



Waters Requiring Supplemental Spawning and Incubation Protection For Salmonid Species

**Revised January 2011
Publication Number 06-10-038**

*As Described in:
The Proposed Water Quality Standards for Surface Waters of the State of
Washington, Chapter 173-201A*

Waters Requiring Supplemental Spawning and Incubation Protection For Salmonid Species

Prepared by:

Sabrina Payne
Washington State Department of Ecology
Water Quality Program

Revised January 2011
Publication Number 06-10-038



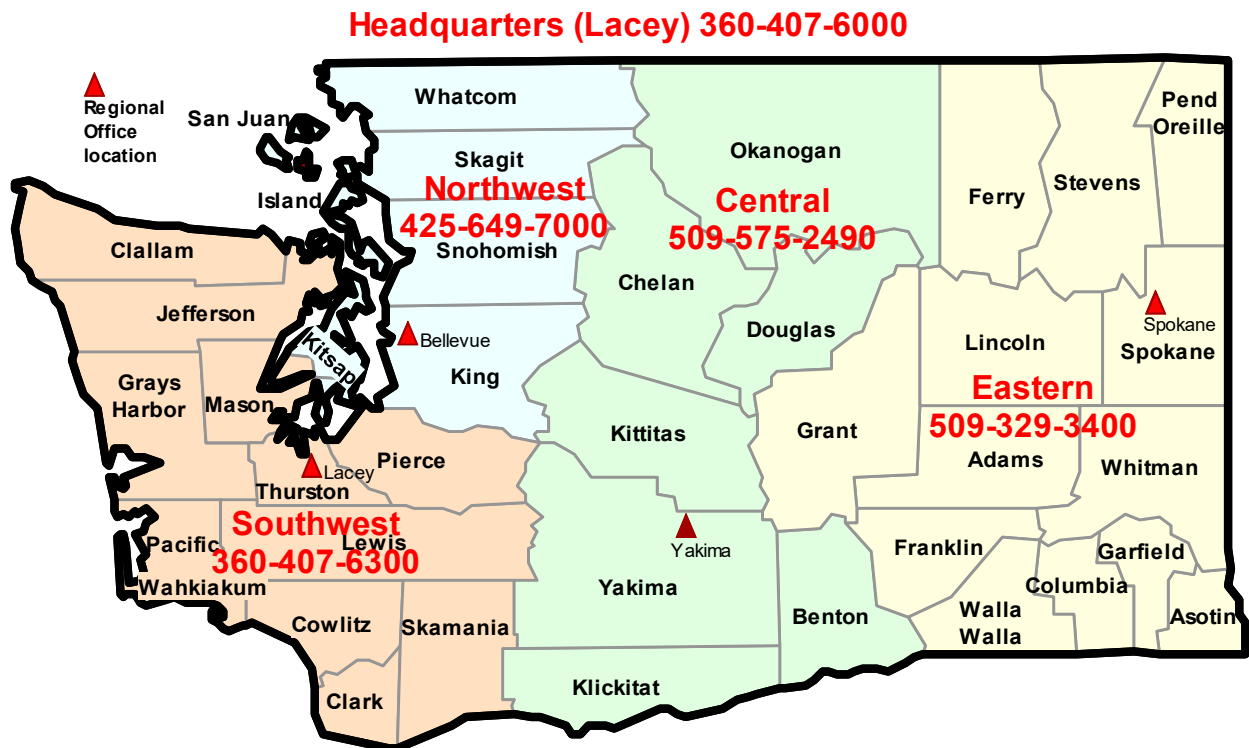
Printed on Recycled Paper

You can print or download this document from our Web site at:
<http://www.ecy.wa.gov/biblio/0610038.html>

For more information contact:

Department of Ecology
Water Quality Program
Watershed Management Section
P.O. Box 47600
Olympia, WA 98504-7600

Telephone: 360-407-6157



**Persons with a hearing loss can call 711 for Washington Relay Service.
Persons with a speech disability can call 877-833-6341.**

If you need this publication in an alternate format, please call the Water Quality Program at 360-407-6404. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

Waters Requiring Supplemental Spawning and Incubation Protection for Salmonid Species

This publication is part of the Water Quality Standards for Surface Waters of the State of Washington (Chapter 173-201A WAC). The maps contained within this publication describe where and when additional temperature criteria are required to ensure protection for the incubation of salmon, trout, and char. Spawning information provided within this publication should be used in conjunction with other aquatic life use information provided in the surface water quality standards. Temperature criteria that apply outside of the spawning seasons can be found in Chapter 173-201A-600 and 602 (Table 602).

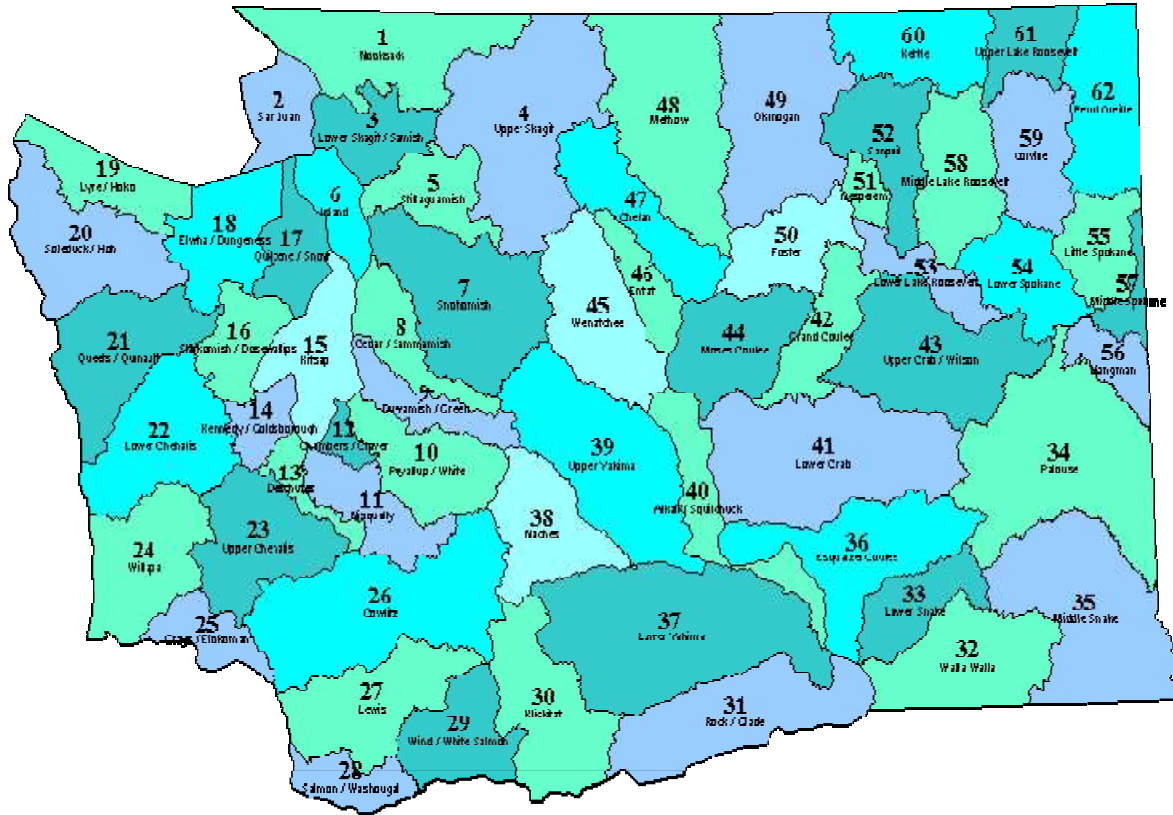
The salmonid populations targeted for the additional protection are those that have eggs and embryos developing in the stream bed in late spring to early fall. Salmonid populations which begin spawning in late fall or whose young have emerged from the stream gravels before late spring do not require added protection.

A spawning temperature of 13°C (as a 7-day average of daily maximum temperatures) is used to protect summer reproduction areas for salmon and trout, and a criterion of 9°C (as a 7-day average of daily maximum temperatures) is used to protect summer reproduction by native char species (bull trout and Dolly Varden). The following maps provide the locations where these criteria are to be applied along with the dates to which they apply.

The state is divided into Water Resource Inventory Areas (WRIA). These large watersheds aid in water management activities. Maps of each WRIA showing waters that require more protective temperature criterion make up the body of this publication. A statewide WRIA map is located in the front of this publication. ***(If there is no map for a given WRIA, this indicates there is no summer spawning data for that particular area.)***

Note: *The maps herein show only where and when supplemental temperature criteria are required to protect the summer season spawning of salmonids. For some of these waters more stringent year-round criteria (7-day average daily maximum of 12°C) must be met to protect use by native char. Refer to Chapter 173-201A-602 (Table 602) to identify where more restrictive criteria have been designated to protect native char (bull trout and Dolly Varden).*

Washington State Water Resource Inventory Areas

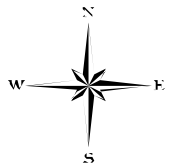
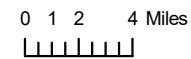
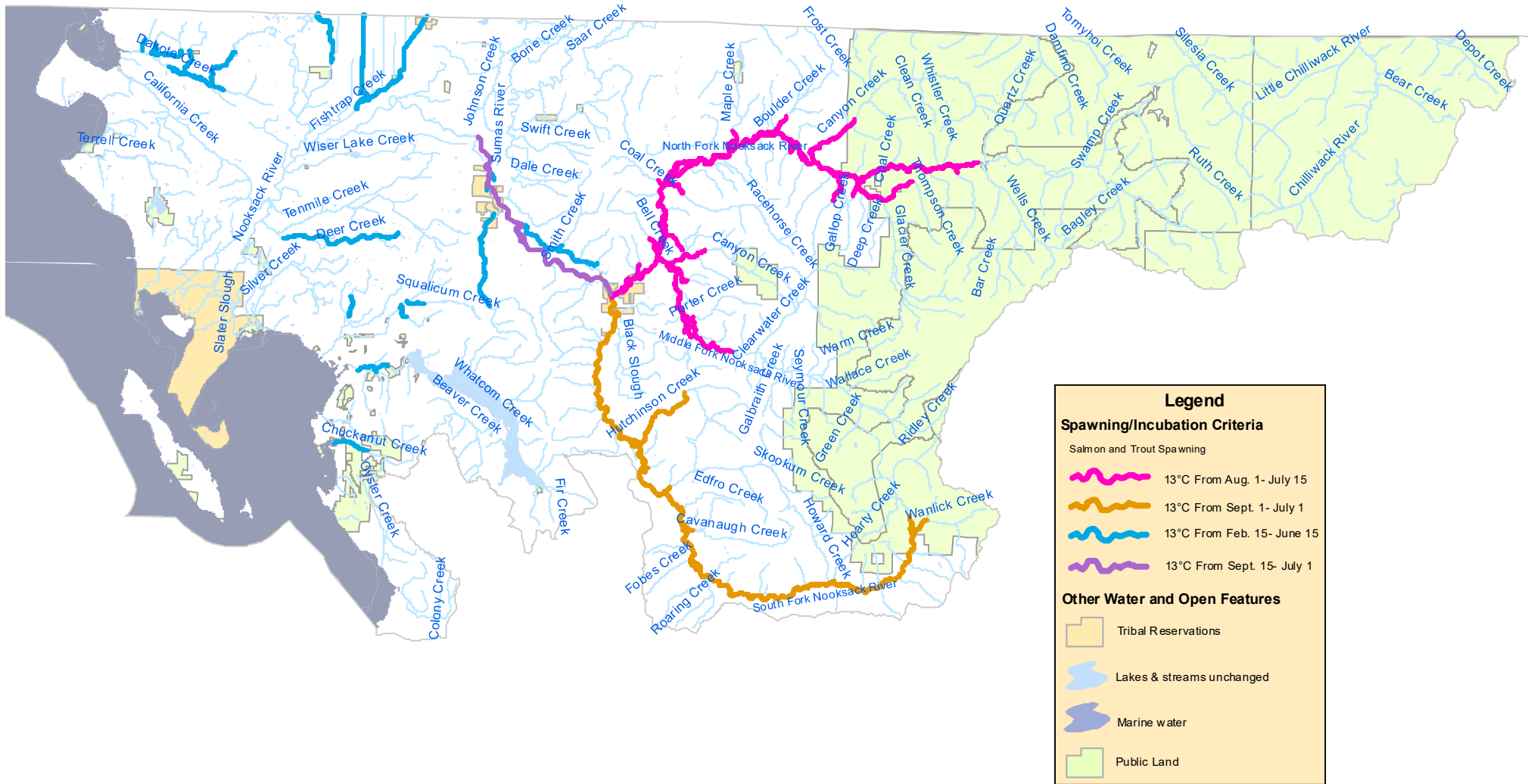


An unlinked map indicates no summer spawning data for that particular area.

1. Nooksack	17. Quilcene/Snow	33. Lower Snake	49. Okanogan
2. San Juan	18. Elwha/Dungeness	34. Palouse	50. Foster
3. Lower Skagit/Samish	19. Lyre/Hoko	35. Middle Snake	51. Nespelem
4. Upper Skagit	20. Soleduc	36. Esquatzel Coulee	52. Sanpoil
5. Stillaguamish	21. Queets/Quinault	37. Lower Yakima	53. Lower Lake Roosevelt
6. Island	22. Lower Chehalis	38. Naches	54. Lower Spokane
7. Snohomish	23. Upper Chehalis	39. Upper Yakima	55. Little Spokane
8. Cedar/Sammamish	24. Willapa	40. Alkaki/Squilchuck	56. Hangman
9. Duwamish/Green	25. Grays/Elochoman	41. Lower Crab	57. Middle Spokane
10. Puyallup/White	26. Cowlitz	42. Grand Coulee	58. Middle Lake Roosevelt
11. Nisqually	27. Lewis	43. Upper Crab/Wilson	59. Colville
12. Chambers/Clover	28. Salmon/Washougal	44. Moses Coulee	60. Kettle
13. Deschutes	29. Wind/White Salmon	45. Wenatchee	61. Upper Lake Roosevelt
14. Kennedy/Goldsborough	30. Klickitat	46. Entiat	62. Pend Oreille
15. Kitsap	31. Rock/Glade	47. Chelan	
16. Skokomish/Dosewallips	32. Walla Walla	48. Methow	

WRIA 1 NOOKSACK

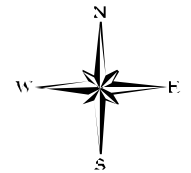
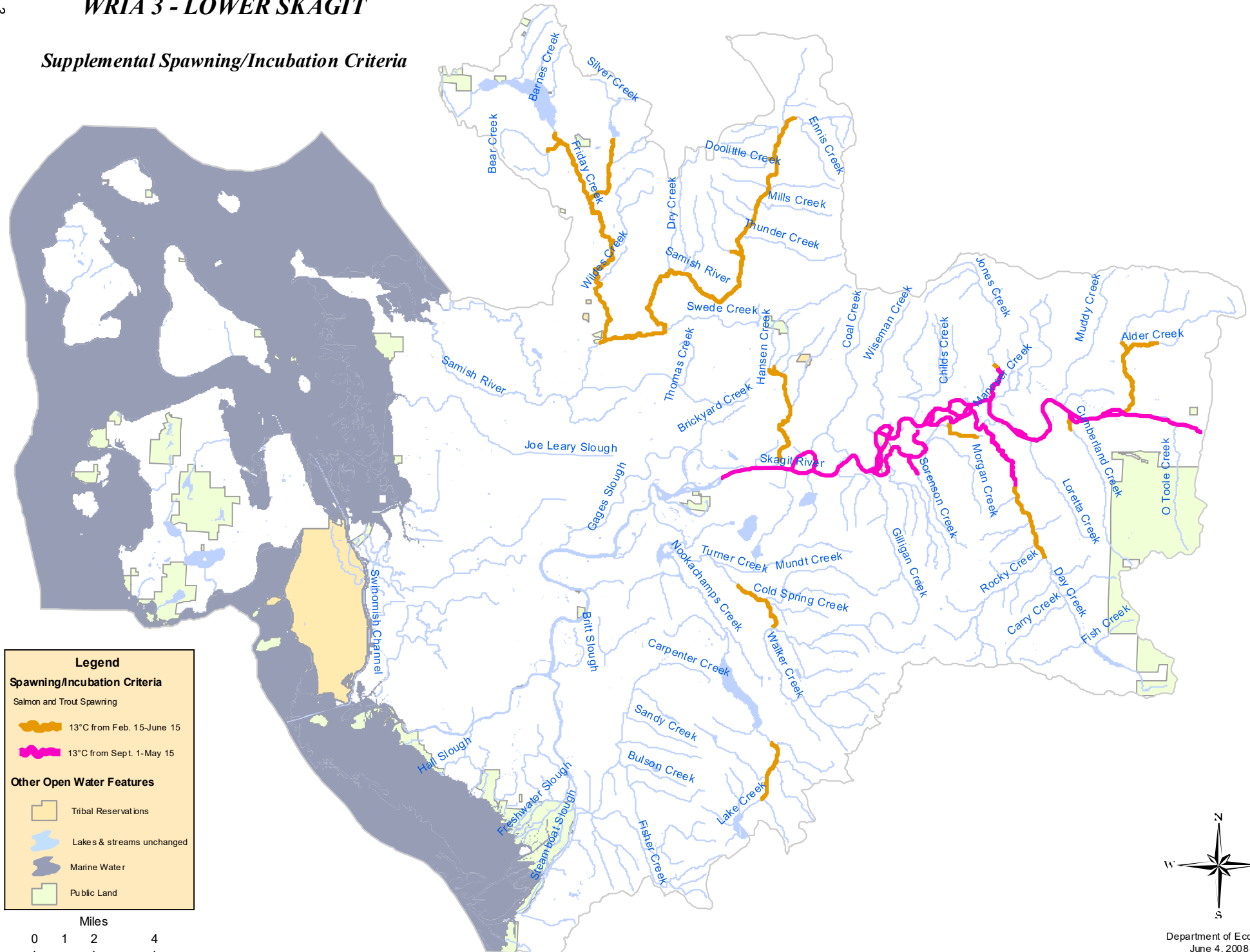
Supplemental Spawning/Incubation Criteria



