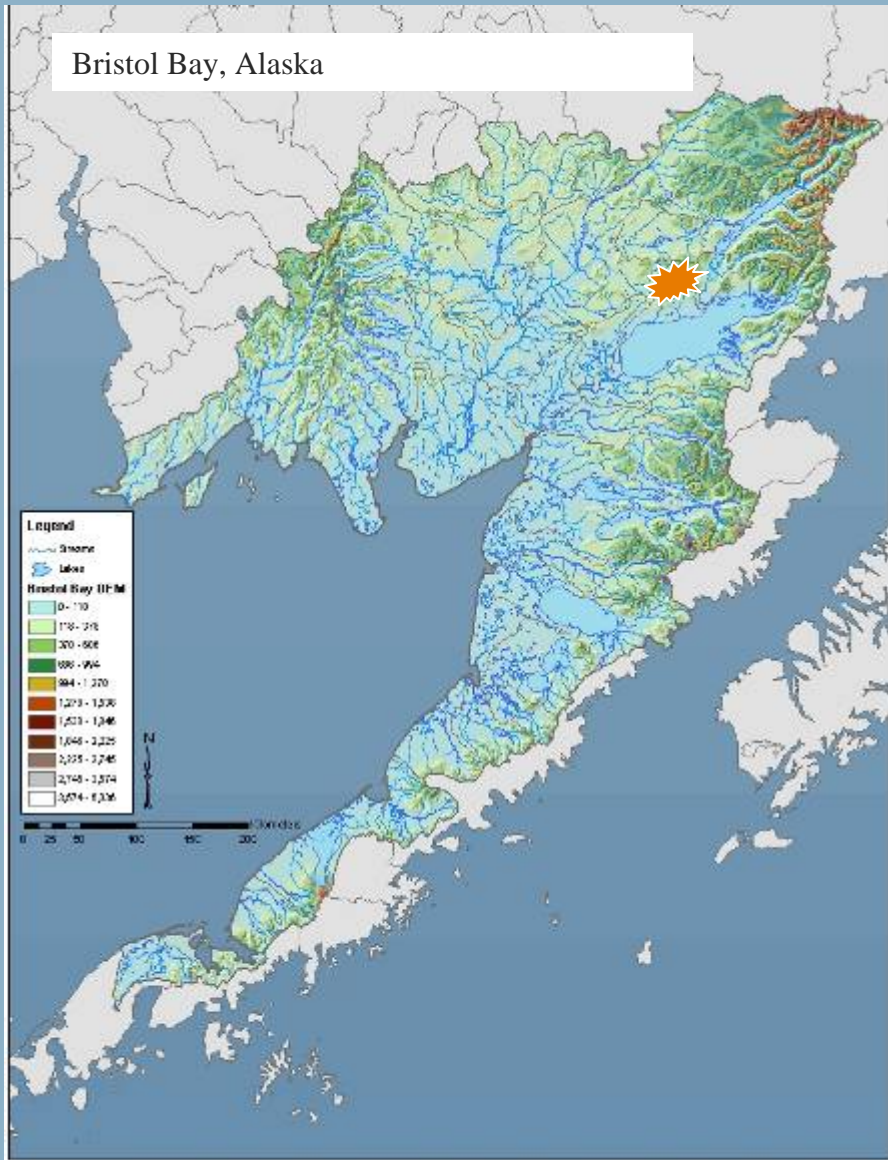


Web-based GIS Salmon Conservation Decision Support Tool

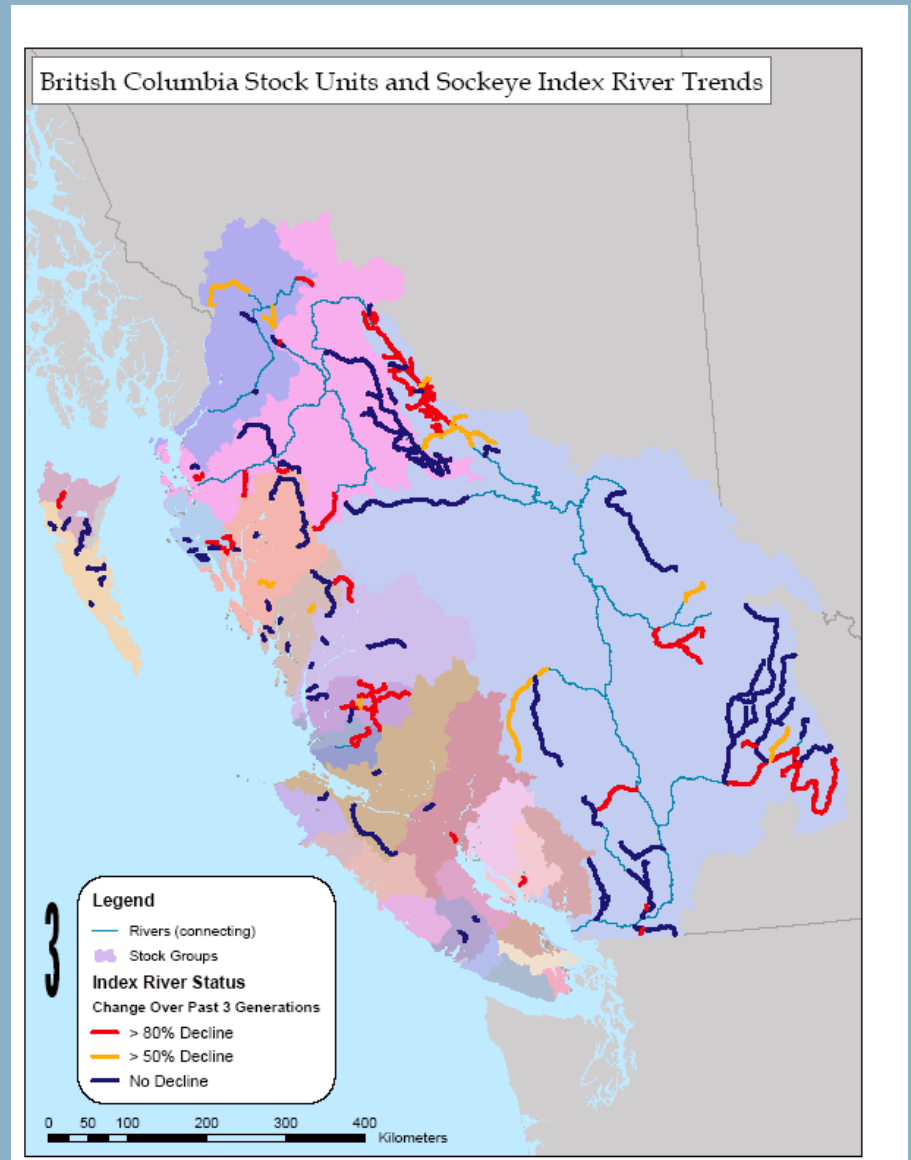
Greg Robillard, Ecotrust (presenting)
Malin Pinsky, Stanford University



Bristol Bay, Alaska



British Columbia Stock Units and Sockeye Index River Trends





Abundance

Diversity

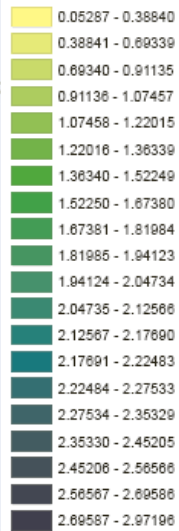
Hatcheries

Habitat

Combined North Pacific Index

Pacific Salmon Conservation Assessment

North Pacific Index



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ph: +1 503 222 1804
www.wildsalmoncenter.org
info@wildsalmoncenter.org

DRAFT MAP: The Wild Salmon Center has generated this preliminary map for review and discussion purposes only. No liability is assumed for the completeness or accuracy of the information contained herein. Cartography by CBS | April, 2006

Client Connection	Firefox Internet Explorer
Web Server	Apache IIS
Data Storage	PostgreSQL SQL Server
Desktop GIS	QGIS ArcView
Spatial Data Management	PostGIS ArcSDE
Data Display	MapServer ArcIMS

phpPgAdmin - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://boris.ecotrust.org/phpPgAdmin/

PostgreSQL 8.1.3 running on :5432 -- You are logged in as user "grobillard", 26th Sep, 2006 5:39PM [SQL](#) | [Find](#) | [Logout](#)

phpPgAdmin:PostgreSQL?:sos?:

