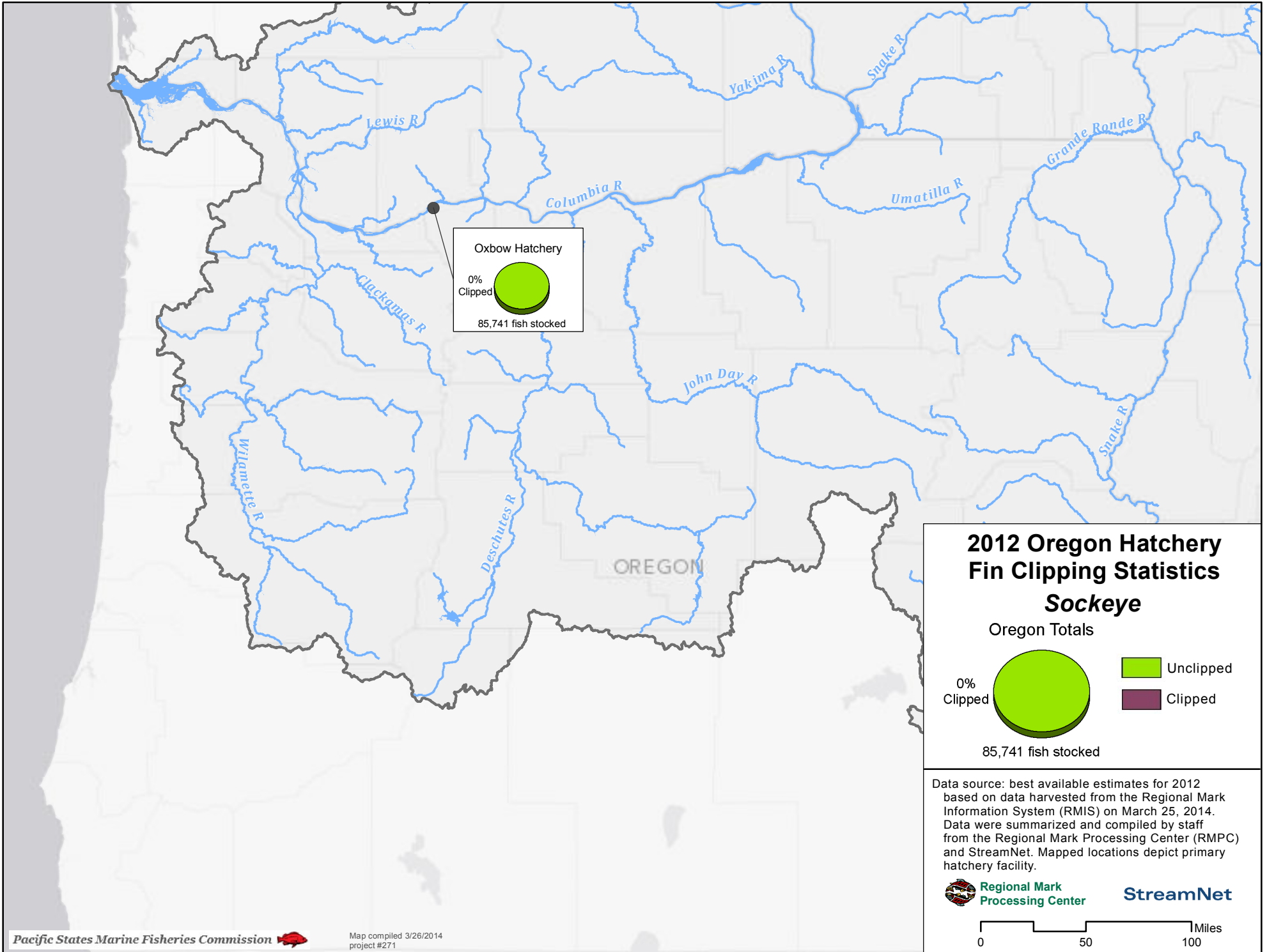
Regional Mark Processing Center

StreamNet



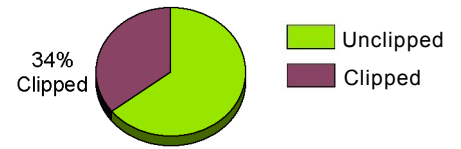






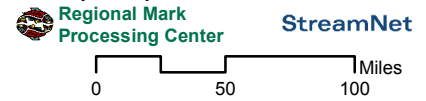