Department of Ecology:
June 4, 2008

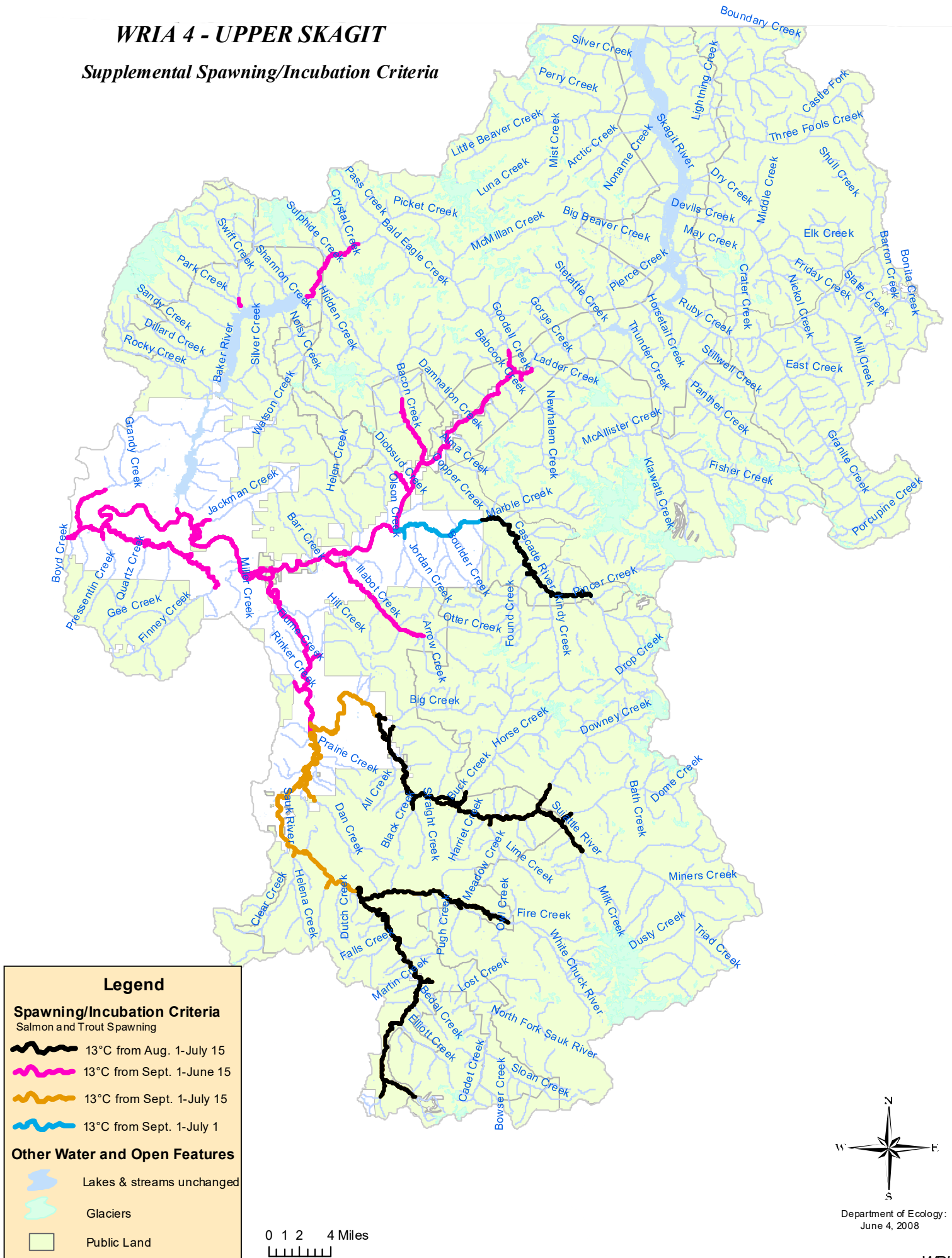
WRIA 3 - LOWER SKAGIT

Supplemental Spawning/Incubation Criteria



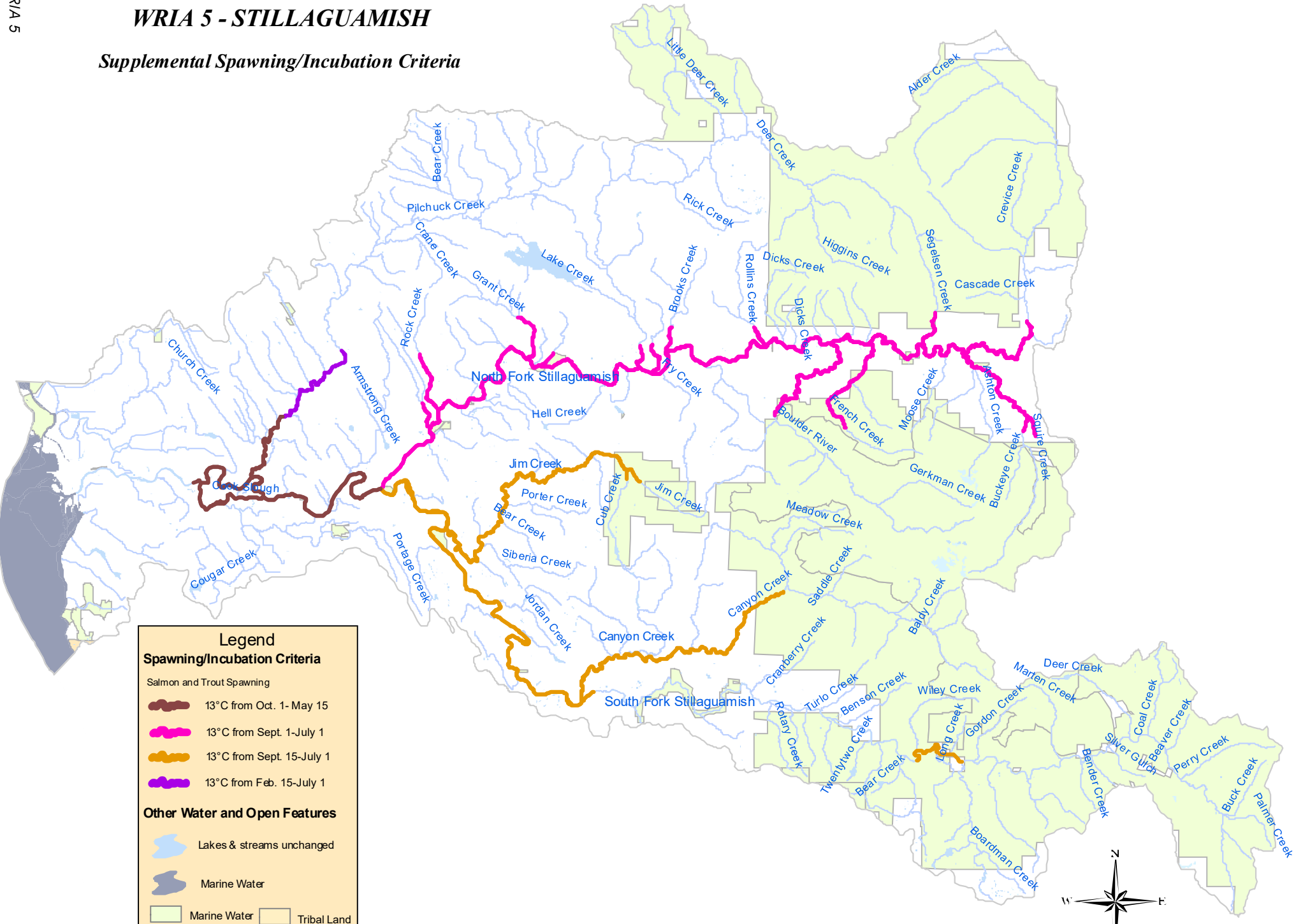
WRIA 4 - UPPER SKAGIT

Supplemental Spawning/Incubation Criteria



WRIA 5 - STILLAGUAMISH

Supplemental Spawning/Incubation Criteria



Legend

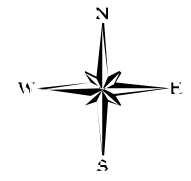
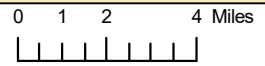
Spawning/Incubation Criteria

Salmon and Trout Spawning

-  13°C from Oct. 1- May 15
-  13°C from Sept. 1-July 1
-  13°C from Sept. 15-July 1
-  13°C from Feb. 15-July 1

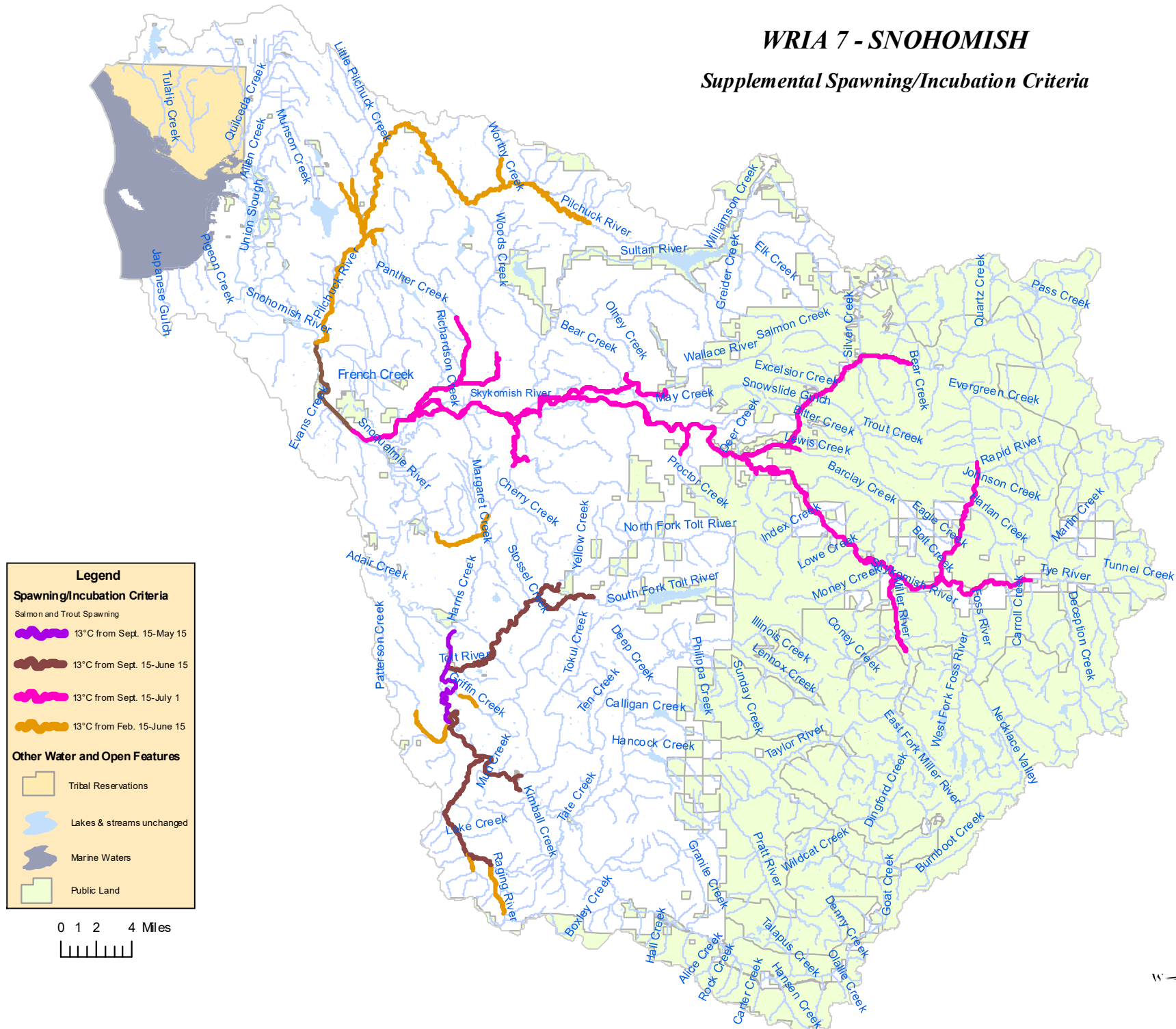
Other Water and Open Features

-  Lakes & streams unchanged
-  Marine Water
-  Marine Water
-  Tribal Land



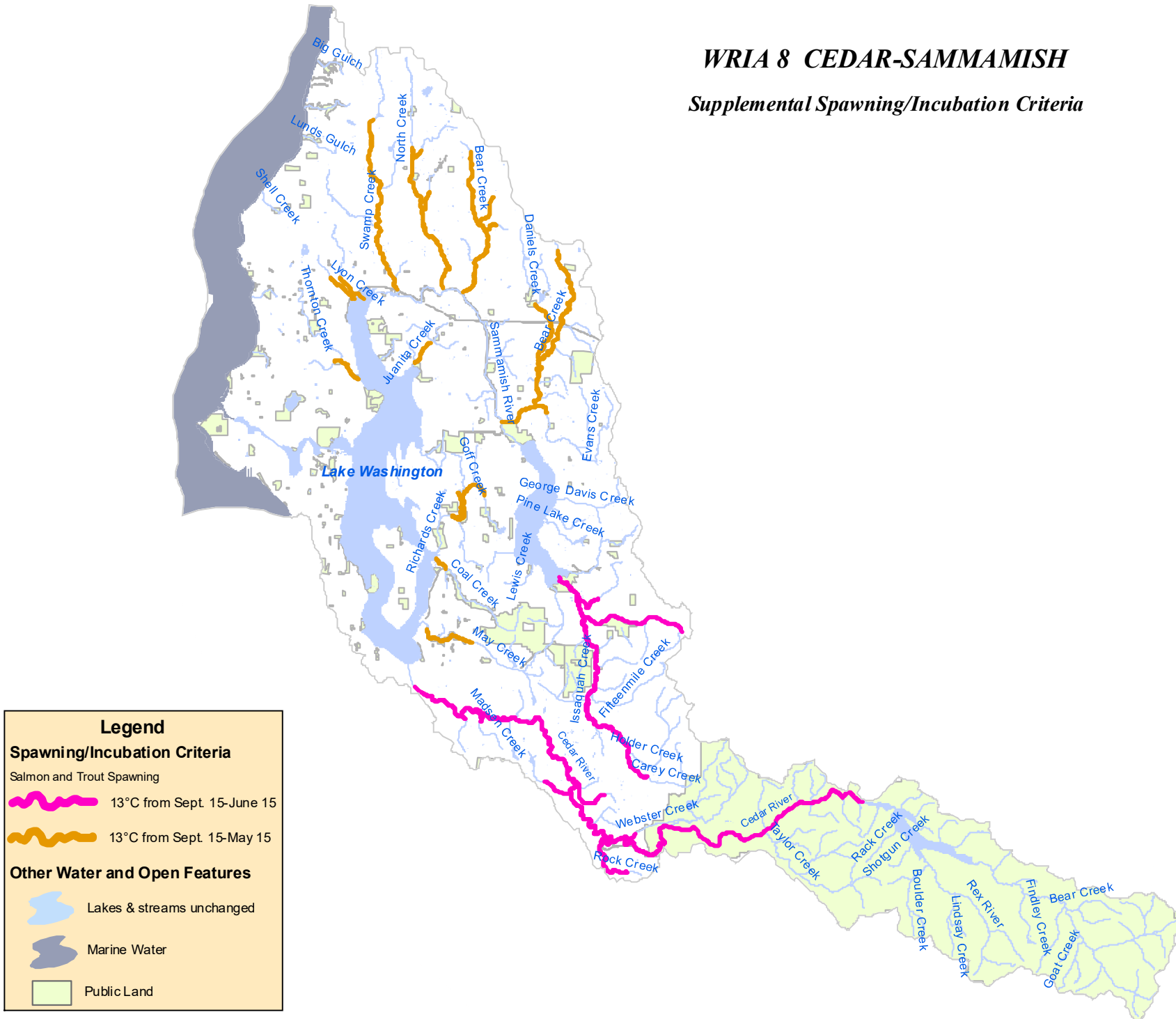
WRIA 7 - SNOHOMISH

Supplemental Spawning/Incubation Criteria



WRIA 8 CEDAR-SAMMAMISH

Supplemental Spawning/Incubation Criteria




Legend


Spawning/Incubation Criteria


Salmon and Trout Spawning


 13°C from Sept. 15-June 15

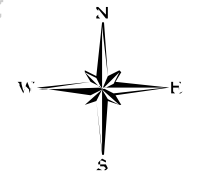
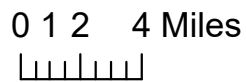
 13°C from Sept. 15-May 15

Other Water and Open Features

 Lakes & streams unchanged

 Marine Water

 Public Land




WRIA 9 DUWAMISH-GREEN

Supplemental Spawning/Incubation Criteria


Legend


Spawning/Incubation Criteria


Salmon and Trout Spawning

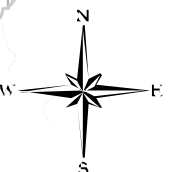
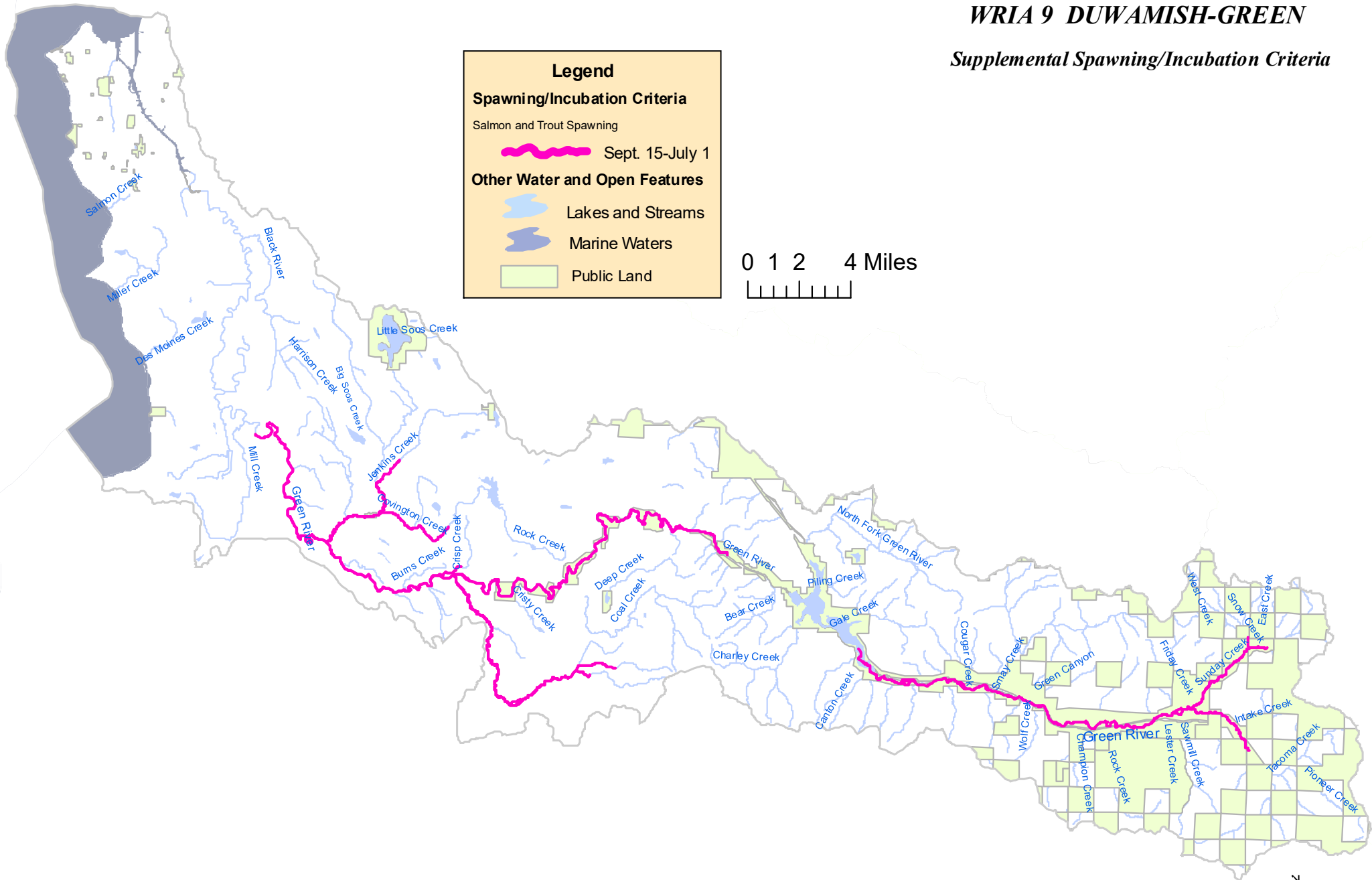
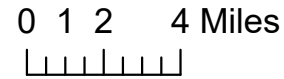
 Sept. 15-July 1