Query Results

nlevel5	areakm	cons_unit	rt	hatch	score
12822	1973.47371407000	COLUMBIA RIVER	0	NULL	0
12860	7225.51433838000	COLUMBIA RIVER	0	NULL	0
88800	9224.44366727000	AMUR LIMAN	0	NULL	0
88910	7382.52821148000	AMUR LIMAN	0	NULL	0
87400	16188.45355900000	AMUR LIMAN	0	NULL	0
84830	3392.50657553000	AMUR LIMAN	0	NULL	0
84850	3317.04136247000	AMUR LIMAN	0	NULL	0
84860	8470.69389257000	AMUR LIMAN	0	NULL	0
84910	13248.37818140000	AMUR LIMAN	0	NULL	0
84921	8299.18209411000	AMUR LIMAN	0	NULL	0
84922	5679.69086065000	AMUR LIMAN	0	NULL	0
84924	3303.21362695000	AMUR LIMAN	0	NULL	0
19520	6384.93879458000	EASTERN ARCTIC CURRENT (WARM)	0	NULL	0
19820	6918.75682476000	EASTERN ARCTIC (COLD)	0	NULL	0
75700	8212.98509321000	WESTERN ARCTIC CURRENT (COLD)	0	NULL	0
75810	3627.14446924000	WESTERN ARCTIC CURRENT (COLD)	0	NULL	0
75822	2166.43704068000	WESTERN ARCTIC CURRENT (COLD)	0	NULL	0
75823	3726.96237948000	WESTERN ARCTIC CURRENT (COLD)	0	NULL	0
75824	1570.77572049000	WESTERN ARCTIC CURRENT (COLD)	0	NULL	0
75825	1025.50063006000	WESTERN ARCTIC CURRENT (COLD)	0	NULL	0
79743	2839.86241589000	SEA OF OKHOTSK CURRENT (COLD)	6	NULL	4
13901	3166.74964782000	PUGET SOUND-GEORGIA BASIN	8	1	0
14140	2057.50840890000	FRASER RIVER	8	3	0

http://boris.ecotrust.org - phpPgAd...

SQL? Find

Server?: PostgreSQL (5432) Database?: sos

Schema search path?: public

```
select
nlevel5,areakm,cons_unit,rt,hatch,score
from psca limit 30
```

Done

Waiting for boris.ecotrust.org...

SoS Home - Mozilla Firefox
File Edit View Go Bookmarks Tools Help
http://www.stateofthesalmon.org/pzca.php

STATE OF THE SALMON

KNOWLEDGE ACROSS BORDERS ЗНАНИЕ СКВОЗЬ ГРАНИЦЫ 国境を超えた知識

MONITORING DATA & MAPS STATUS & TRENDS COLLABORATE ABOUT THE CONSORTIUM

Existing Data

- Current Efforts
- Data Inventory Framework
- Your Data

Future Data

- Best Monitoring Practices
- Email List
- Work With Us

Pacific Salmon Conservation Assessment

Normalized Abundance <input type="checkbox"/> []	Absolute Abundance <input type="checkbox"/> []	Diversity (Run-timing) <input checked="" type="checkbox"/> []
Dams <input type="checkbox"/> []	Hatchery Effect <input checked="" type="checkbox"/> [5]	Landscape Suitability <input type="checkbox"/> []

SUBMIT

Check each of the above parameters you wish to use to model specific basins. Assign a rank (1 is lowest, 5 is highest) to prioritize each parameter within the framework. Hatcheries and Landscape Suitability are independent of the other rankings, and will lower the basin's overall score. To run a scenario, you only need to choose one of the four parameters.

Normalized Abundance: this parameter constrains abundance so that no particularly productive species (i.e. pinks) overrepresent the total abundance of a specific basin.