2012 Idaho Hatchery Fin Clipping Statistics Fall Chinook

Idaho Totals

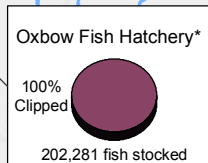
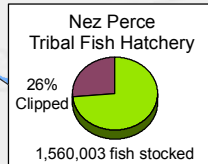
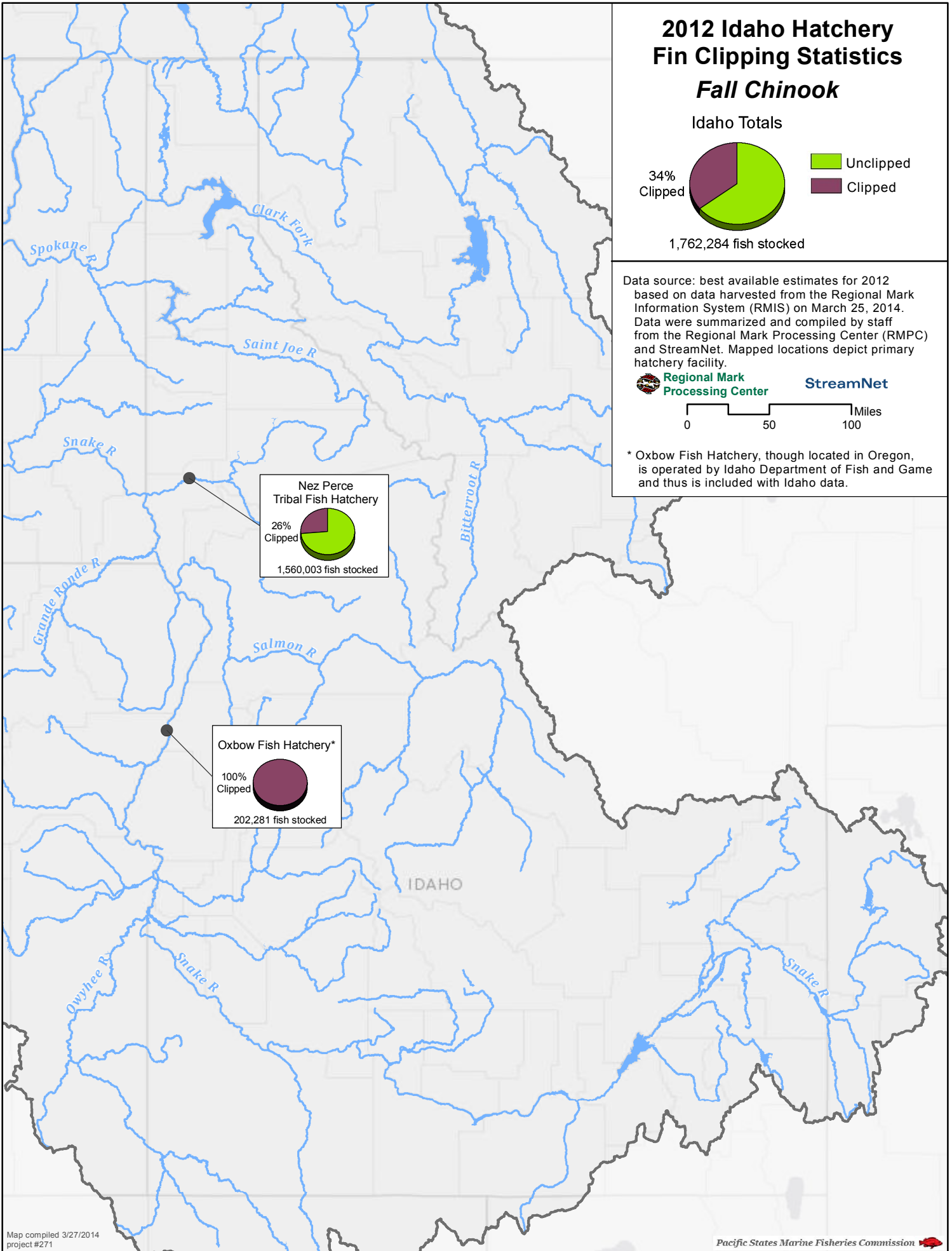