Other Water and Open Features

 Lakes and Streams

 Marine Waters



 Public Land








WRIA 10 Puyallup-White Supplemental Spawning/Incubation Criteria

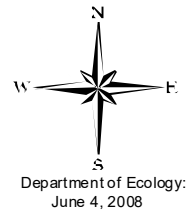
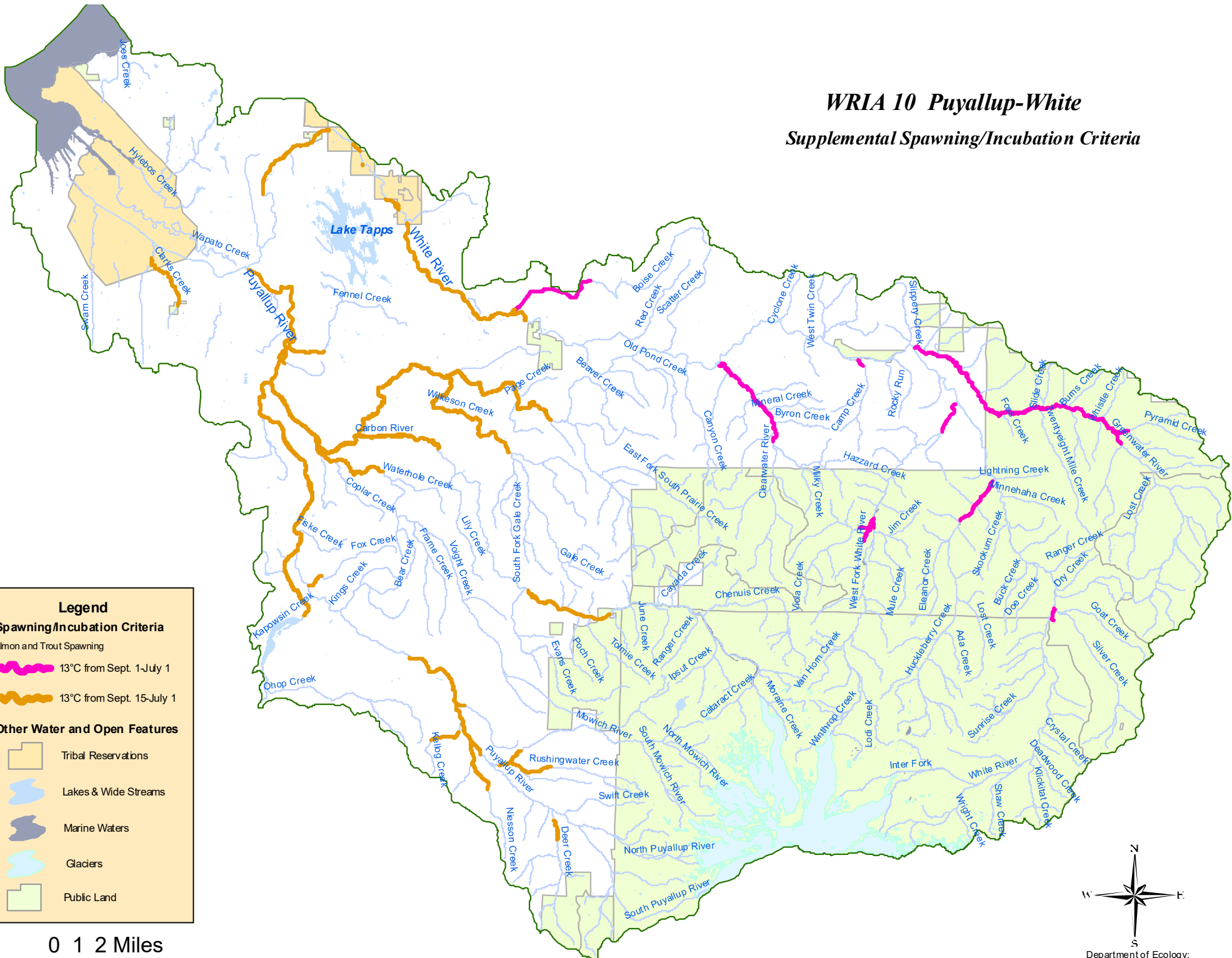
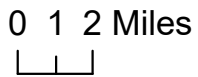
Legend

Spawning/Incubation Criteria

- Salmon and Trout Spawning
-  13°C from Sept. 1-July 1
-  13°C from Sept. 15-July 1

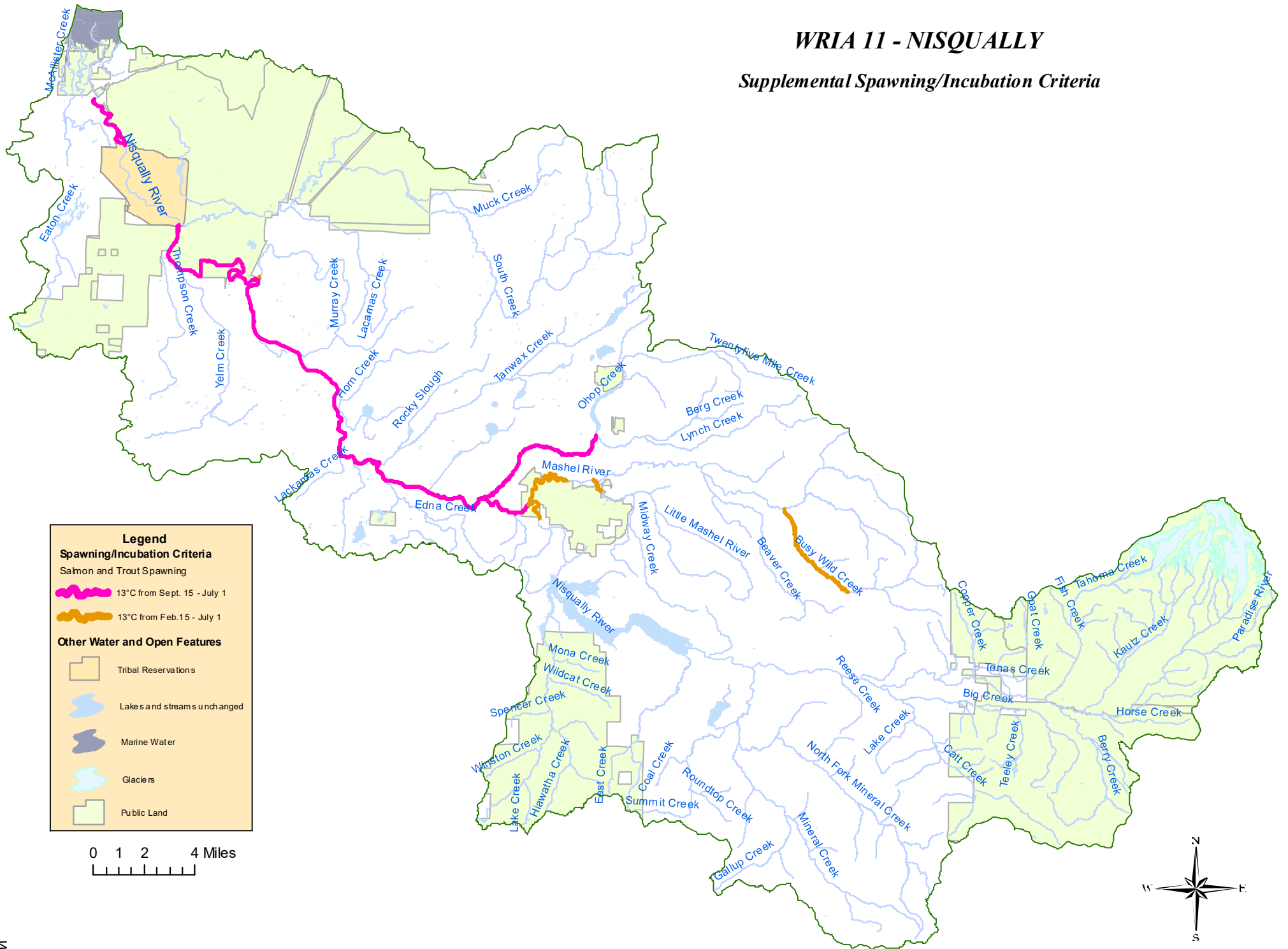
Other Water and Open Features

-  Tribal Reservations
-  Lakes & Wide Streams
-  Marine Waters
-  Glaciers
-  Public Land



WRIA 11 - NISQUALLY

Supplemental Spawning/Incubation Criteria



Legend

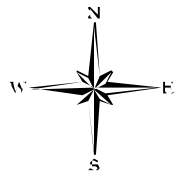
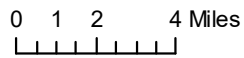
Spawning/Incubation Criteria

Salmon and Trout Spawning

- 13°C from Sept. 15 - July 1
- 13°C from Feb. 15 - July 1

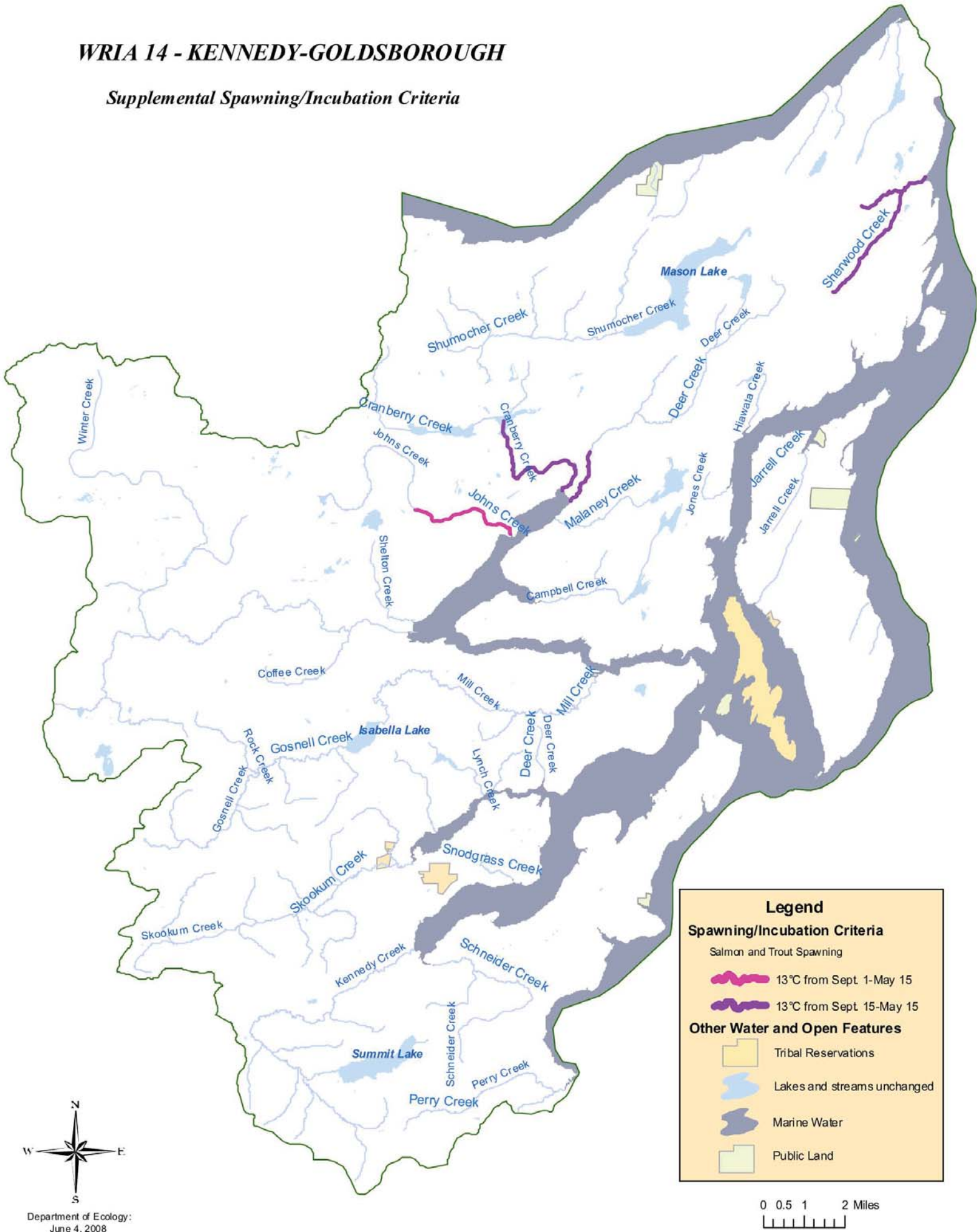
Other Water and Open Features

- Tribal Reservations
- Lakes and streams unchanged
- Marine Water
- Glaciers
- Public Land



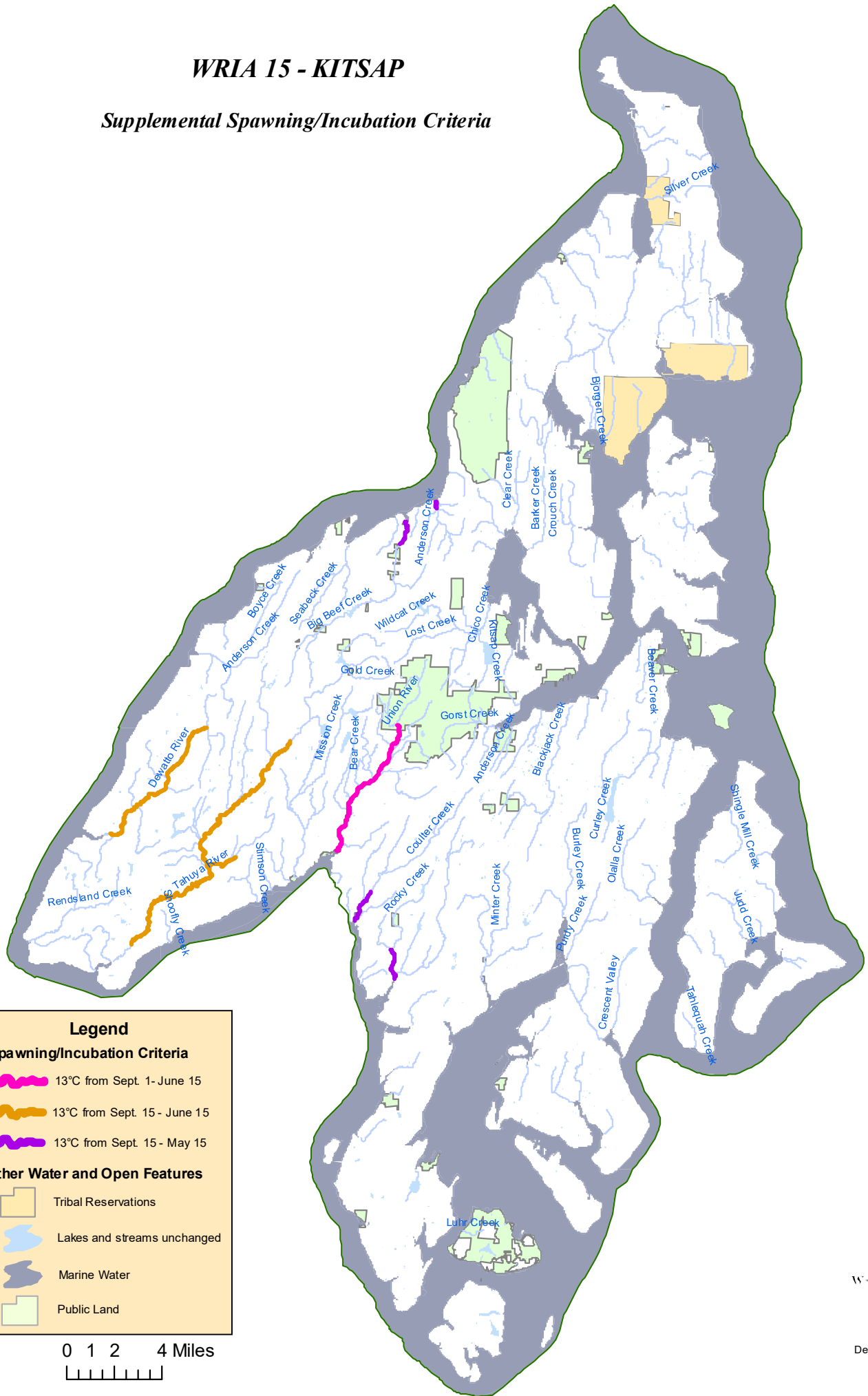
WRIA 14 - KENNEDY-GOLDSBOROUGH

Supplemental Spawning/Incubation Criteria






WRIA 15 - KITSAP

Supplemental Spawning/Incubation Criteria







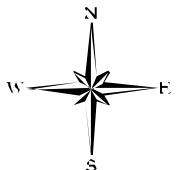
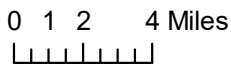
Legend

Spawning/Incubation Criteria

-  13°C from Sept. 1- June 15
-  13°C from Sept. 15 - June 15
-  13°C from Sept. 15 - May 15