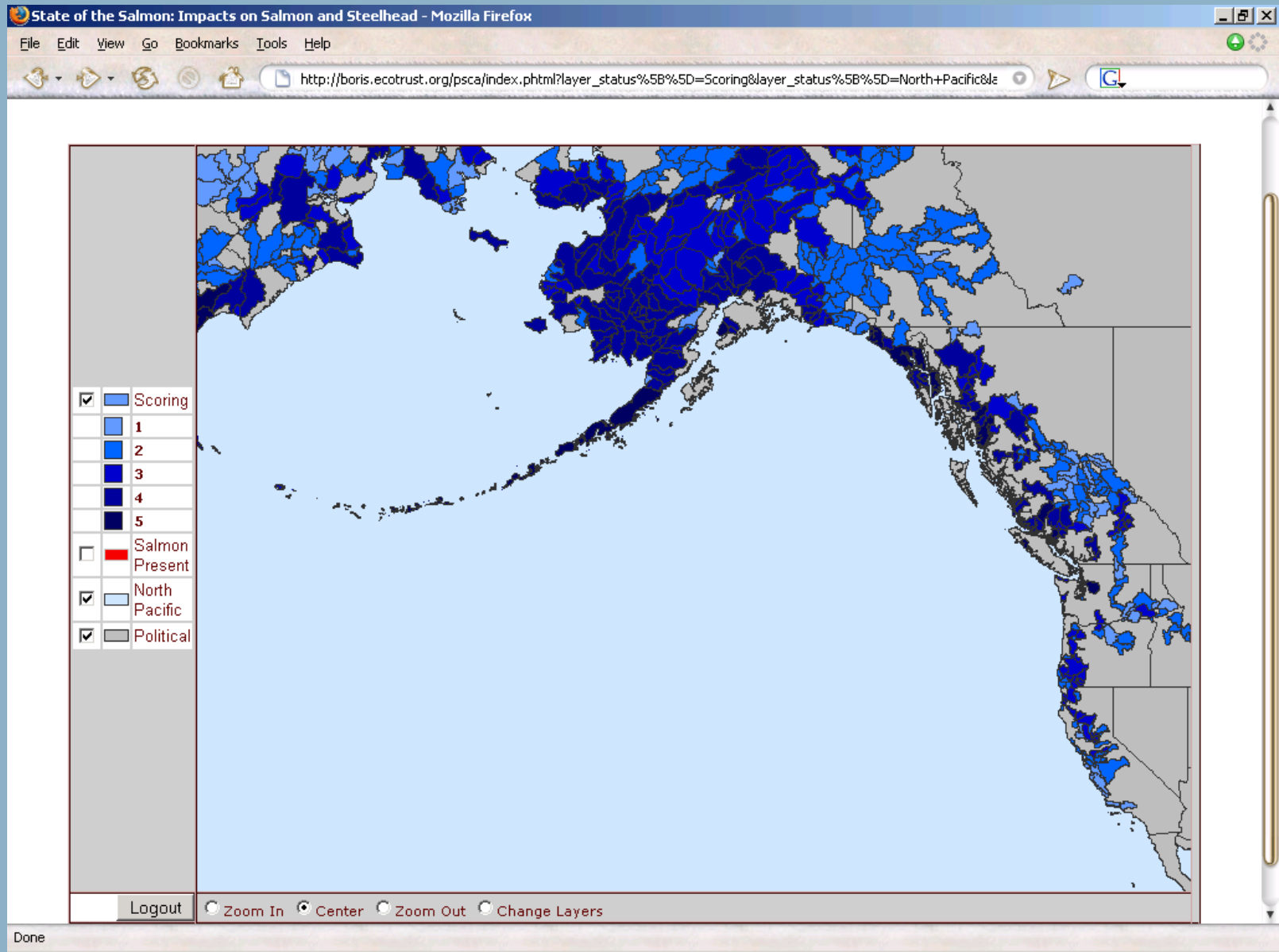
Absolute Abundance: this parameter favors those species and regions with high abundance.