1,762,284 fish stocked

Data source: best available estimates for 2012 based on data harvested from the Regional Mark Information System (RMIS) on March 25, 2014. Data were summarized and compiled by staff from the Regional Mark Processing Center (RMPC) and StreamNet. Mapped locations depict primary hatchery facility.

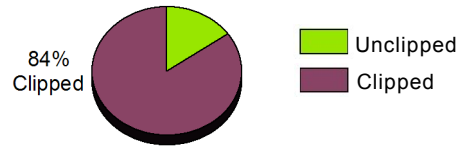


* Oxbow Fish Hatchery, though located in Oregon, is operated by Idaho Department of Fish and Game and thus is included with Idaho data.



2012 Idaho Hatchery Fin Clipping Statistics Spring/Summer Chinook

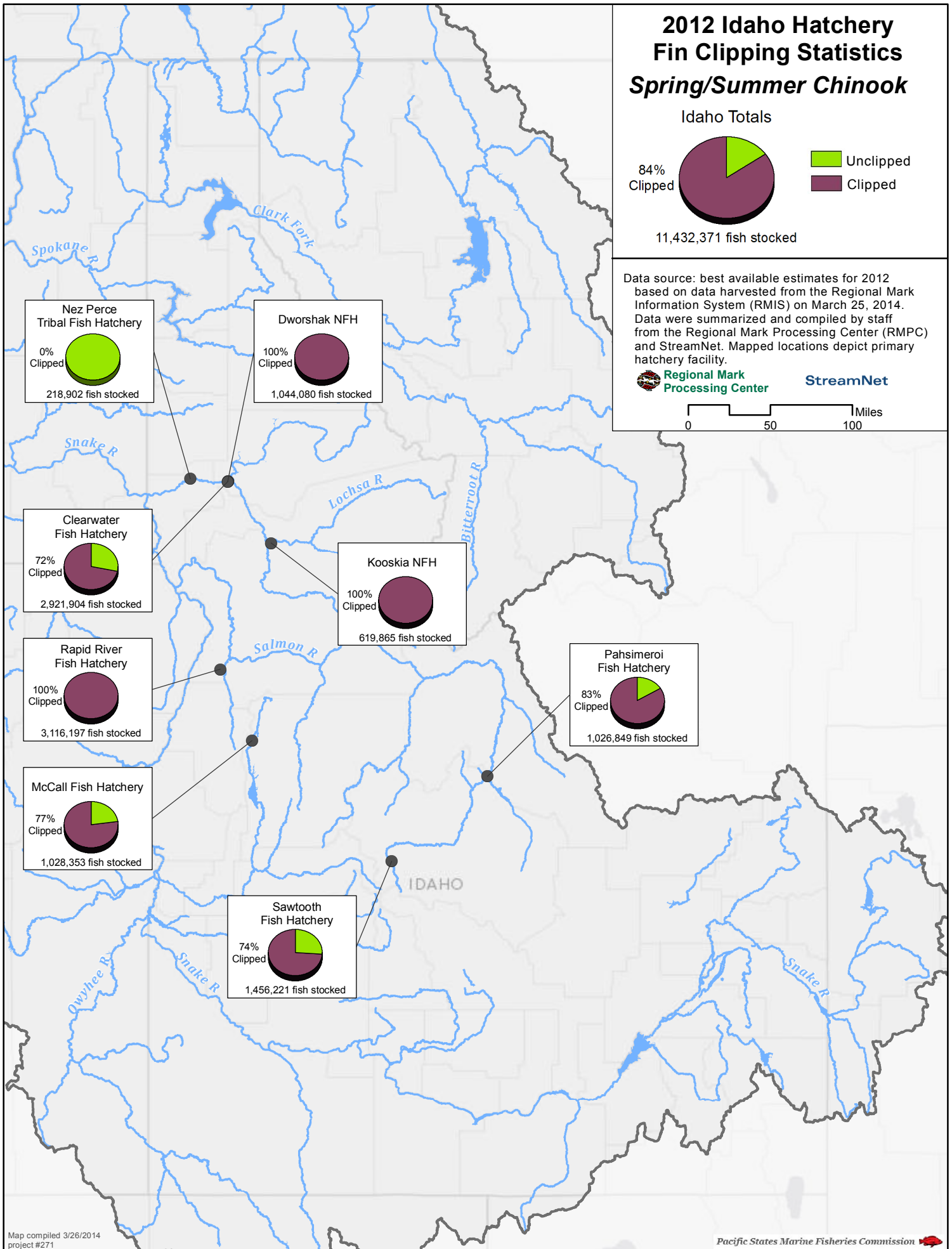
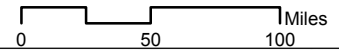
Idaho Totals