Other Water and Open Features

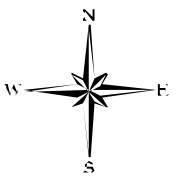
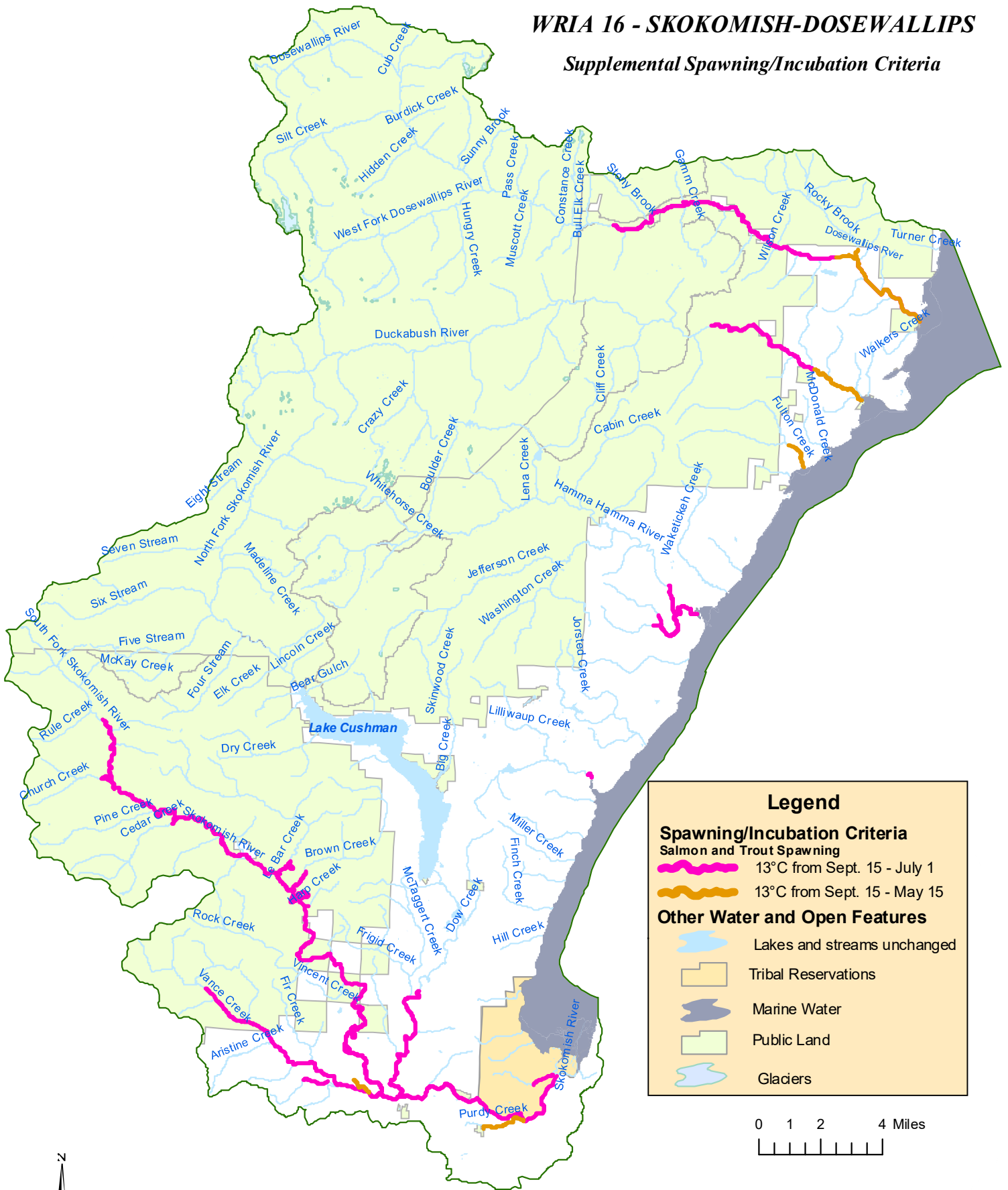
-  Tribal Reservations
-  Lakes and streams unchanged
-  Marine Water
-  Public Land



Department of Ecology
June 4, 2008

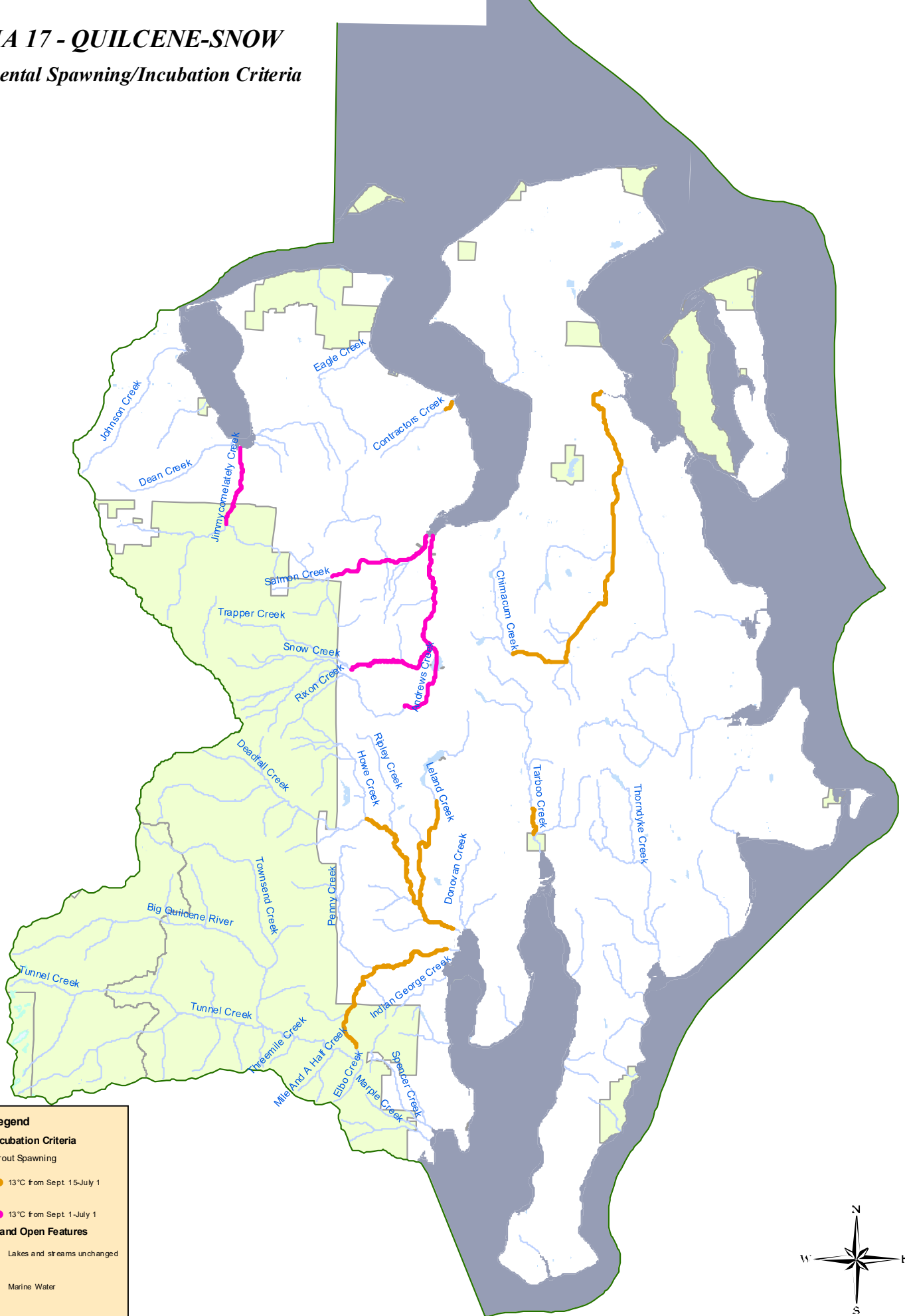
WRIA 16 - SKOKOMISH-DOSEWALLIPS

Supplemental Spawning/Incubation Criteria



Department of Ecology:
June 4, 2008

WRIA 17 - QUILCENE-SNOW
Supplemental Spawning/Incubation Criteria



Legend

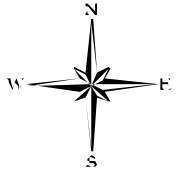
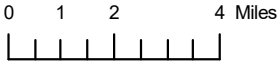
Spawning/Incubation Criteria

Salmon and Trout Spawning

- 13°C from Sept 15-July 1
- 13°C from Sept 1-July 1

Other Water and Open Features

- Lakes and streams unchanged
- Marine Water
- Glaciers
- Public Land



Department of Ecology:
 June 4, 2008

WRIA 18 - ELWHA-DUNGENESS

Supplemental Spawning/Incubation Criteria

Legend

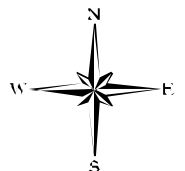
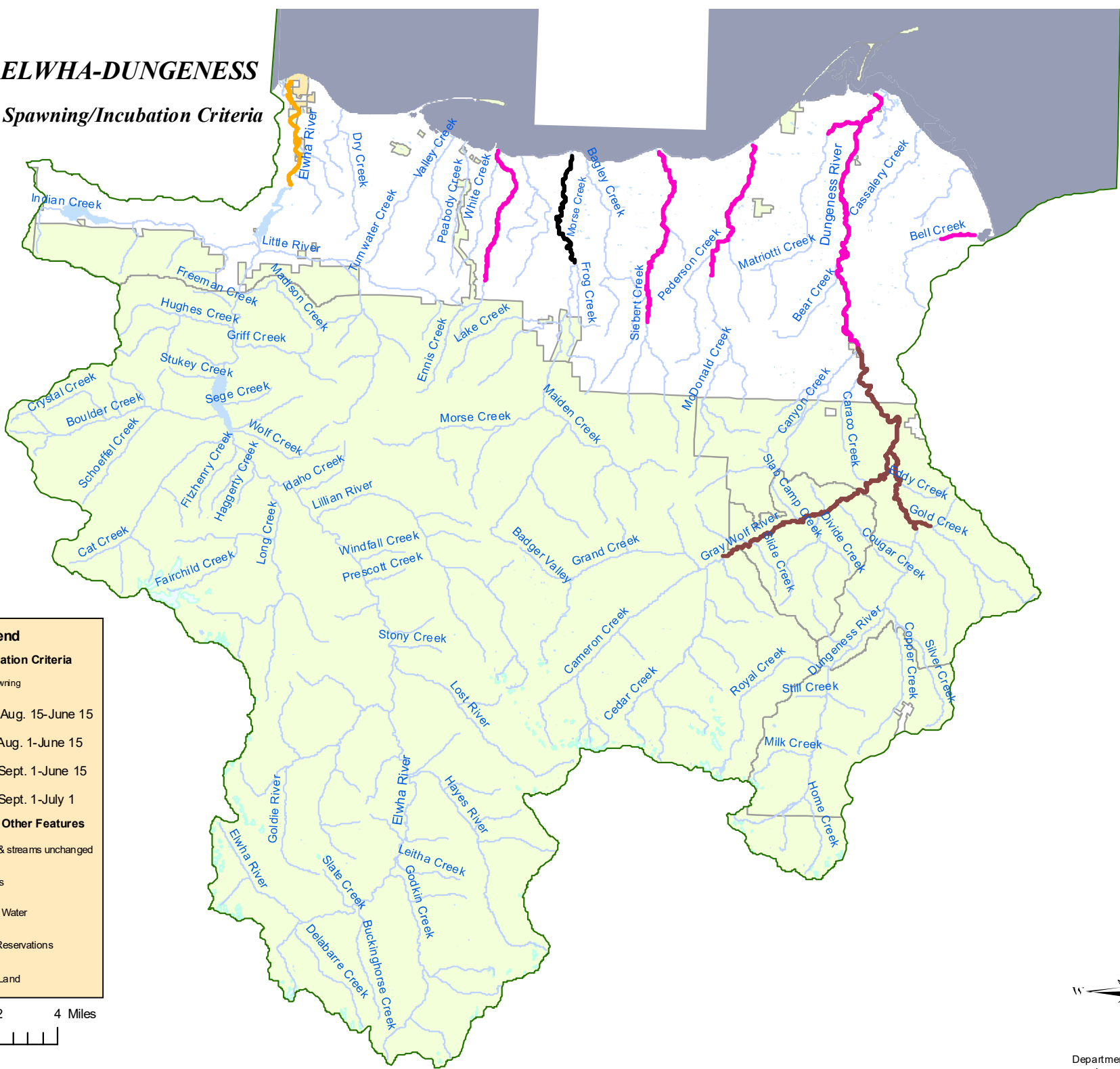
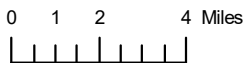
Spawning/Incubation Criteria

Salmon and Trout Spawning

-  13°C Aug. 15-June 15
-  13°C Aug. 1-June 15
-  13°C Sept. 1-June 15
-  13°C Sept. 1-July 1

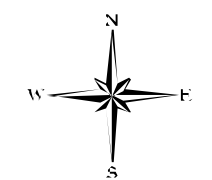
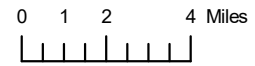
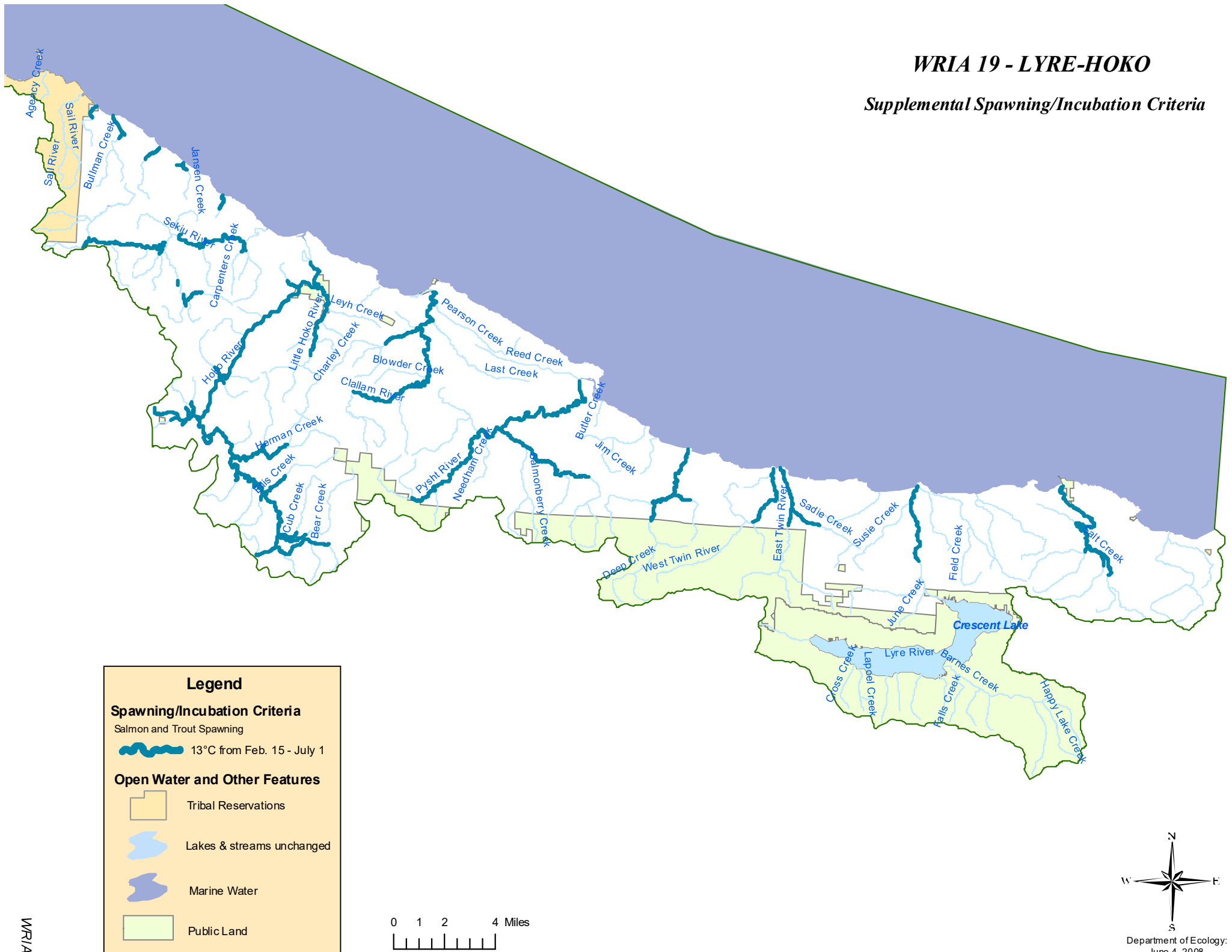
Open Water and Other Features

-  Lakes & streams unchanged
-  Glaciers
-  Marine Water
-  Tribal Reservations
-  Public Land



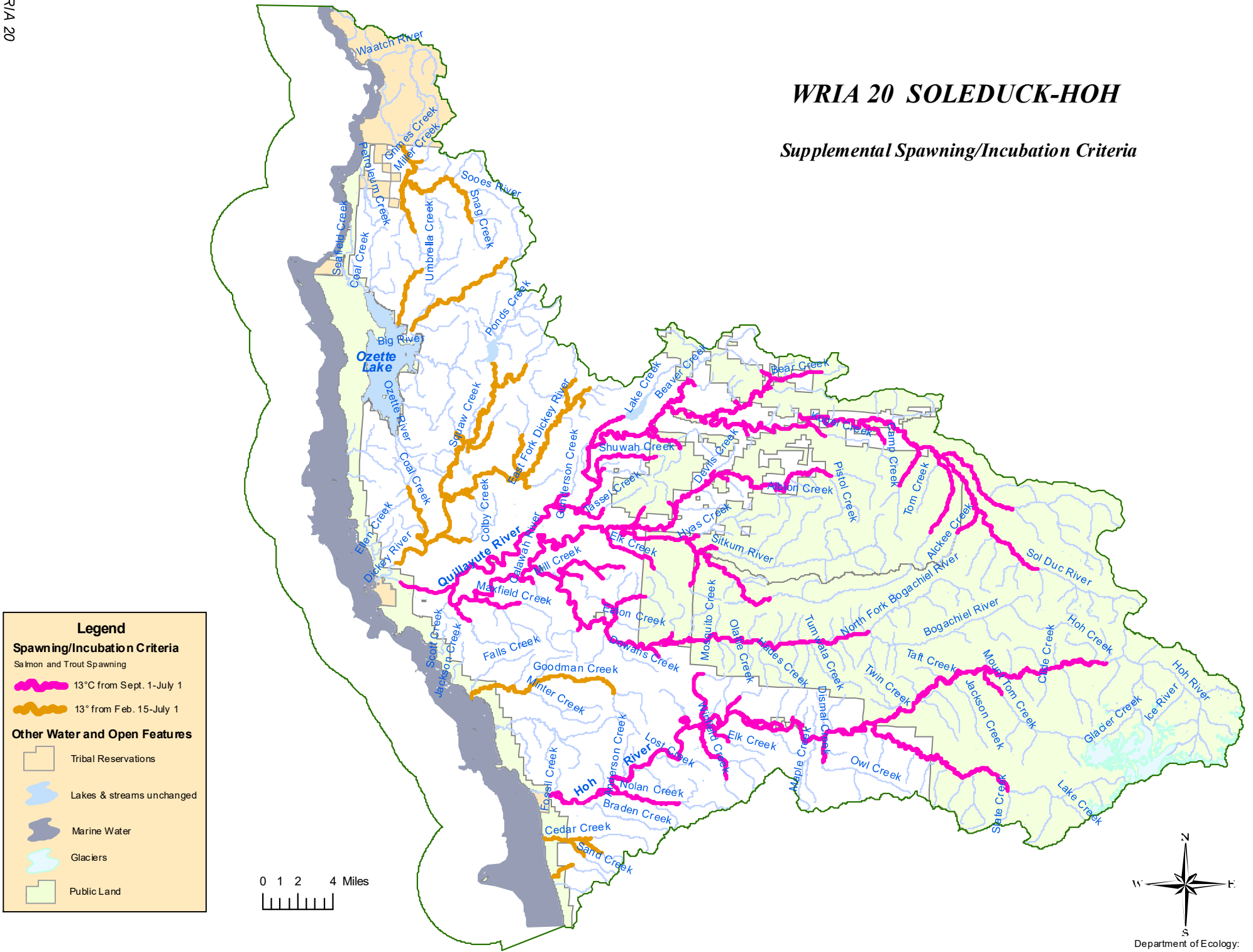
WRIA 19 - LYRE-HOKO

Supplemental Spawning/Incubation Criteria



WRIA 20 SOLEDUCK-HOH

Supplemental Spawning/Incubation Criteria



Legend

Spawning/Incubation Criteria

Salmon and Trout Spawning

13°C from Sept. 1-July 1

13° from Feb. 15-July 1

Other Water and Open Features

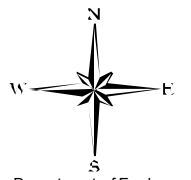
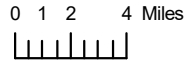
Tribal Reservations

