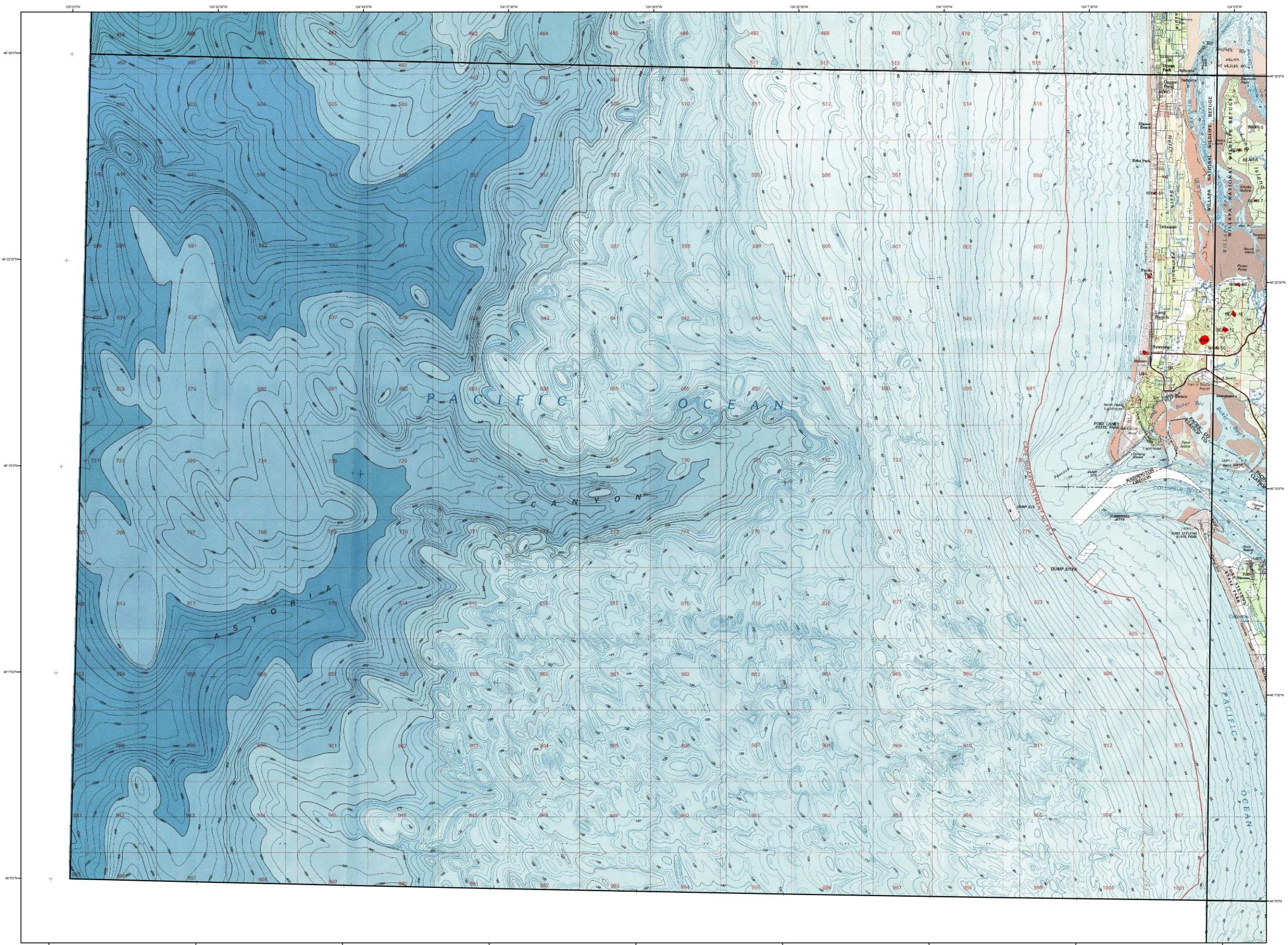


# \*\*Draft\*\* 2008 Aerial Insect and Disease Survey **\*\*Draft\*\*** USGS 100K Quad: Ilwaco 46124-A1



### Legend (For all Possible Agents)

Defoliating Agents			Mortality Agents			Other Damaging Agents		
Code	Damaging Agent	Primary Host	Code	Damaging Agent	Primary Host	Code	Damaging Agent	Primary Host
AS	Spruce aphid	Sitka spruce	1	Douglas fir beetle	Douglas fir	AB	Balsam woolly adelgid	True fir
BS	Western backheaded budworm	Western hemlock, spruce, true fir	2	Douglas fir engraver	Douglas fir	AC	Cooley spruce gall adelgid	Sitka spruce, Douglas fir
BSB	Mudoc budworm	White fir	3	Spruce beetle	Spruce	AD	Leaf droop/roll	Maple, Douglas fir
BSL	Sitka spruce looper	Lodgepole, ponderosa pines	4	Fir engraver	True fir	AE	Bitter rot	True needle pines
BY	Byrrh's light/ophodromella	Ponderosa pine	5	Western spruce bark beetle	Whitebark pine	BF	Dying hemlock	Hemlock
CA	Larch	Western larch	6A	Mountain pine beetle	Jeffrey pine	DF	Fir	Ponderosa pine
CH	Western hemlock looper	Douglas fir, Western hemlock	6B	Mountain pine beetle	Knobcone pine	GP	Gouy pitch midge	All species
CL	Conifer striped forest looper	Douglas fir	6C	Mountain pine beetle	Lodgepole pine	HA	Hail	Hardwoods
HL	Larch looper	Western larch	6D	Mountain pine beetle	Ponderosa pine	HD	Hardwood decline	Hardwoods
LL	Black pine needle scale	Douglas fir	6E	Mountain pine beetle	Lodgepole pine	HF	Arisee root rot	All species
MD	Douglas fir burnworm	Western larch	6F	Mountain pine beetle	Jeffrey pine	HT	No damage detected	All species
ML	Larch bud scale	Douglas fir	6G	Mountain pine beetle	Knobcone pine	IN	Insecticide	All species
MS	Spruce burnworm	Douglas fir	6H	Mountain pine beetle	Ponderosa pine	IR	Root rot	All species
NU	Needle miner	Jeffrey pine	6I	Mountain pine beetle	Knobcone pine	IS	Ice	All species
NK	Needle miner	Knobcone pine	6J	Mountain pine beetle	Knobcone pine	UN	Unknown defoliation	All species
NL	Needle miner	Lodgepole pine	6K	Mountain pine beetle	Knobcone pine	WD	Water damage	All species
NS	Needle miner	Conifer	6L	Mountain pine beetle	Knobcone pine	WN	Winter damage	All species
NP	Needle miner	Ponderosa pine	6M	Mountain pine beetle	Knobcone pine			
NW	Needle miner	Jeffrey pine	6N	Mountain pine beetle	Knobcone pine			
NSL	Needle scale	Western larch	6O	Mountain pine beetle	Knobcone pine			
PA	Phantom hemlock looper	Hemlock, Douglas fir	6P	Mountain pine beetle	Knobcone pine			
PH	Phantom hemlock looper	Hemlock, Douglas fir	6Q	Mountain pine beetle	Knobcone pine			
PN	Phantom hemlock looper	Hemlock, Douglas fir	6R	Mountain pine beetle	Knobcone pine			
PS	Phantom hemlock looper	Hemlock, Douglas fir	6S	Mountain pine beetle	Knobcone pine			
RC	Needle cast	Western larch	6T	Mountain pine beetle	Knobcone pine			
SD	Sitka spruce looper	Sitka spruce	6U	Mountain pine beetle	Knobcone pine			
SA	Sitka spruce looper	Sitka spruce	6V	Mountain pine beetle	Knobcone pine			
SH	Sitka spruce looper	Sitka spruce	6W	Mountain pine beetle	Knobcone pine			
SK	Sitka spruce looper	Sitka spruce	6X	Mountain pine beetle	Knobcone pine			