11,432,371 fish stocked

Data source: best available estimates for 2012 based on data harvested from the Regional Mark Information System (RMIS) on March 25, 2014. Data were summarized and compiled by staff from the Regional Mark Processing Center (RMPC) and StreamNet. Mapped locations depict primary hatchery facility.

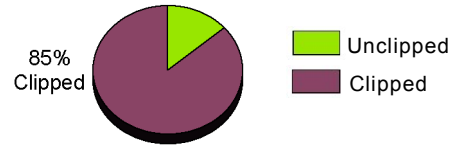
Regional Mark Processing Center StreamNet



2012 Idaho Hatchery Fin Clipping Statistics

Steelhead

Idaho Totals



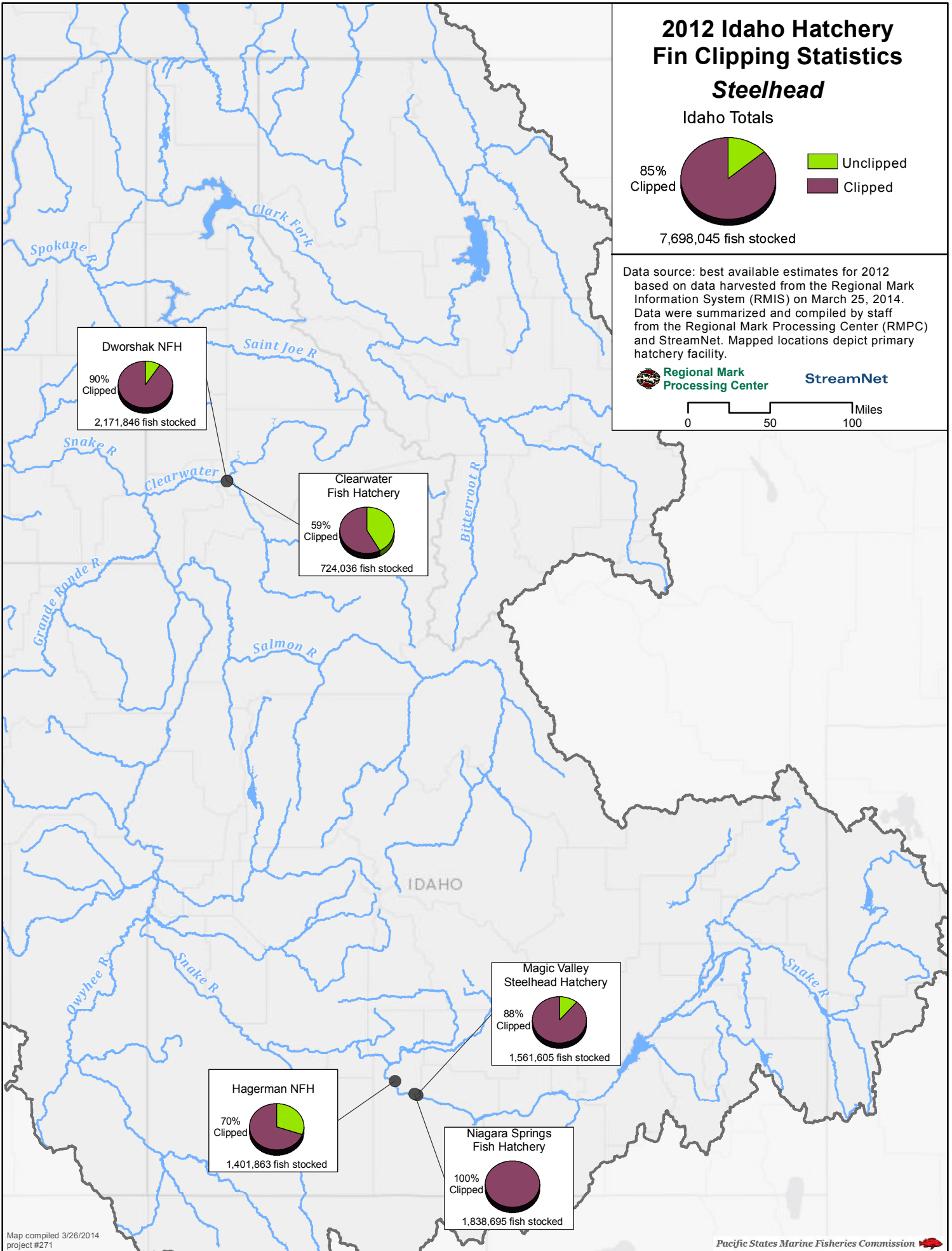
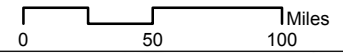
7,698,045 fish stocked

Data source: best available estimates for 2012 based on data harvested from the Regional Mark Information System (RMIS) on March 25, 2014. Data were summarized and compiled by staff from the Regional Mark Processing Center (RMPC) and StreamNet. Mapped locations depict primary hatchery facility.