Lakes & streams unchanged

Marine Water

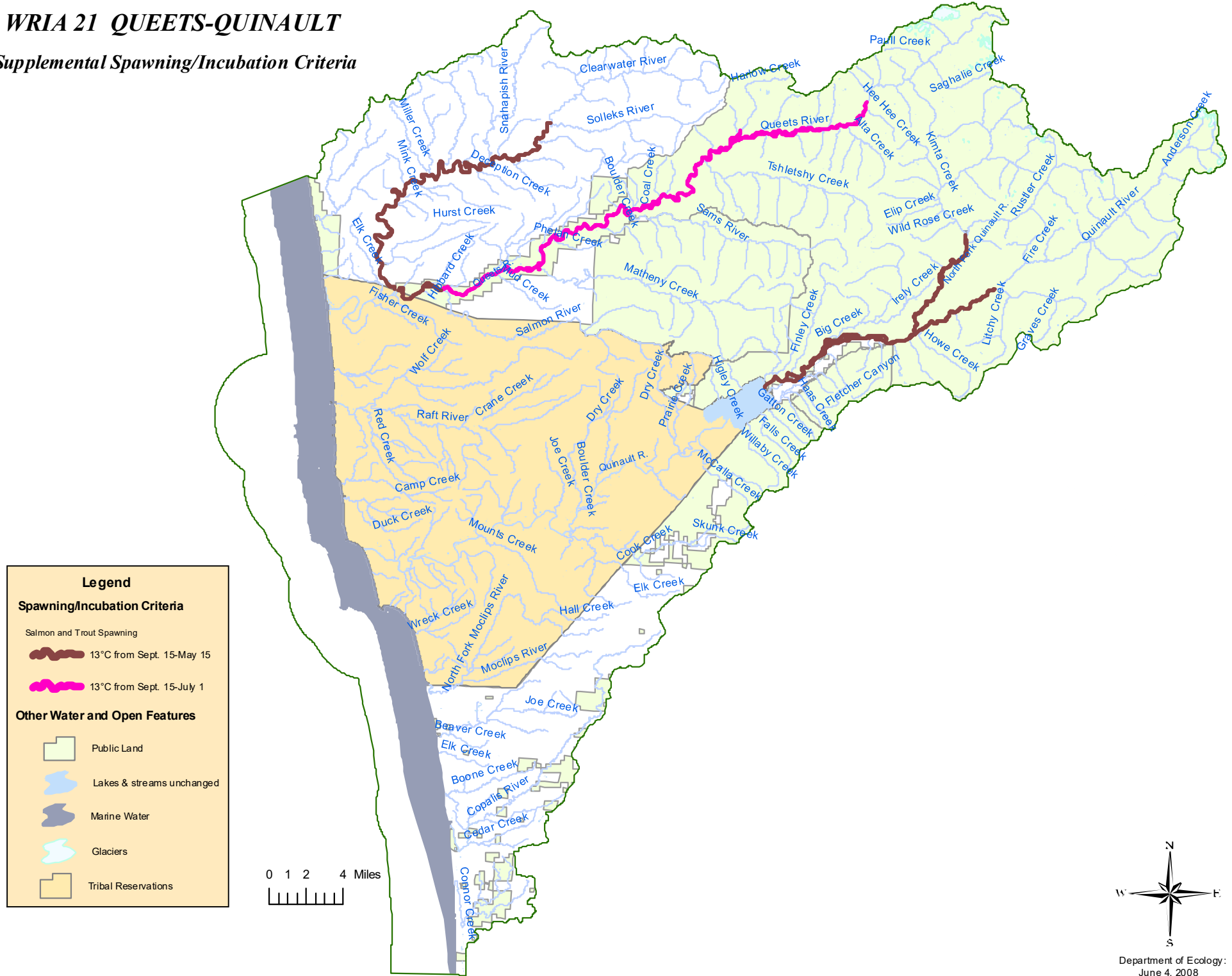
Glaciers

Public Land



WRIA 21 QUEETS-QUINAULT

Supplemental Spawning/Incubation Criteria





WRIA 22 LOWER CHEHALIS




Supplemental Spawning/Incubation Criteria

Legend

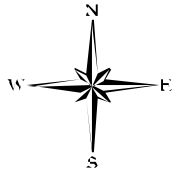
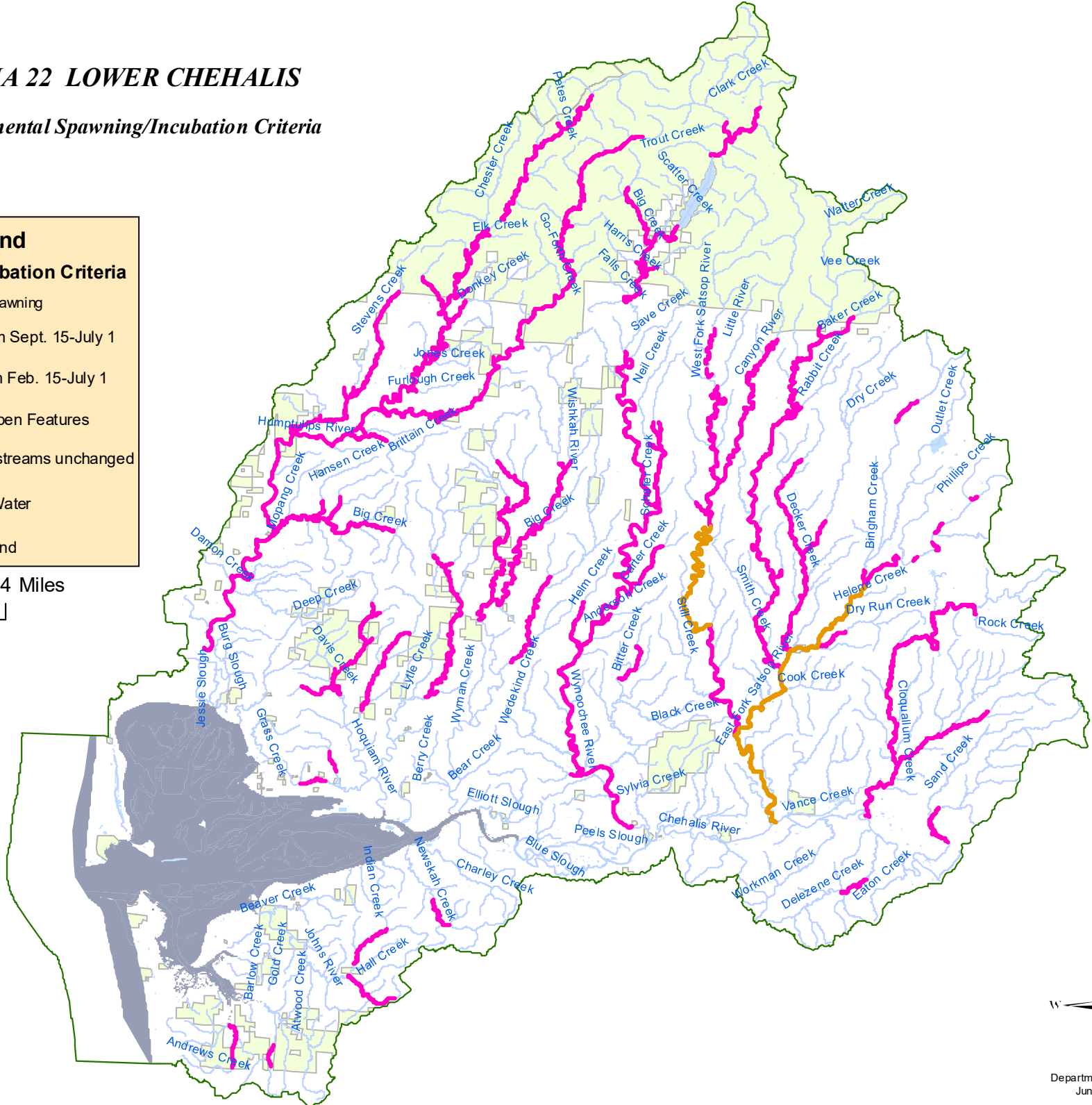
Spawning/Incubation Criteria

- Salmon and Trout Spawning
-  13°C from Sept. 15-July 1
-  13°C from Feb. 15-July 1

Other Water and Open Features

-  Lakes & streams unchanged
-  Marine Water
-  Public Land

0 1 2 4 Miles






WRIA 23 UPPER CHEHALIS




Supplemental Spawning/Incubation Criteria

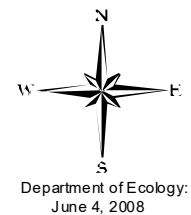
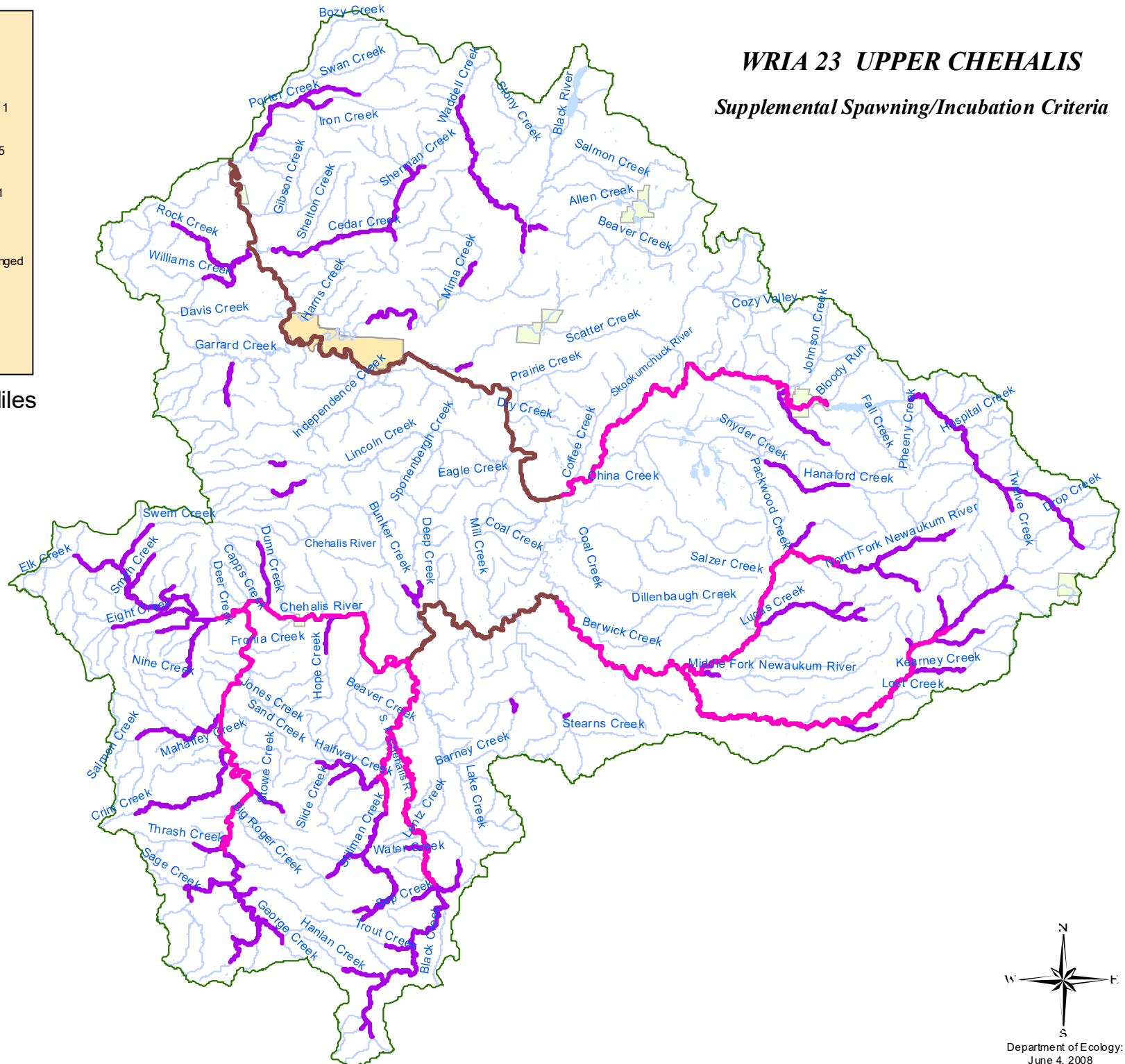
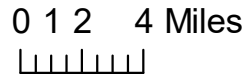
Legend

Spawning/Incubation Criteria
Salmon and Trout Spawning

-  13°C from Sept. 15-July 1
-  13°C from Oct. 1-May 15
-  13°C from Feb. 15-July 1