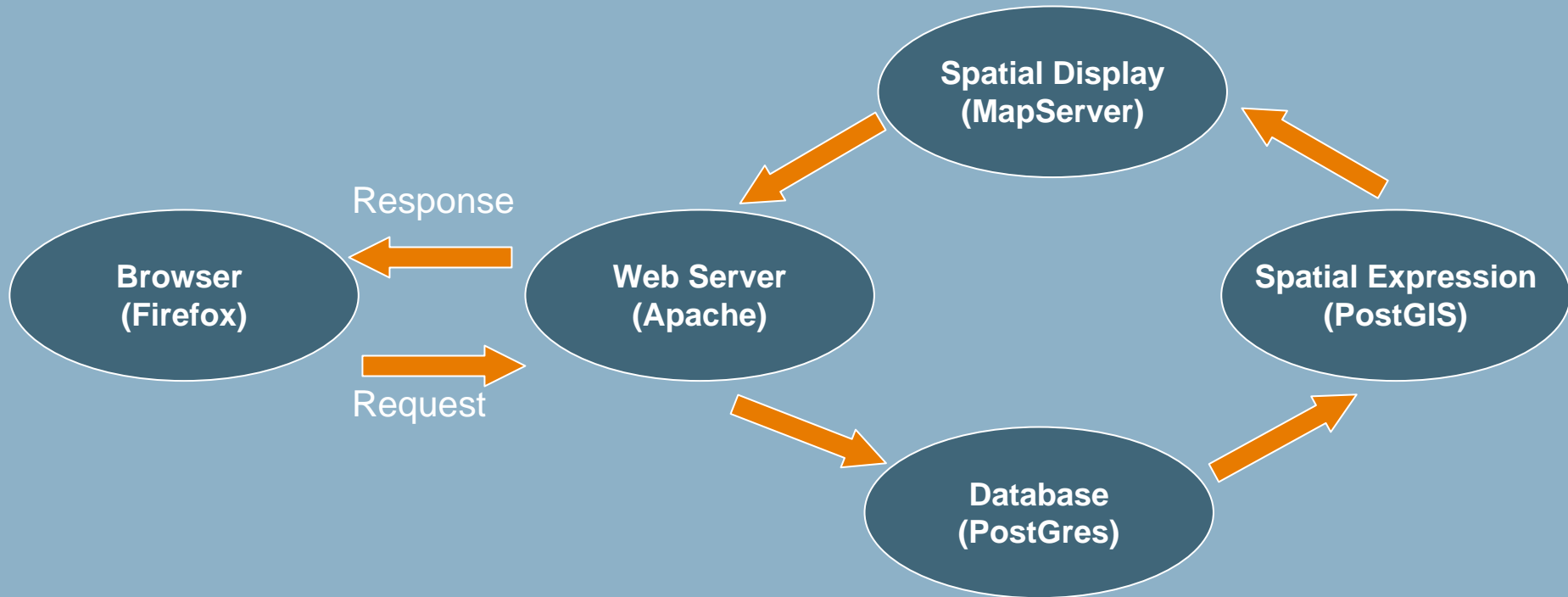
Hatchery Effect: presence of hatcheries is taken as a negative effect on wild fish populations.

Landscape suitability: includes urbanization, dams, and agriculture, all of which can effect habitat.