Regional Mark Processing Center

StreamNet



2012 Idaho Hatchery Fin Clipping Statistics

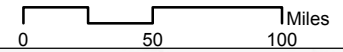
Coho

Idaho Totals

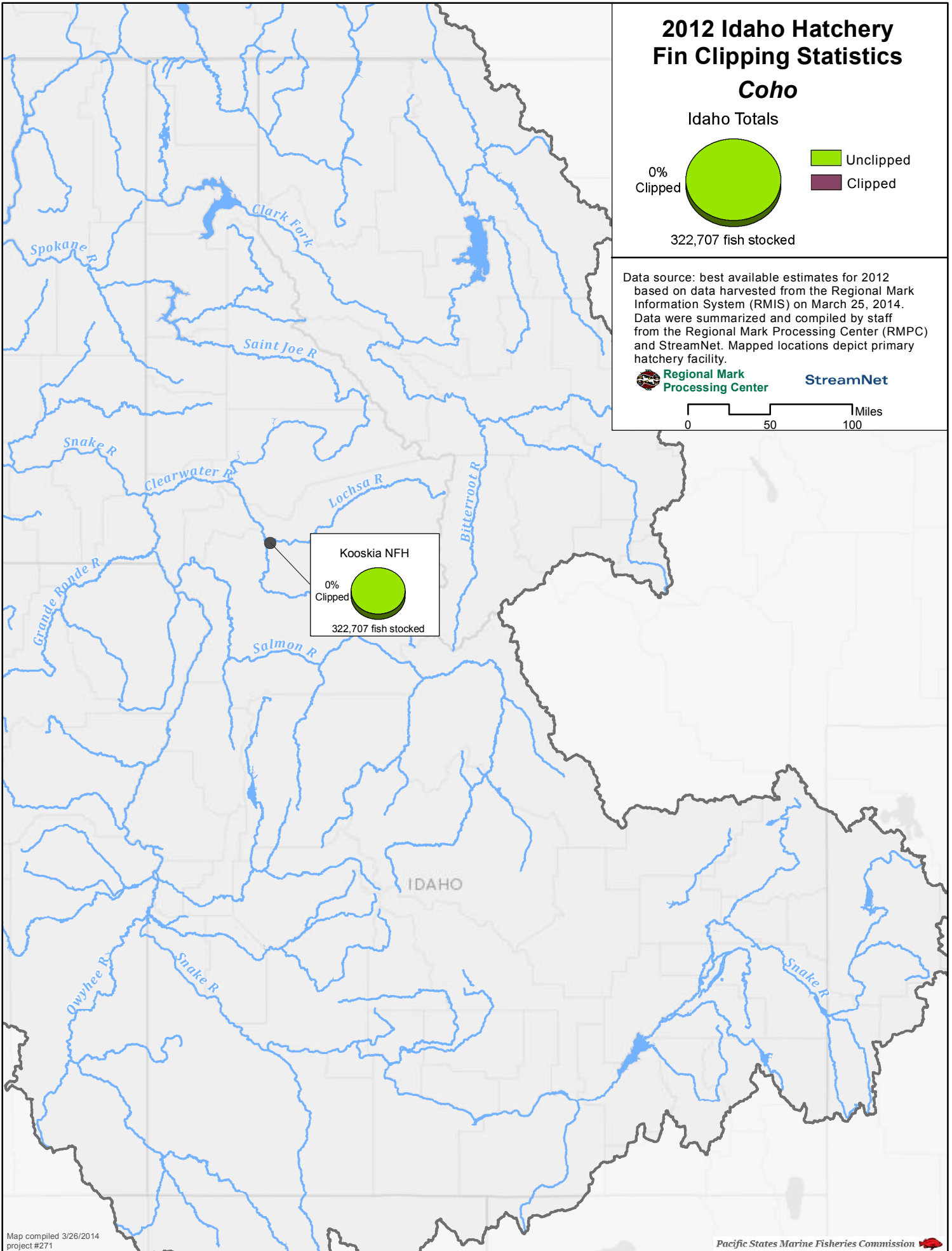


Data source: best available estimates for 2012 based on data harvested from the Regional Mark Information System (RMIS) on March 25, 2014. Data were summarized and compiled by staff from the Regional Mark Processing Center (RMPC) and StreamNet. Mapped locations depict primary hatchery facility.

Regional Mark Processing Center StreamNet



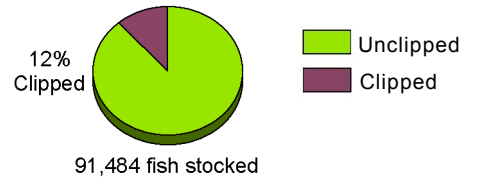
Kooskia NFH



2012 Idaho Hatchery Fin Clipping Statistics

Sockeye

Idaho Totals



Data source: best available estimates for 2012 based on data harvested from the Regional Mark Information System (RMIS) on March 25, 2014. Data were summarized and compiled by staff from the Regional Mark Processing Center (RMPC) and StreamNet. Mapped locations depict primary hatchery facility.

Regional Mark Processing Center StreamNet