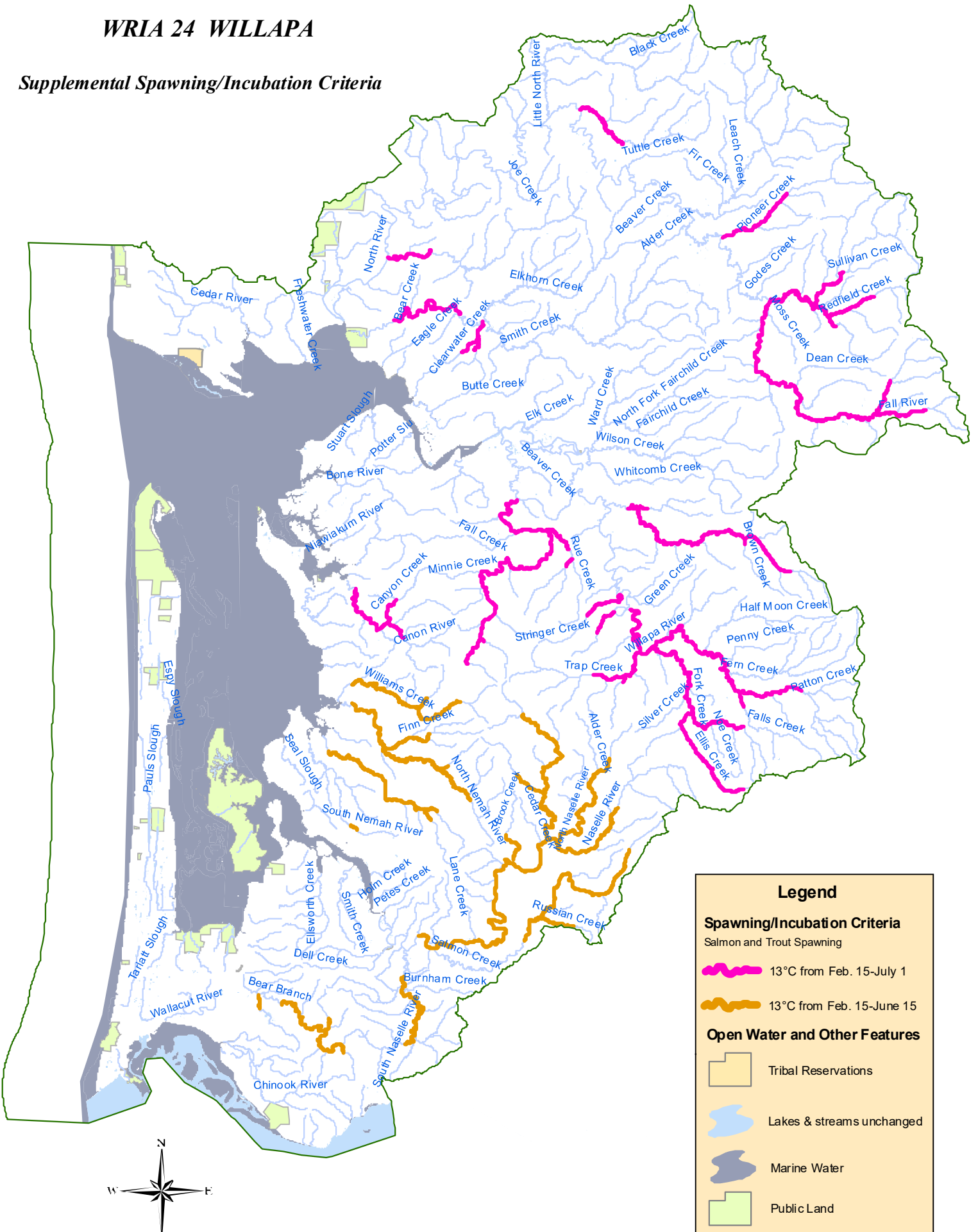
Other Water and Open Features

-  Lakes & streams unchanged
-  Tribal Reservations
-  Public Land



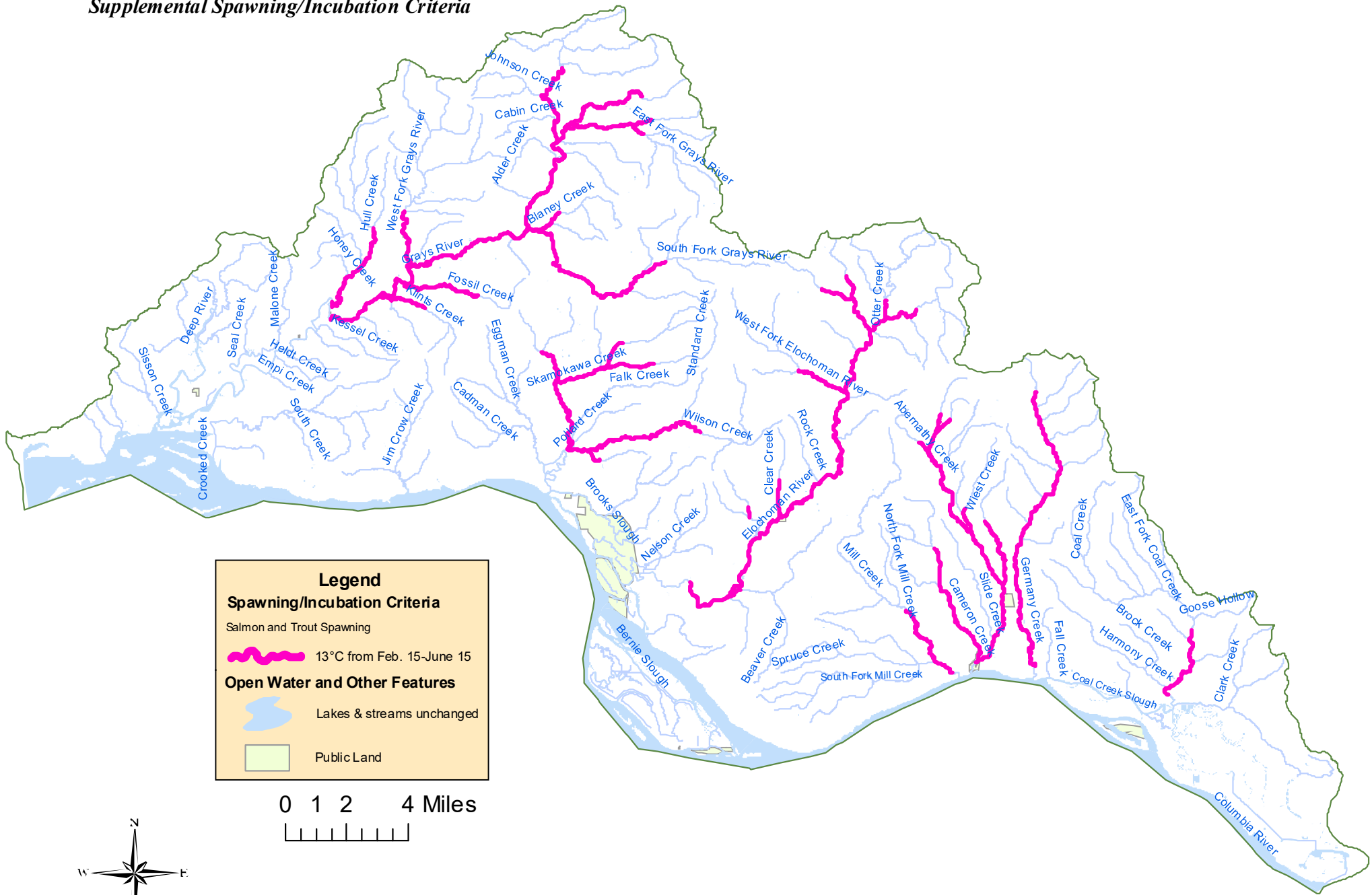
WRIA 24 WILLAPA

Supplemental Spawning/Incubation Criteria



WRIA 25 GRAYS-ELOKOMAN


Supplemental Spawning/Incubation Criteria



Legend


Spawning/Incubation Criteria

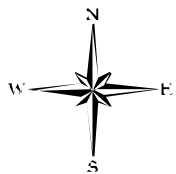
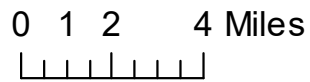
Salmon and Trout Spawning

 13°C from Feb. 15-June 15

Open Water and Other Features

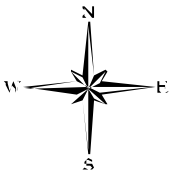
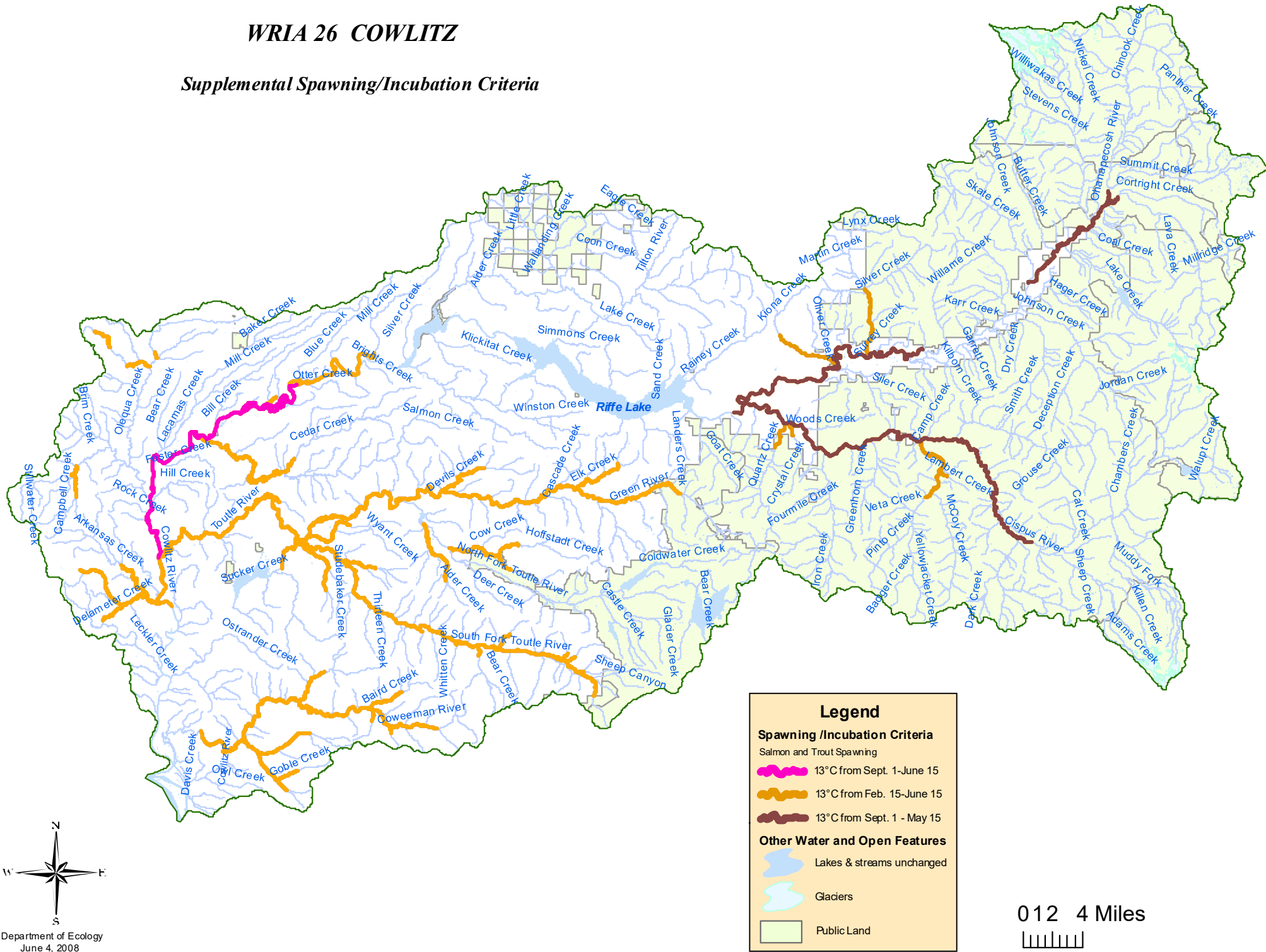
 Lakes & streams unchanged

 Public Land



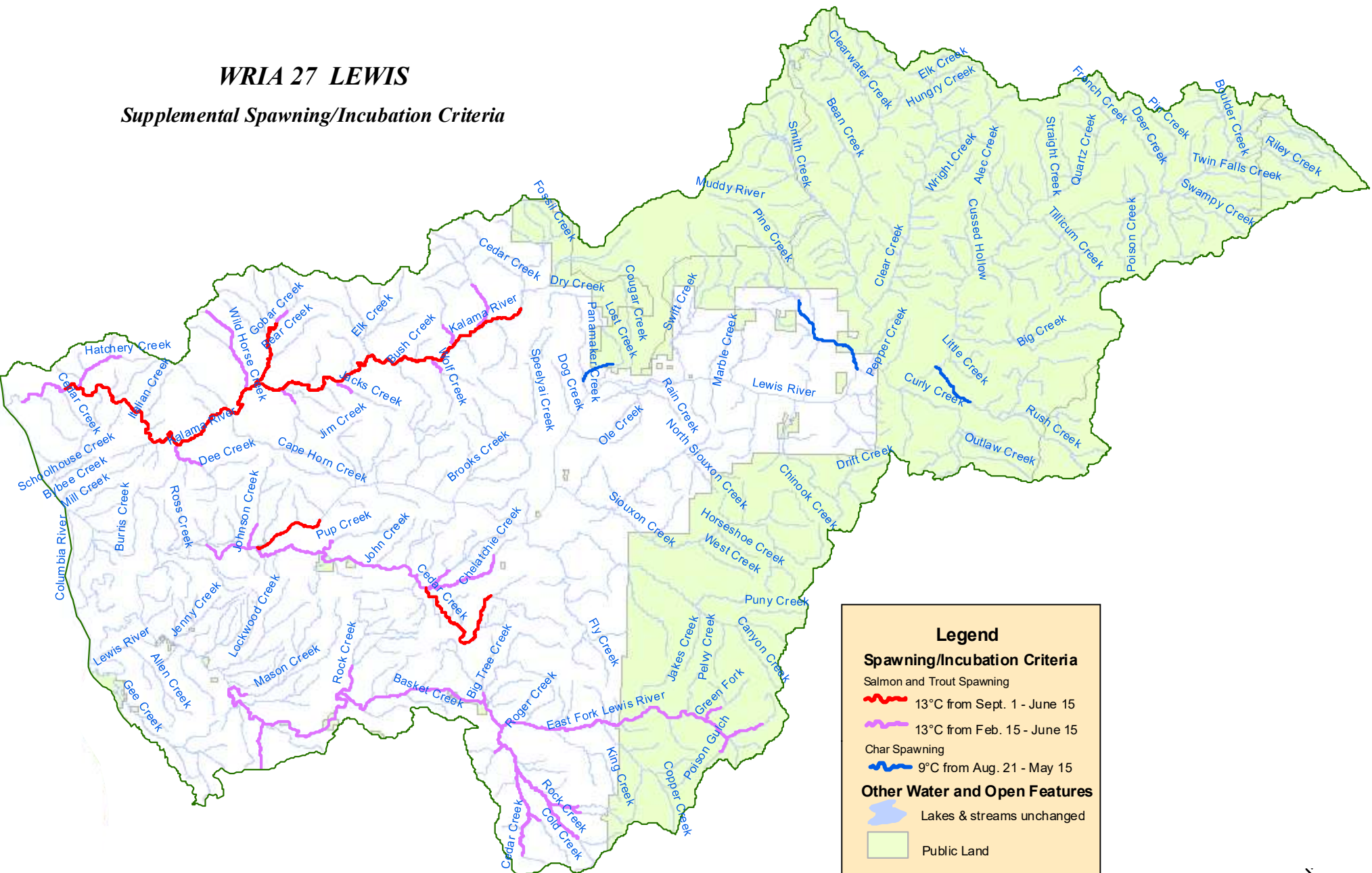
WRIA 26 COWLITZ

Supplemental Spawning/Incubation Criteria



WRIA 27 LEWIS

Supplemental Spawning/Incubation Criteria



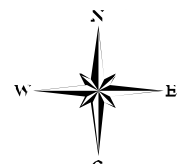
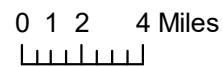
Legend

Spawning/Incubation Criteria

- Salmon and Trout Spawning
- 13°C from Sept. 1 - June 15
- 13°C from Feb. 15 - June 15
- Char Spawning
- 9°C from Aug. 21 - May 15

Other Water and Open Features

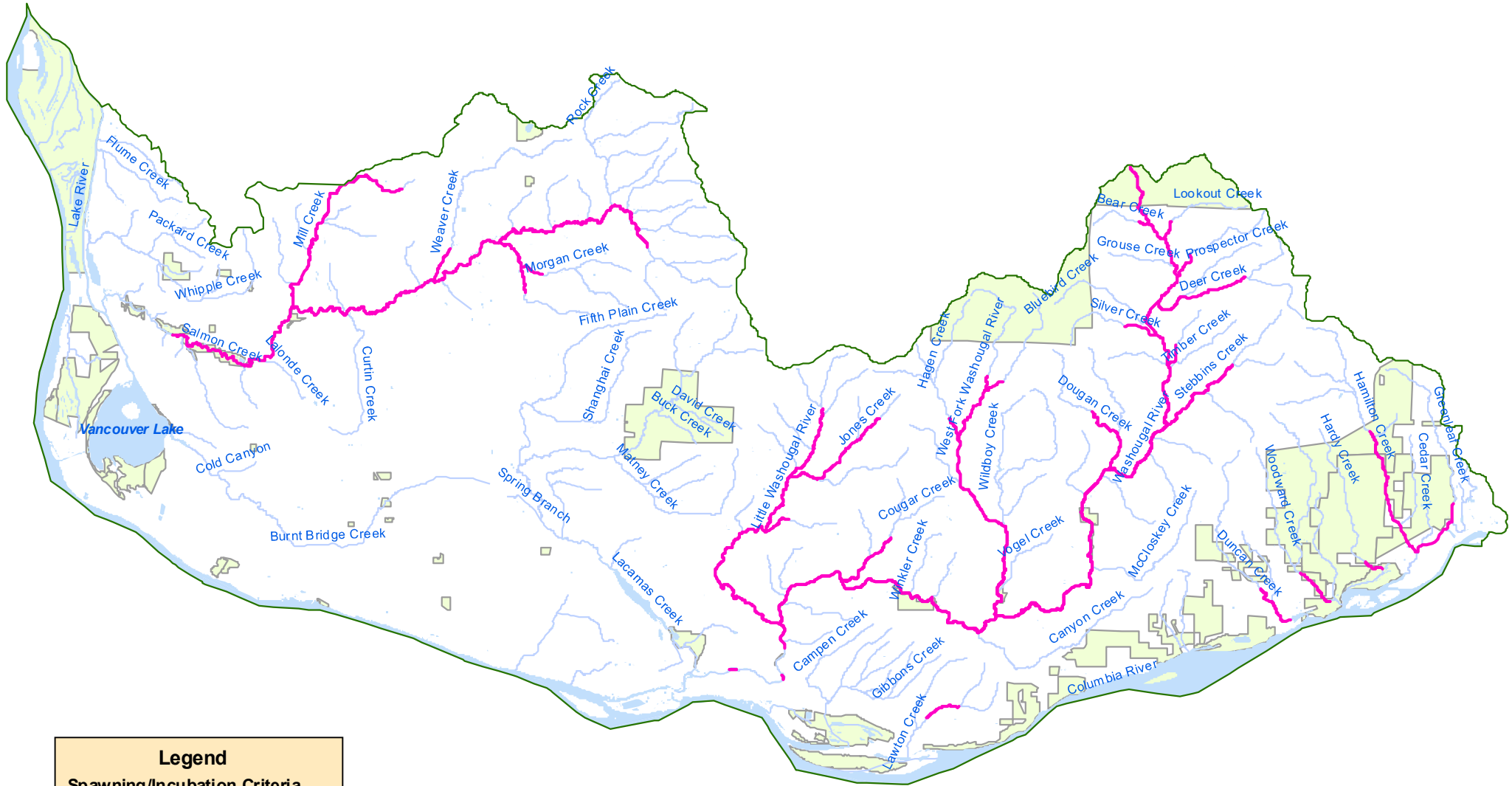
- Lakes & streams unchanged
- Public Land



Department of Ecology:
June 4, 2008

WRIA 28 SALMON-WASHOUGAL

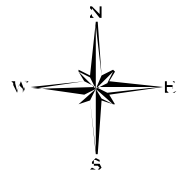
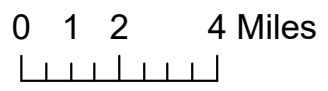
Supplemental Spawning/Incubation Criteria



Legend

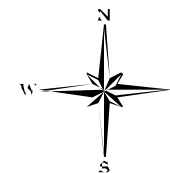
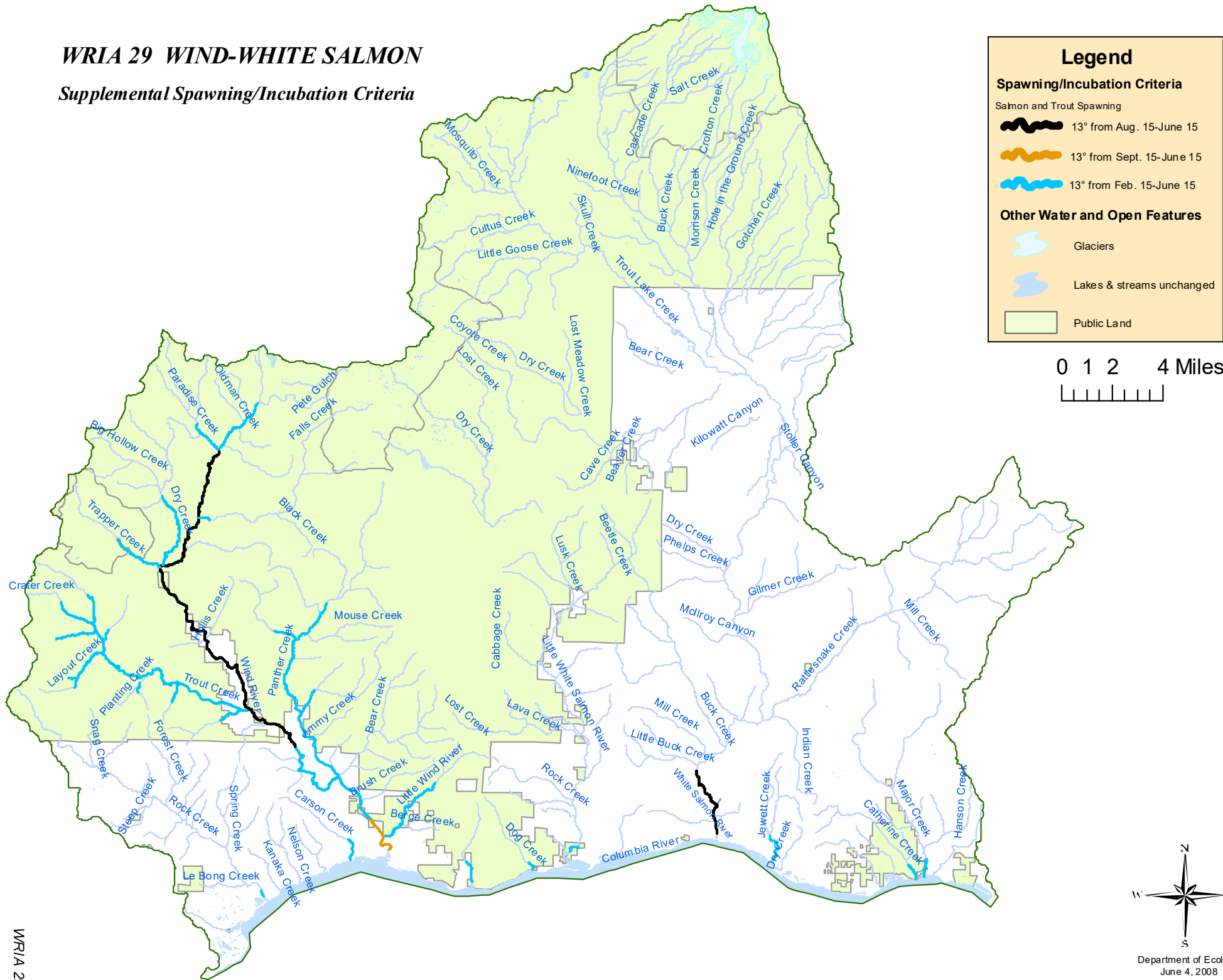
Spawning/Incubation Criteria
 Salmon and Trout Spawning
 13°C from Feb. 15-June 15

