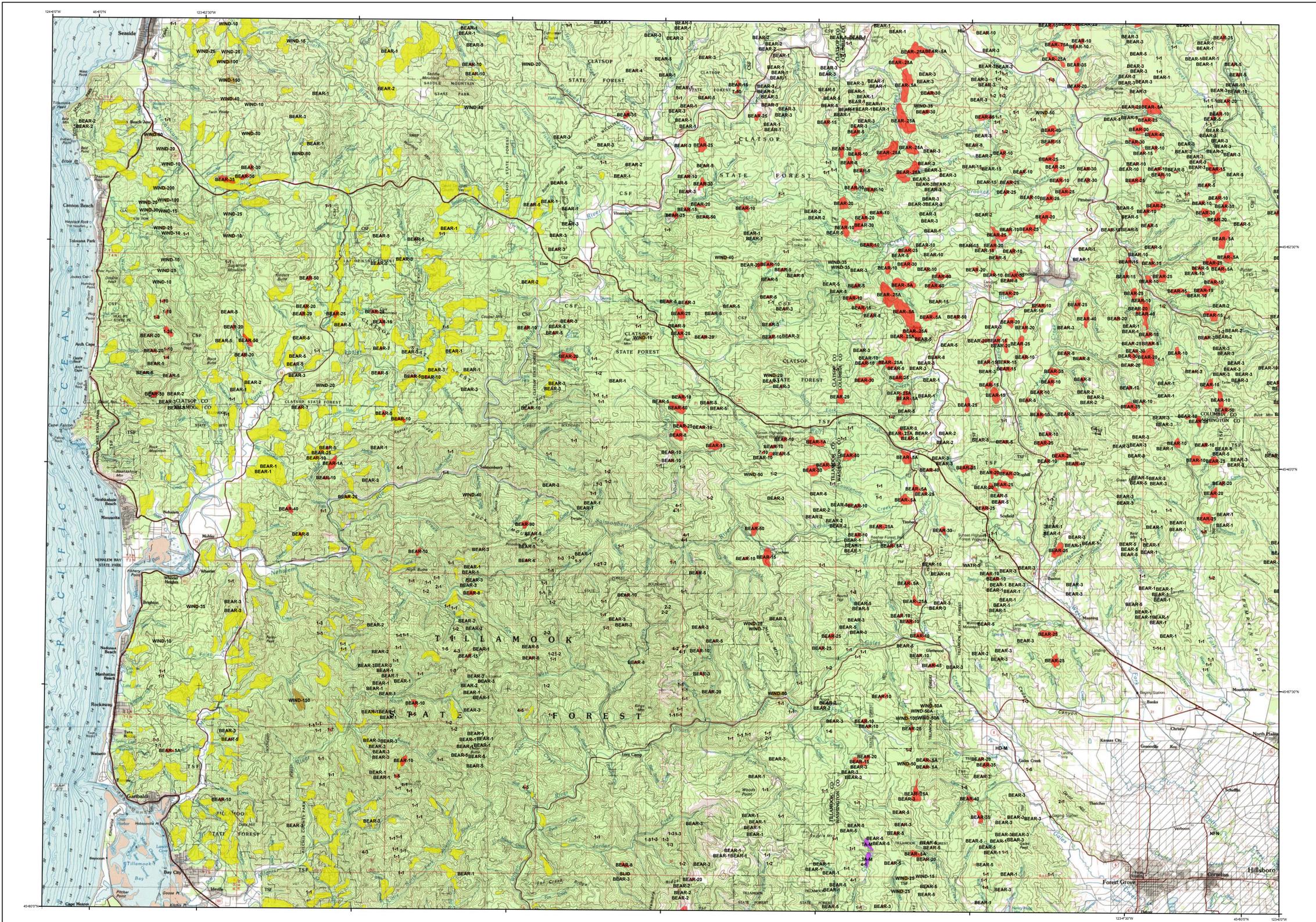


# 2007 Aerial Insect and Disease Survey

## Nehalem River; USGS 100K Quad E145123; 2G



Defoliators		Mortality Agents	
Code	Damaging Agent	Code	Damaging Agent
AS	Spittle bug	1	Douglas-fir beetle
BB	Western blackheaded budworm	2	Douglas-fir engraver
BM	Mudoc budworm	3	Spine beetle
BP	Sugar pine tortix	4	Fire engraver
BS	Western spruce budworm	5	Western balsam bark beetle
BY	Blyth's digit/lepidometra	6	Mountain pine beetle
CH	Larch	6J	Mountain pine beetle
HL	Western hemlock looper	6L	Mountain pine beetle
LG	Green striped knest looper	6M	Mountain pine beetle
LL	Larch looper	6N	Mountain pine beetle
LS	Black pine needle scale	6O	Mountain pine beetle
MD	Douglas-fir budmoth	6P	Mountain pine beetle
ML	Larch budmoth	6Q	Mountain pine beetle
MN	Douglas-fir needle midge	6R	Mountain pine beetle
MS	Spine budmoth	6S	Mountain pine beetle
ND	Needle miner	6T	Mountain pine beetle
NJ	Needle miner	6U	Mountain pine beetle
NK	Needle miner	6V	Mountain pine beetle
NL	Needle miner	6W	Mountain pine beetle
NI	Needle miner	6X	Mountain pine beetle
NP	Needle miner	6Y	Mountain pine beetle
NS	Needle miner	6Z	Mountain pine beetle
NT	Needle miner	7	Upright
NW	Needle miner	8	Western pine beetle
OL	Western oak looper	9	Western pine beetle
PI	Pine butterfly	10	Western pine beetle
PC	Pine needle cast	11	Western pine beetle
PH	Phantom hemlock looper	12	Western pine beetle
PM	Pine moth	13	Western pine beetle
PN	Pine needle/health miner	14	Western pine beetle
PS	Pine needle scale	15	Western pine beetle
RC	Needle cast	16	Western pine beetle
S	Spider mite	17	Western pine beetle
SA	Sawfly	18	Western pine beetle
SD	Sawfly	19	Western pine beetle
SE	Sawfly	20	Western pine beetle
SH	Sawfly	21	Western pine beetle
SK	Sawfly	22	Western pine beetle
SL	Sawfly	23	Western pine beetle
SM	Stain moth	24	Western pine beetle
SN	Swain needle cast	25	Western pine beetle
SP	Spruce	26	Western pine beetle
SW	Sawfly	27	Western pine beetle
TA	Tent caterpillar/ailer	28	Western pine beetle
TC	Tent caterpillar/other	29	Western pine beetle
TD	Douglas-fir tussock moth	30	Western pine beetle
TS	Tent caterpillar/aspen	31	Western pine beetle

USGS 100K Quad - Nehalem River - E145123; 2G  
 2007 Aerial Insect and Disease Detection Survey  
 Mapscale: 1:100,000  
 Date: November 23, 2007

### Legend

- 2007 Special Swiss Needle Cast Survey
- Defoliating Agents
- Mortality Agents
- Other Damage
- Areas Not Flown

The map base was created with TOPOI (Copyright 2001, National Geographic); available online at: [www.ngmapstore.com](http://www.ngmapstore.com)

A data dictionary, digital copies of this map and ArGIS insect and disease data are available at: [www.fs.fed.us/rn/rifid/data.shtml](http://www.fs.fed.us/rn/rifid/data.shtml)

### 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 Oregon Department of Forestry. 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 agent. 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.

DIRECT ALL INQUIRIES TO:

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-- OR --

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 Portland, Oregon 97208

**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 this map for purposes other than those for which it was intended may yield inaccurate or misleading results.