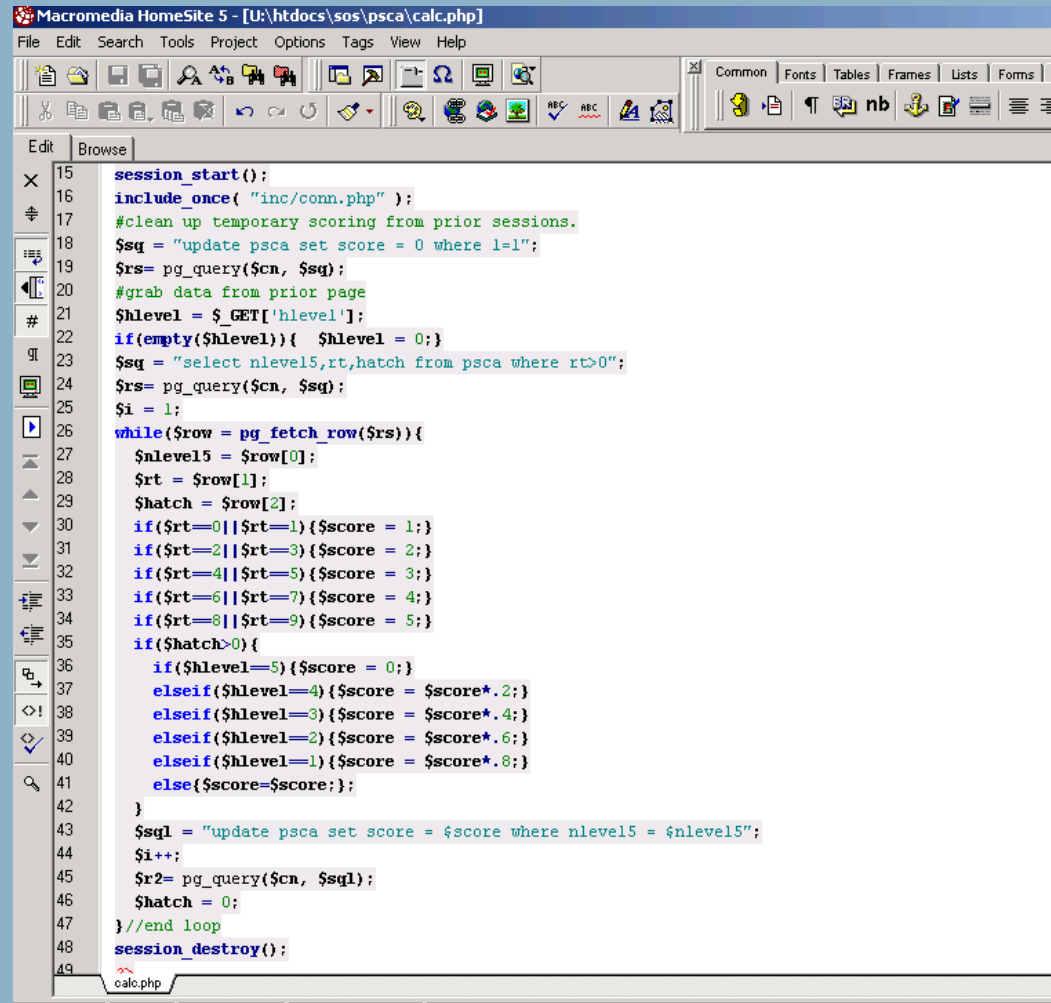
STATE OF THE SALMON IS A JOINT PROGRAM OF **WILD SALMON CENTER** AND **ECOTRUST**
721 NW NINTH AVE, SUITE 280 · PORTLAND, OREGON, 97209

Done





- Set of parameters and rankings sent from HTML form to PHP script
- Score from any previous sessions are erased
- Dynamic SQL statement constructed based on chosen parameters
- SQL UPDATE query is executed to create score
- Script Redirects to MapServer application
- Tabulated score is used by MapServer to redraw basin colors



```
Macromedia HomeSite 5 - [U:\htdocs\sos\psca\calc.php]
File Edit Search Tools Project Options Tags View Help
Common Fonts Tables Frames Lists Forms
nb
Edit Browse
15 session_start();
16 include_once( "inc/conn.php" );
17 #clean up temporary scoring from prior sessions.
18 $sq = "update psca set score = 0 where l=1";
19 $rs= pg_query($cn, $sq);
20 #grab data from prior page
21 $hlevel = $_GET['hlevel'];
22 if(empty($hlevel)){ $hlevel = 0;}
23 $sq = "select nlevel5,rt,hatch from psca where rt>0";
24 $rs= pg_query($cn, $sq);
25 $i = 1;
26 while($row = pg_fetch_row($rs)){
27     $nlevel5 = $row[0];
28     $rt = $row[1];
29     $hatch = $row[2];
30     if($rt==0||$rt==1){$score = 1;}
31     if($rt==2||$rt==3){$score = 2;}
32     if($rt==4||$rt==5){$score = 3;}
33     if($rt==6||$rt==7){$score = 4;}
34     if($rt==8||$rt==9){$score = 5;}
35     if($hatch>0){
36         if($hlevel==5){$score = 0;}
37         elseif($hlevel==4){$score = $score*.2;}
38         elseif($hlevel==3){$score = $score*.4;}
39         elseif($hlevel==2){$score = $score*.6;}
40         elseif($hlevel==1){$score = $score*.8;}
41         else{$score=$score;};
42     }
43     $sql = "update psca set score = $score where nlevel5 = $nlevel5";
44     $i++;
45     $r2= pg_query($cn, $sql);
46     $hatch = 0;
47 }//end loop
48 session_destroy();
49 calc.php
```



Thanks to State of the Salmon and Ecotrust Knowledge Systems, ESRI, and to the open source software community

<http://www.apache.org>

<http://fedora.redhat.com>

<http://mapserver.gis.umn.edu>

<http://www.php.net>

<http://postgis.refrations.net>

<http://www.postgresql.org>

<http://qgis.org>



MAPSERVER