Other Water and Open Features
 Lakes & streams unchanged
 Public Land



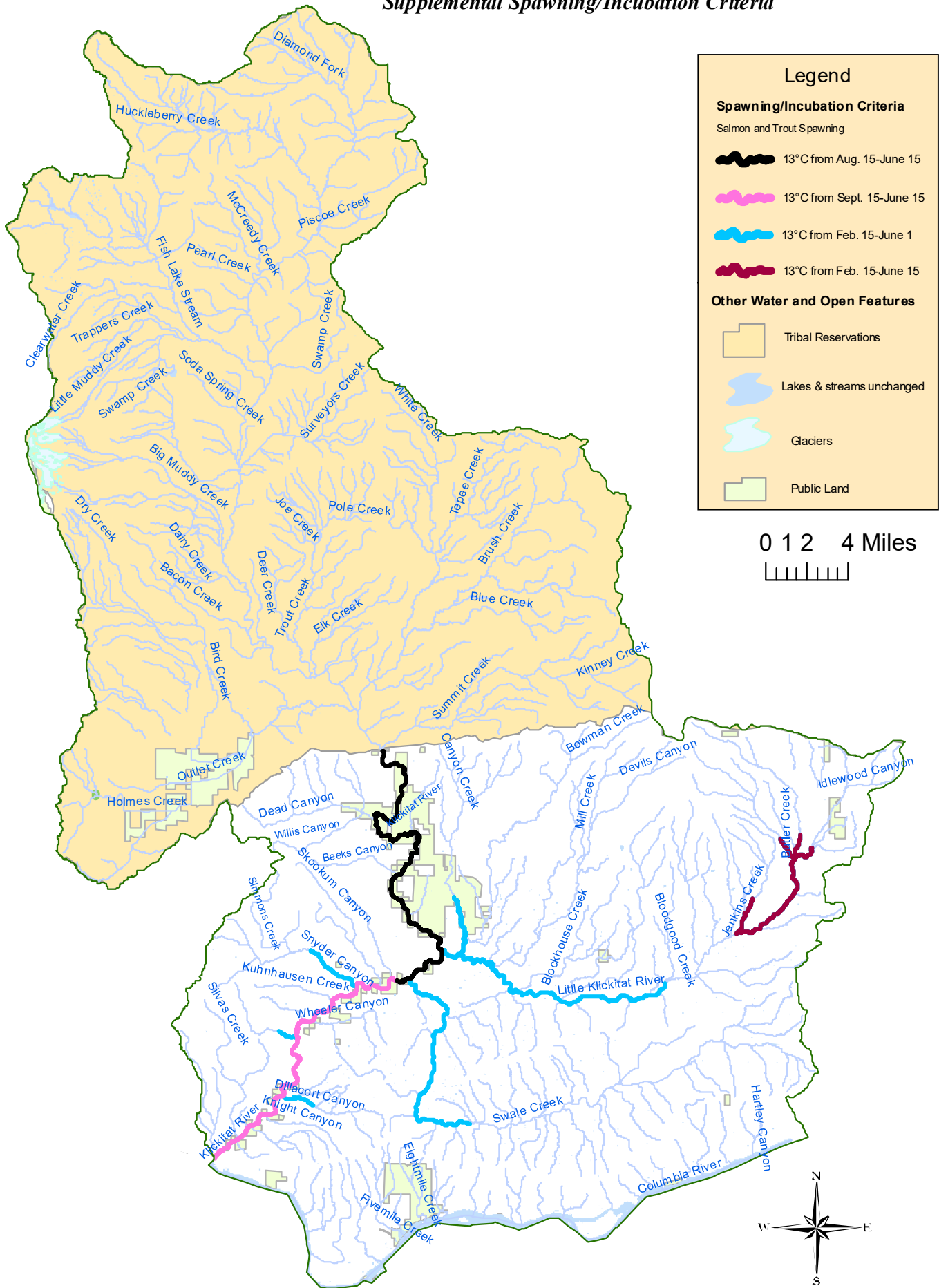
WRIA 29 WIND-WHITE SALMON

Supplemental Spawning/Incubation Criteria



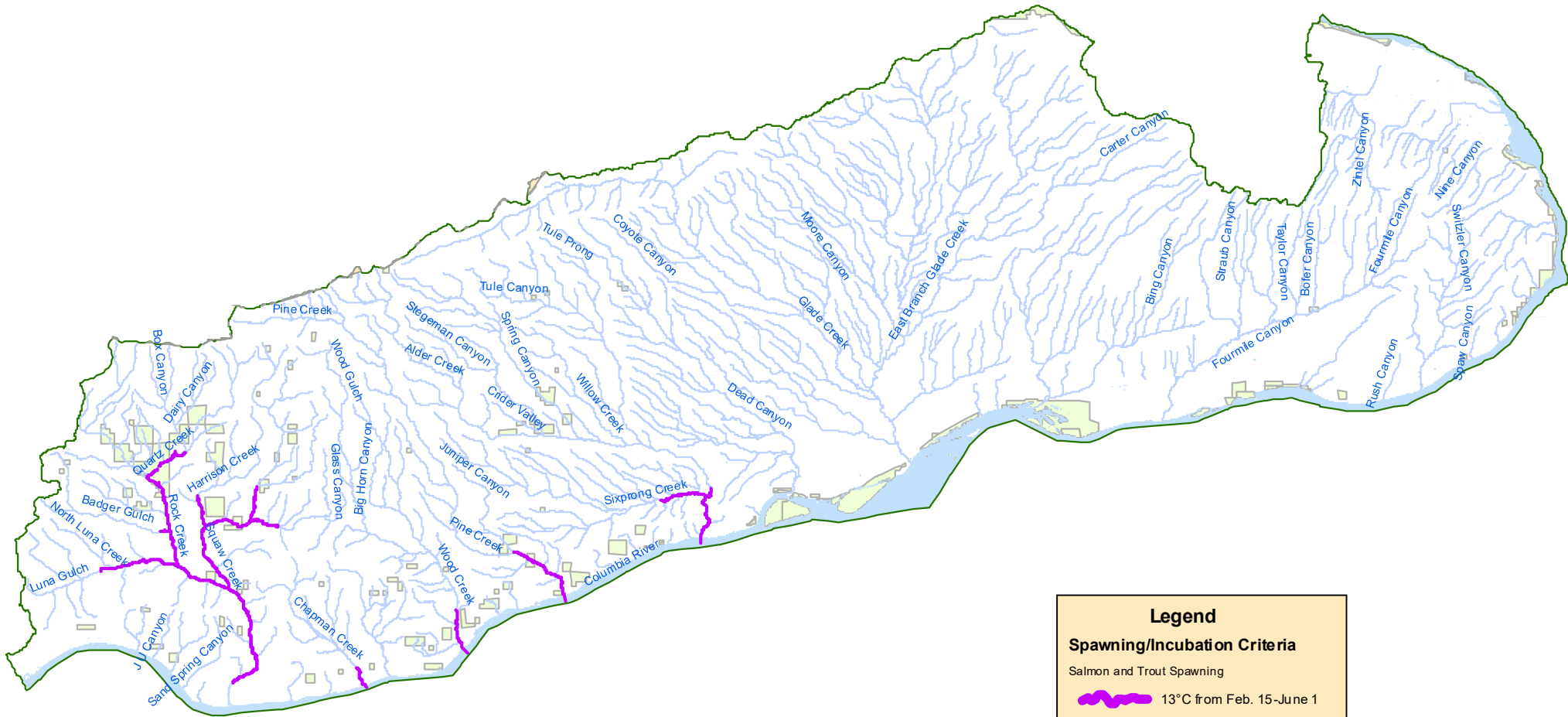
WRIA 30 KLICKITAT

Supplemental Spawning/Incubation Criteria



WRIA 31 ROCK-GLADE


Supplemental Spawning/Incubation Criteria




Legend


Spawning/Incubation Criteria

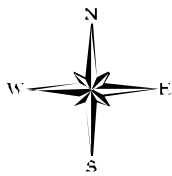
Salmon and Trout Spawning

 13°C from Feb. 15-June 1

Other Water and Open Features

 Lakes & streams unchanged

 Public Land



Department of Ecology
June 4, 2008

0 1 2 4 Miles



WRIA 35 MIDDLE SNAKE

Supplemental Spawning/Incubation Criteria

Legend

Spawning/Incubation Criteria

Salmon and Trout Spawning

- 13°C from Sept. 1-June 15
- 13°C from Feb. 15-June 15
- 13°C from Feb. 15-June 1

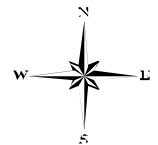
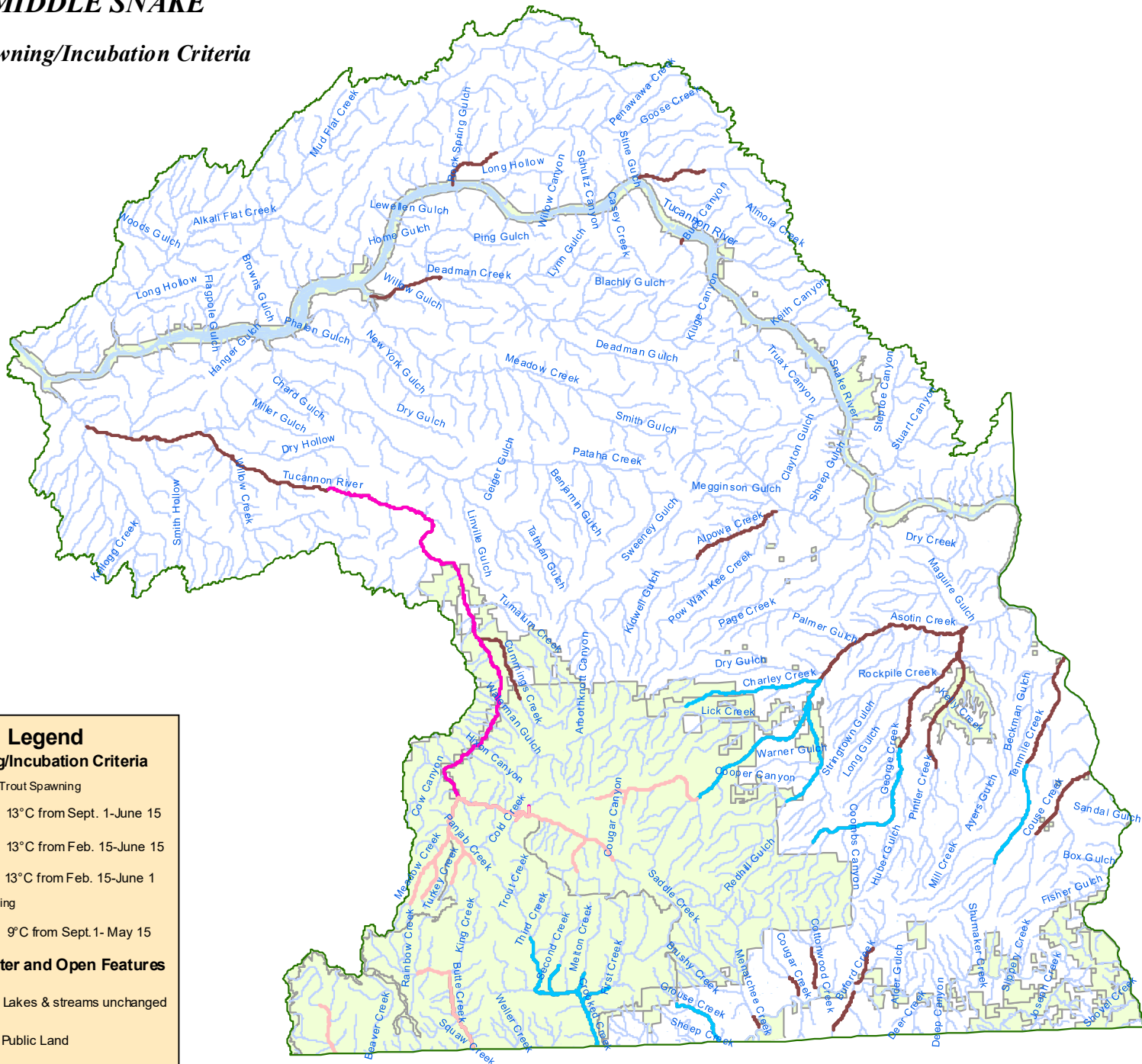
Char Spawning

- 9°C from Sept. 1- May 15

Other Water and Open Features

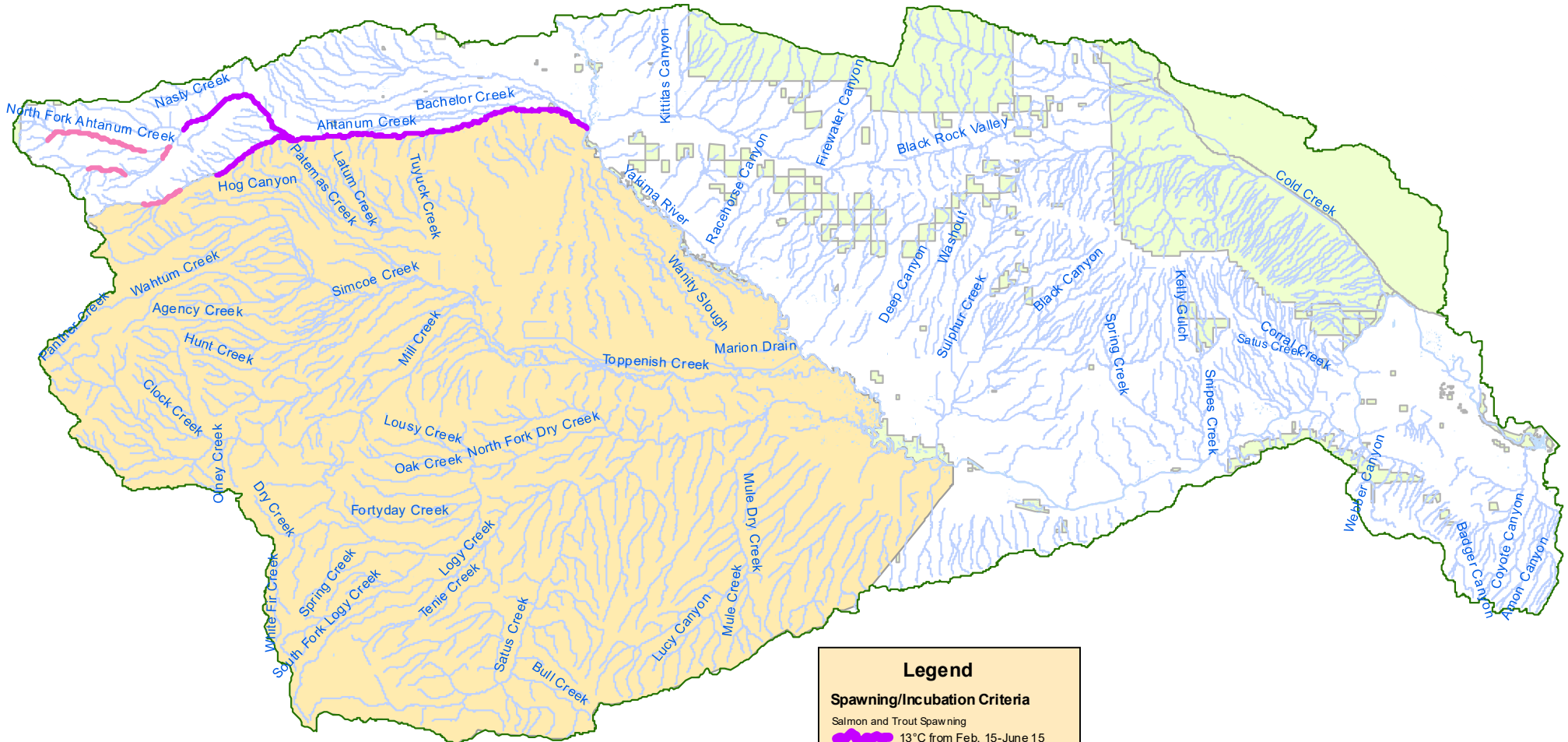
- Lakes & streams unchanged
- Public Land