SL	Sitka spruce looper	Sitka spruce	6Y	Mountain pine beetle	Knobcone pine			
SM	Sitka spruce looper	Sitka spruce	6Z	Mountain pine beetle	Knobcone pine			
SN	Sitka spruce looper	Sitka spruce	7	Western spruce bark beetle	Whitebark pine			
SP	Sitka spruce looper	Sitka spruce	8	Western spruce bark beetle	Whitebark pine			
TA	Tent caterpillar, alder	Alder	9	Western spruce bark beetle	Whitebark pine			
TD	Tent caterpillar, other	Other	10	Western spruce bark beetle	Whitebark pine			
TM	Tent caterpillar, aspen	Aspen	11	Western spruce bark beetle	Whitebark pine			
TS	Tent caterpillar, sphen	Sphen	12	Western spruce bark beetle	Whitebark pine			

**\*\*Draft\*\***  
**USGS 100K Quad: Ilwaco 46124-A1**  
**Aerial Insect and Disease Survey**  
Mapscale: 1:100,000  
Tuesday, August 05, 2008  
Vicinity Map



### How the Aerial Surveys Are Conducted

Data represented on this map are based on trees visibly affected by forest insects and diseases detected and recorded during aerial survey flights conducted by the USDA Forest Service and the Washington Department of Natural Resources. Observers have just a few seconds to recognize the color difference between healthy and damaged trees of different species; diagnose causal agents correctly; estimate intensity; delineate the extent of damage; and precisely record this information on a georeferenced, digital map. Air turbulence, cloud shadows, distance from aircraft, haze, smoke and observer experience can all affect the quality of the survey. These data summaries provide an estimate of conditions on the ground and may differ from estimates derived by other methods.

The aerial survey provides information on the current status for many causal agents, and is important when examining insect activity trends by comparing historical and current survey data over large areas.

Overview surveys are a 'snap shot' in time and therefore may not be timed to accurately capture the true extent or severity of a particular disturbance activity. Specially designed surveys with modified flight patterns and timing may be conducted to more accurately delineate the extent and severity of a particular disturbance agent. Special surveys, such as Swiss needle cast surveys, are conducted when resources are available to address situations of sufficient economic, political or environmental importance.

**WASHINGTON STATE DEPARTMENT OF Natural Resources**  
Doug Sutherland - Commissioner of Public Lands

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\*\*\*\*\*DISCLAIMER\*\*\*\*\*  
The insect and disease data presented should only be used as an indicator of insect and disease activity, and should be ground-checked for precise location, extent, severity and causal agent. Color coded polygons show locations where trees were recently killed or defoliated. Intensity of damage is variable and not all trees within coded polygons are dead or defoliated. The cooperators reserve the right to correct, update, modify or replace GIS products without notice. Using the map for purposes other than those for which it was intended may yield inaccurate or misleading results.