012 4 Miles




WRIA 37 LOWER YAKIMA


Supplemental Spawning/ Incubation Criteria




Legend

Spawning/Incubation Criteria


Salmon and Trout Spawning
 13°C from Feb. 15-June 15

Char Spawning
 9°C from Sept 1- May 15

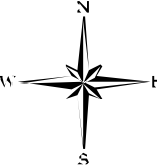
Open Water and Other Features

 Tribal Reservations

 Lakes and streams unchanged

 Public Land

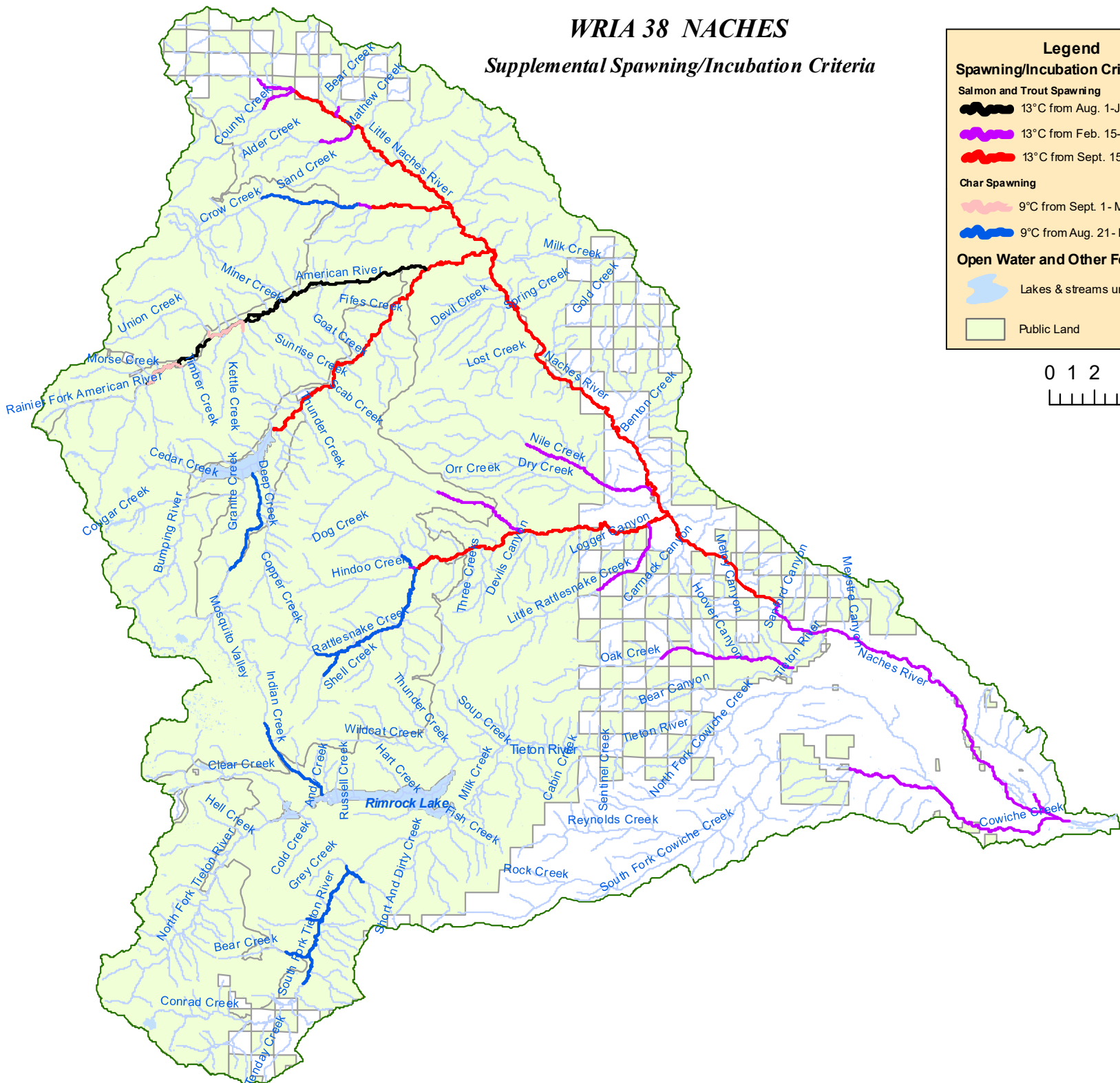
0 1 2 3 4 Miles

Department of Ecology:
June 4, 2008

WRIA 38 NACHES

Supplemental Spawning/Incubation Criteria



Legend

Spawning/Incubation Criteria

Salmon and Trout Spawning

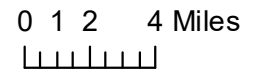
- 13°C from Aug. 1-June 15
- 13°C from Feb. 15-June 15
- 13°C from Sept. 15-June 15

Char Spawning

- 9°C from Sept. 1-May 15
- 9°C from Aug. 21-May 15

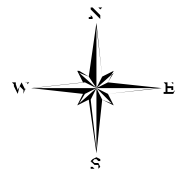
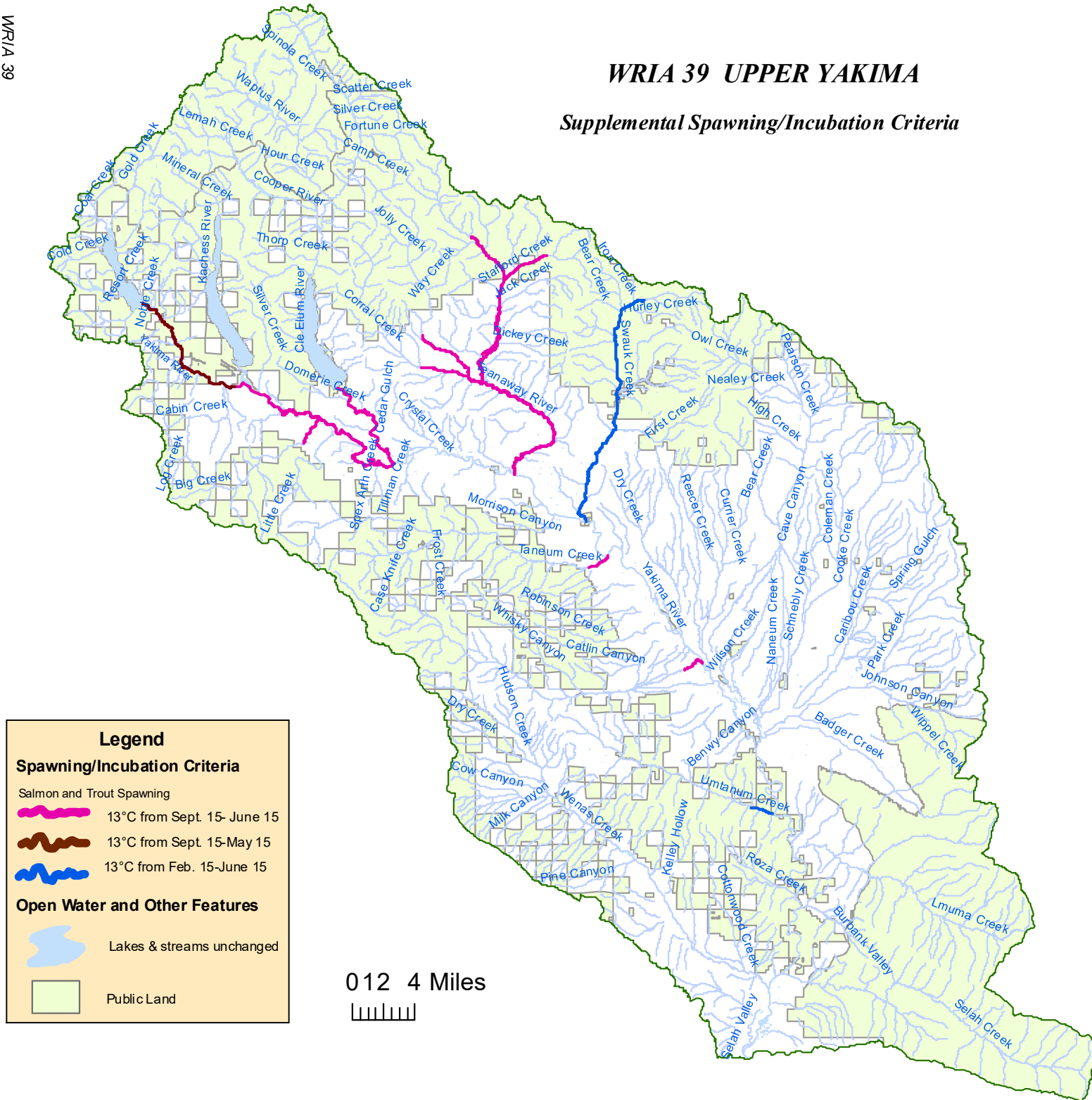
Open Water and Other Features

- Lakes & streams unchanged
- Public Land



WRIA 39 UPPER YAKIMA

Supplemental Spawning/Incubation Criteria



WRIA 45 WENATCHEE

Supplemental Spawning/Incubation Criteria

Legend

Spawning/Incubation Criteria

Salmon and Trout Spawning

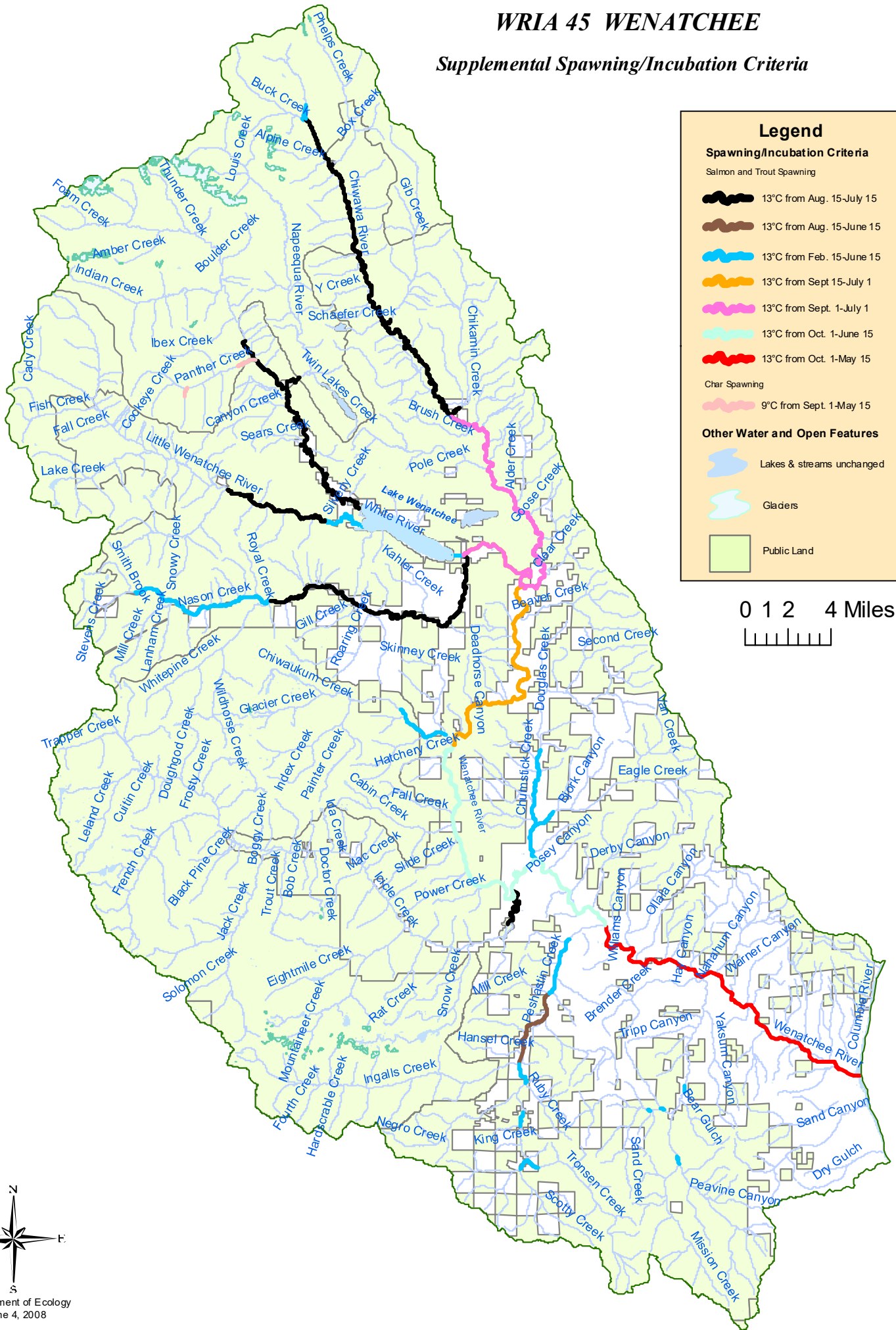
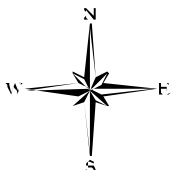
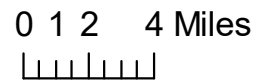
- 13°C from Aug. 15-July 15
- 13°C from Aug. 15-June 15
- 13°C from Feb. 15-June 15
- 13°C from Sept 15-July 1
- 13°C from Sept. 1-July 1
- 13°C from Oct. 1-June 15
- 13°C from Oct. 1-May 15

Char Spawning

- 9°C from Sept. 1-May 15

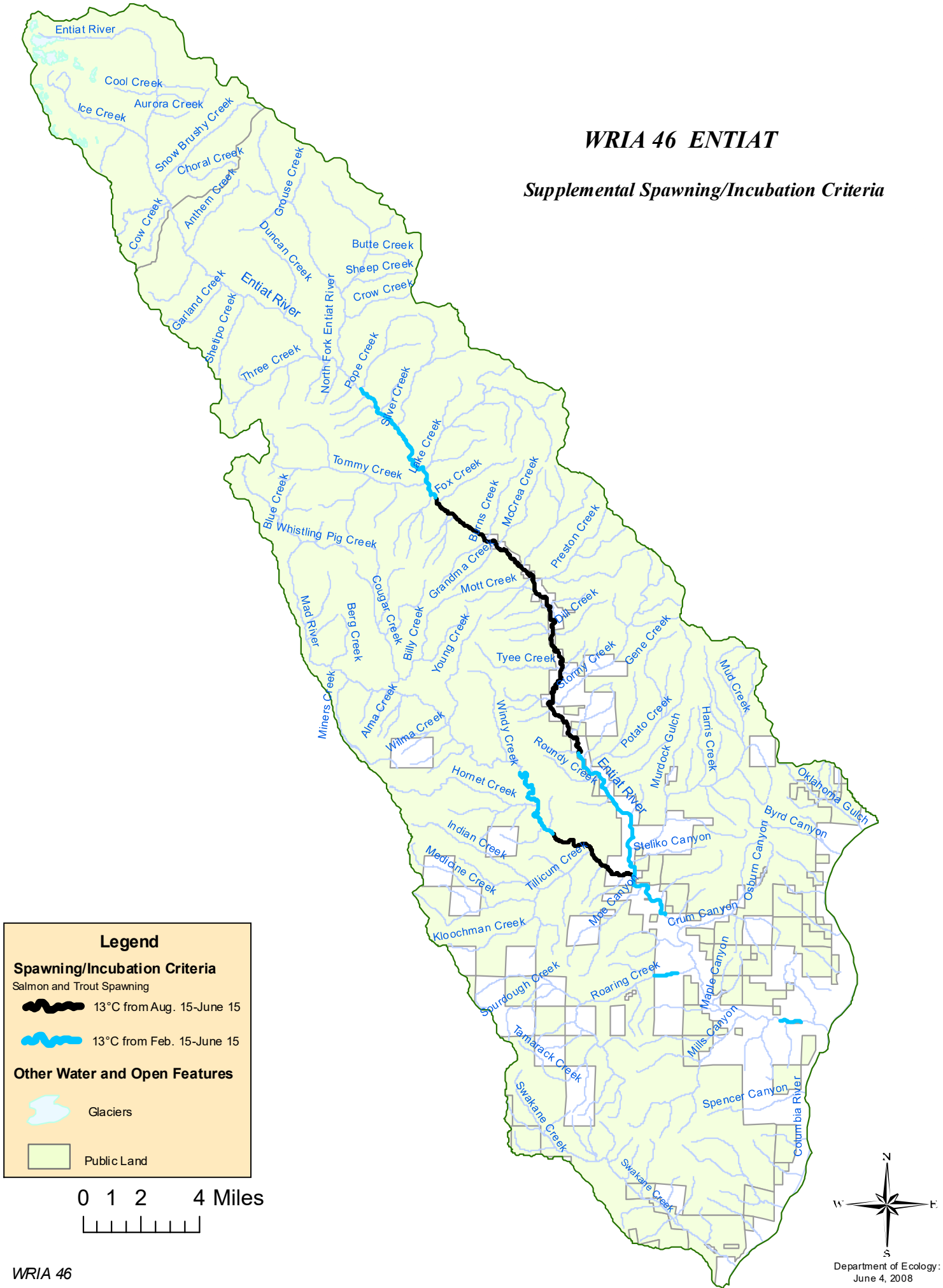
Other Water and Open Features

- Lakes & streams unchanged
- Glaciers
- Public Land



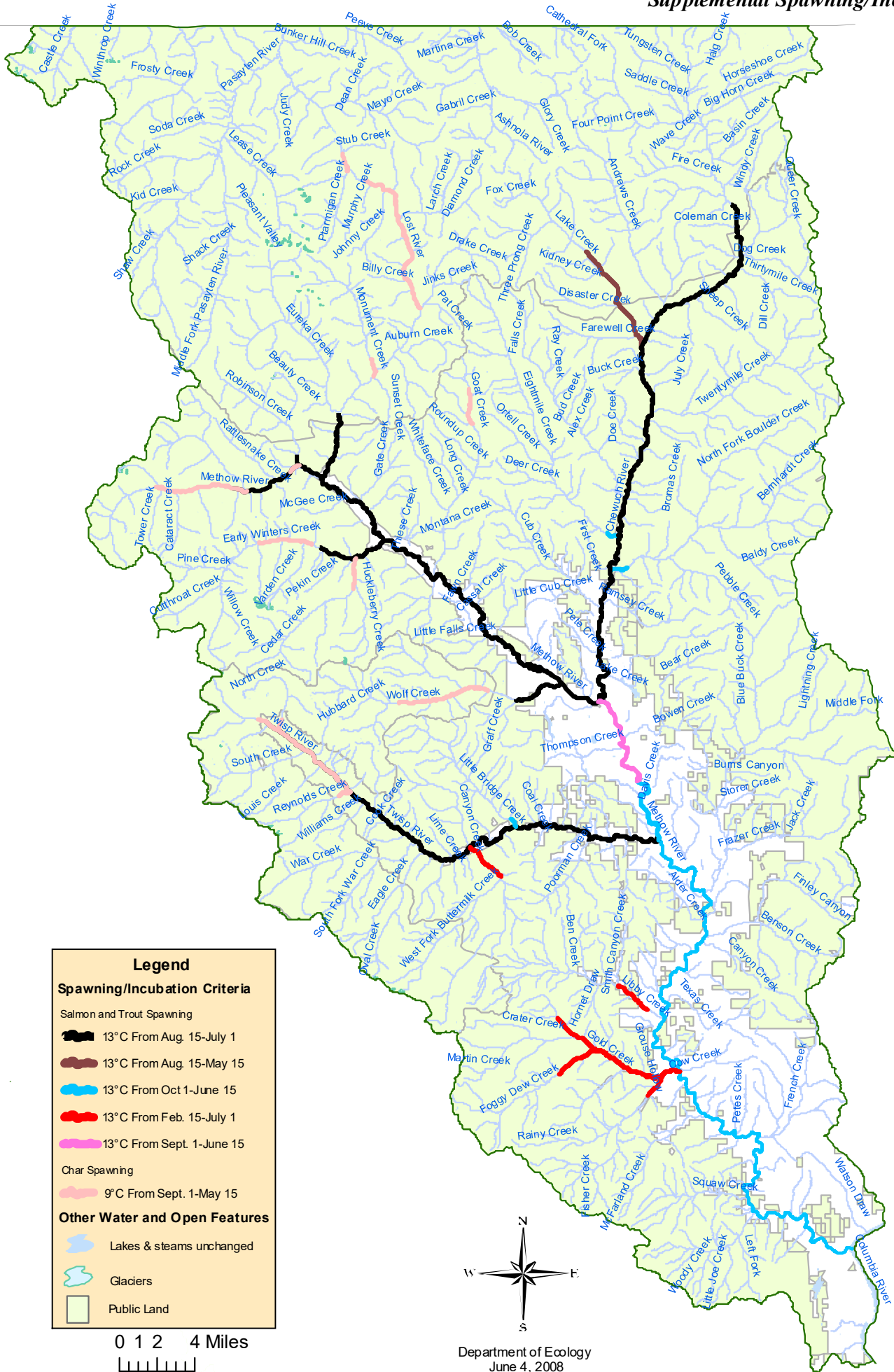
WRIA 46 ENTIAI

Supplemental Spawning/Incubation Criteria



WRIA 48 METHOW

Supplemental Spawning/Incubation Criteria



WRIA 49 OKANOGAN

Supplemental Spawning/Incubation Criteria

